



the TEXOS cover

a magazine written by and for cavers

Bustamante
new survey project

Caving with Moles
arkansas revisited

Multi-ascending System
creating versatility

TCR CONTEST RESULTS

David Ochel

SURVEY CONTEST

The Survey Contest was well attended, with twelve teams submitting their results of surveying parts of the dry creek bed. Sponsored by the TSS the survey consisted of nine legs forming a loop and included a few hurdles, such as one leg exceeding the length of the provided tapes, and some high-angle shots.

First Place

Team Fisher Ridgers (Andy Edwards and Sean Lewis) won first place, with a calculated loop closure error of 0.52 meters. Fittingly, their prize, a set of instruments made possible by the TSS with support of G4 Spatial (formerly Miller Blueprint) in Austin, will become project gear for the Fisher Ridge survey.

Second Place

Ben and Carrie Hutchins were on the Fisher Ridgers' heels, with an error of 0.58 m. They won station lights, also donated by TSS, that will come in handy in future surveys.

Third Place

There is some rounding involved in our method of computing the loop closure error, which resulted in a tie for third place. **Yaz Avila and Crash Kennedy**, as well as **Jen Foote and C. L. Kieffer**, both surveyed with an error of 0.95 m. Thankfully, Gonzo Guano Gear was happy to double their donation of prizes in the last minute, and each of the surveyors got their own survey pouch.

Although the course was set up and ready to be surveyed before noon on Friday, no results were submitted that day. Instead, survey teams reported being stuck behind each other on Saturday afternoon, trying to get their results in before the deadline.

Besides our sponsors, special thanks go to Andrea Croskrey for helping to set up the survey on Friday morning, and to Terry Holsinger for helping with crunching the numbers instead of participating in the parade. Thanks to everybody else who contributed as well!

VERTICAL CONTEST

30m Rope Walker

Jacque Cresswell	1:10
Travis Sterne	:49

30m Frog

1st	Susan Souby	1:59
2nd	Carrie Hutchins	2:11
3rd	Anna Klis	2:18

1st	David Ochel	1:30
2nd	Tom Rogers	1:39
3rd	Stephen Bryant	1:41

We had a great turn out of 39 participants. Everyone pushed themselves to be awesome and should all be proud!

Special Thanks to Susan Souby, for her organization and funding management in acquiring the lovely prizes we had to offer this year.

Thanks to everyone who volunteered their time to help this be a success, hope everyone had a great time!

CONTEST SPONSORS

Susan Souby

Gonzo Guano Gear

G4 SPATIAL TECHNOLOGIES

the texas caver



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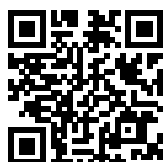
DEADLINES

While submissions are welcome anytime, deadlines for consideration in upcoming issues are:

1st Quarter issue — February 15
2nd Quarter issue— May 15
3rd Quarter issue — August 15
4th Quarter issue — November 15

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PHOTO CREDITS

Front Cover
Galen Falgout

Back Cover
Galen Falgout

"The Rust Room"

FROM THE EDITOR

It is a bit embarrassing that the December issue is coming out in March. No one person is at fault, but hopefully this is the last time.

Although short articles early on this issue, for the first time I did not publish some. That said, I hope that more cavers with interesting trips and photos will submit them. Articles need not be long or perfectly written. Just interesting! Private trips need not have cave names published (like Arkansas). Photos should be high res.

Many hours go into editing and layout with a goal of perfection. My editors review the text and catch the many items I miss. Welcome Michael Cicherski, my new editor - and unending gratefulness goes to Mimi for all her past help and support.

EMERGENCIES

For Cave Assistance,
Call the Closest
County Number:

BEXAR	210. 326. 1576
COLLIN	214. 202. 6611
HAYS	512. 393. 9054
SUTTON	325. 387. 3424
TRAVIS	512. 663. 2287

For Life Threatening
Emergency: 911

CONTENTS



4.
Farewell to Bob Cowell
You are missed.



6.
Bustamante
Mexican giant gets a new survey.

10.
Huautla
Staging for the expedition.

12.
Arkansas caving
The continuing relationship.



16.
TCR
Photos.

18.
Spring Creek
Survey and caving trip.



19.
Caving tips
Keeping you and your camera lens warm.

20.
Norvell's Cave
The little cave in the burbs.



22.
Multi Ascending System
Instructions for building your own.

TEXAS COVER

THE BEST CAVERS' MAGAZINE
IN TEXAS

2013 TSA OFFICERS

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The Texas Speleological Association is a nonprofit, internal organization of the National Speleological Society and represents the greater caving community in Texas.

The TSA is comprised of both independent members and local grottos, and supports cave exploration and studies in and around the state of Texas.

The organization holds business meetings three times per year, organizes an annual spring convention for Texas cavers, and sponsors caving projects and events throughout the state.

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STATE OF THE TSA

Kurt Menking, Chairman

Thank you for electing me as your new TSA chairman. When Ellie Watson asked me to accept the nomination I figured it was my time to step up and help out. I came into this with no real agenda or ax to grind, but I quickly found one at our first meeting.

Most of you know the TSA membership has declined over the past few years, and my primary goal will be to increase membership. We'll be doing several things over the next year to increase visibility and knowledge of what TSA does, and myself and others will start asking people to join. I hope to use caver gatherings like TCR, the Spring Convention and even grotto meetings to encourage / arm twist people into joining TSA. So sign up or be forewarned.

I'd also like to thank all past TSA board members for all their efforts and for passing on to the current TSA board members a financially solvent and otherwise stable organization. A special thanks to Michael Cicherski for being the TSA treasurer for the past 10 years. And thanks to Ann Scott for stepping up to fill those shoes.

While I'm thanking folks I must thank the current and past editors of the Texas Caver. The Texas Caver has

been the face of the TSA for many years. For my 30+ years as a caver I've always looked forward to the next issue to see what all is going on across the state. Editing the Texas Caver is a thankless task and I have the utmost respect for those who have the skills and desire to take that on.

After visiting with editor, Jill Orr, several times over the last few months I've agreed to help her with the task of soliciting material for upcoming issues. I'll be working with grottos and cavers across the state to fill up the TC in-basket with trip reports, caving stories, photos, and other caving related material.

There are lots of great trips going on and we have lots of new cavers who have never written an article, and old timers who haven't contributed in years. If you're caving please send something to the Texas Caver. Editing help is available for all articles.

Here is a summary of what happened at the TSA winter meeting held at Colorado Bend State Park January 11, 2014. There were certainly other discussions, and topics raised, but these were the highlights.

In addition to the TSA officers 10 other TSA members were present. Roger Moore reported that

the TSA spring convention is set for May 2-4, 2014 at Cave Without A Name in Boerne, TX. Mallory Mayeux will again be soliciting speakers and setting up the presentations. Roger also mentioned we need to get more people to participate in the map and photo salons.

Treasurer, Ann Scott reported that the current TSA balance is \$13,385. 81. She's still coordinating the transfer of bank permissions from Michael to herself, but it should be done in the next few weeks.

Secretary/Membership coordinator, Heather Tucek mentioned membership is slowly declining, and currently there are about 177 members.

Texas Caver Editor, Jill Orr (through email) requested help getting advertising, quality photos, and articles for upcoming issues.

Ellie Watson requested TSA donate \$150 each to the upcoming CM and Honey Creek cave dive projects, which was approved.

2014 TSA Officers

KURT MENKING	CHAIRMAN
ROGER MOORE	VICE CHAIRMAN
ANN SCOTT	TREASURER
HEATHER TUCEK	SECRETARY

GOD'S SPEED BOB COWELL

KURT MENKING

Bob Cowell, a long time caver in San Antonio, passed away October 5, 2013 after a difficult battle with cancer.

I've had the great pleasure to call Bob a friend for over 30 years. Bob was a great dad, husband, granddad, a caver, and a friend. But what most people who knew Bob would say was that he was a great storyteller. He also spent a great deal of his time helping others. I especially liked one of the recent comments on texascaver, that Bob was the most ethical person they had ever known.

When Bob first got involved in the caving scene in San Antonio it was a very welcome change for me. Bob's military background brought a more organized approach to many of our trips. For one thing Bob had little if any patience for cavers who were late for caving trips. It didn't take long for the rest of us to know if you were going to be more than 15 minutes late, and Bob was on the trip, the group will be gone when you get there. Prior to Bob's joining the grotto, we would often wait around for an hour or more, go to a pay phone to call missing cavers, and or drive to their house and get them out of bed.

Bob was occasionally late for caving trips, but we always knew it was because he was at a wreck scene somewhere. I've never known anyone who came across more serious wrecks

than Bob. And he would always stop to make sure everyone was OK. He would put out road flares (which he always carried in his vehicles), and make sure the proper authorities were called. He'd help the injured, direct traffic away from the scene, and generally take charge until police and EMS arrived.

Bob was also big on cave safety and cave rescue. Very early on, he helped organize cave rescue procedures, call down lists, training, etc. I went with Bob on numerous cave rescue calls. His experience, leadership, and out of the box thinking proved extremely valuable in most if not all of those events. His ability to evaluate a situation, jump in and help out was wonderful to watch. And he was never one to be intimidated by authority figures. If the official in charge was doing something dangerous, or wrong Bob would be in his face letting him know it. I witnessed him take on CEO's, Generals, Park Managers, County Fire Marshals and others when he thought it was necessary. In nearly every case they quickly recognized his value to the situation, implemented his ideas, and put him to work monitoring some aspect of the event.

Bob was also a major motivator and organizer for volunteer projects like Bracken Bat Cave, the



Bamberger cookouts, and others. But mostly Bob loved caving trips. I think he liked the caving part, but he loved the campfire social part the best.

Prior to major events like TCR, Bob was organizing, planning, gathering supplies for many weeks. He'd be there to supervise the loading of the grotto gear, unloading and setting up the kitchen area, and cooking and serving grotto meals. Bob, Carl Ponebshek, and I caught and cleaned hundreds of pounds of fish over many years that were cooked and served at TCR's by dozens of mostly Bexar Grotto members.



Photo by Mike Harris



Photo by Mike Harris



Photo by Kevin McGowan



Photo by Mike Harris



Photo by Mike Harris

I'll miss his campfire stories, but most of all I'll miss Bob's friendship. He was always there for me.

GEORGE VENI

My favorite story about Bob, and the one I've told the most, dealt with his outspoken personality, not his caving. Bob loved to talk but when he got serious, he was succinct and powerful. And sometimes unintentionally hilarious.

I don't recall what triggered it in this one instance, but Bob's reply was priceless:

"Look buddy, don't piss me off. I'm a Vietnam vet, I own a gun, and I work for the Post Office! "

Written tribute to Bob inside Bracken Bat Cave where he spent endless volunteer hours on the management, upkeep, fundraising, and educational outreach on the caves and its bats. -- GV



Photo by Kurt Menking

JILL ORR

Bob was the very first caver I spent time with after joining the grotto. We were at Robber Baron moving a rock pile for a surface clean up. I thought I had gotten most of his life story then - but after sharing a tent with him at Bracken to watch a morning bat return I realized he had only scratched the surface.

Bob talked to me all night long. I was too polite to tell him I had no idea what he was saying. I could barely stay awake to say "mmm" or "oh" whenever I thought I heard a pause in his story. I never saw that bat flight. We overslept. I miss him.

By the way, in the photo upper left taken at ICS in Kerrville, Bob is handing me the flask -- JO

BUSTAMANTE CAVING AMONG GIGANTES

Monica Ponce

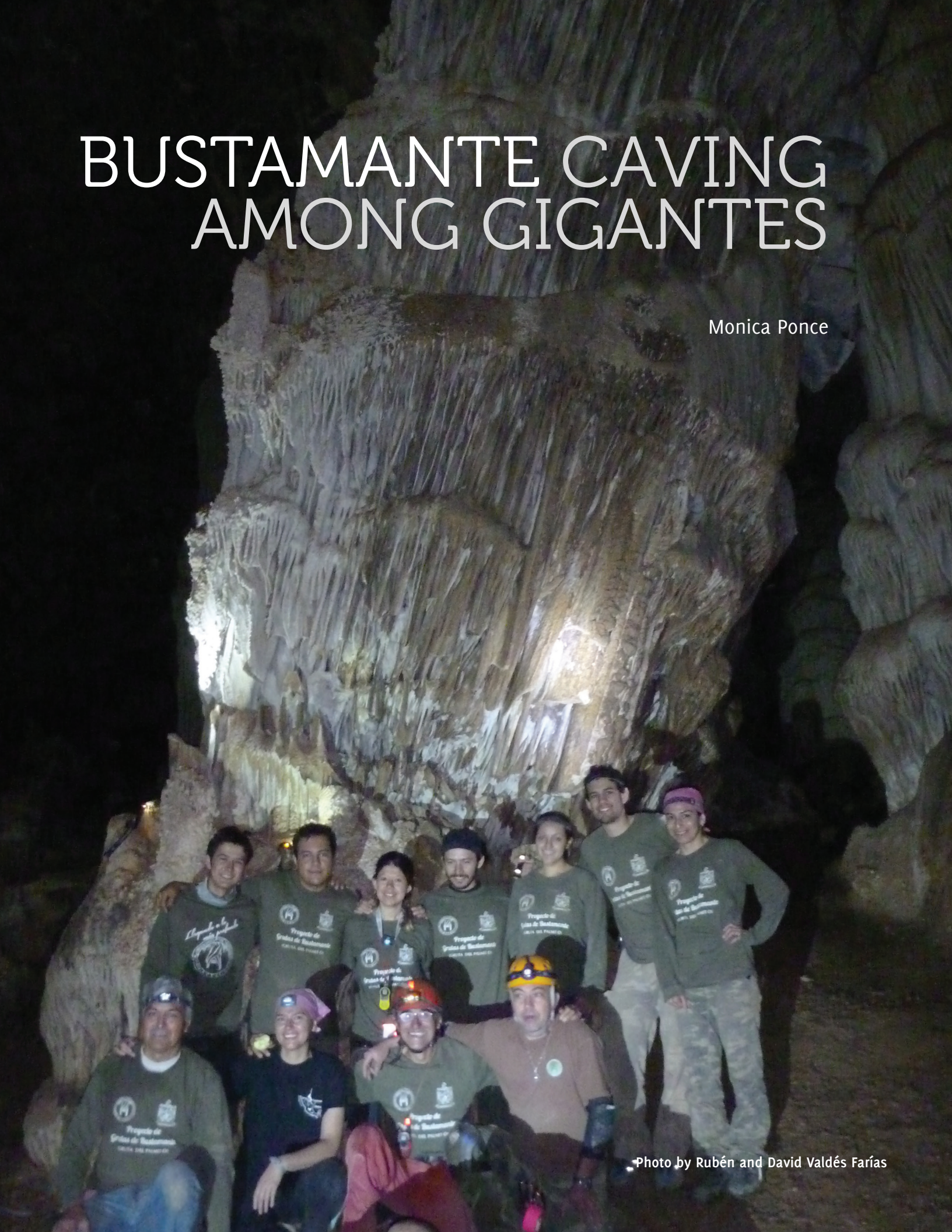


Photo by Rubén and David Valdés Farías

IN MARCH 2013, THE ASOCIACION COAHUILENSE DE ESPELEOLOGIA, A. C. (ACEAC) BEGAN EXPLORING BUSTAMANTE'S CAVE. OUR PROJECT "REACHING FOR THE DEEP" WILL EXPLORE LEGENDS CREATED AROUND THE MOUNTAIN AND THIS LARGE CAVE.

Some people have said, it takes more than one month to go inside and go out. Mr. Rico related a story to me.

Mr. Rico: "The Japanese team, was coming to 20 days inside and scuba dive into a river in the cave!!!"

Moni: "So, Where is the big river?"

Mr. Rico: "I didn't know, they spent so much time inside the cave, and never gave us information, saying only, it is much too much long. "

Moni: :Well, it's possible the team made a camp and explore in that time all the cave, but the time in the cave is not about the size of the cave. "

Some people compare the longest size of the cave with the time to explore inside of the cave. The fantasy in the mind is incredible! But the municipality and Tourism

department wants to know if this is true. We found a small river in the right side of the cave under Road of Devil, but, A big river where you can scuba dive? Not. We proposed our project the same time that the authority wants to obtain answers.

I requested information about the history of the Bustamante cave from Orion Knox who conducted the original, very detailed survey. He sent the map and told me the areas that needed continued survey and exploration. We found those areas - and more. Some are much too small, and others require crawling to reach small galleries under the floor with many concretions.

James Jasek, Terry Sprouse (AMCS) and other cavers shared photos and gave us permission to use them in our project. Don Felipe



Photo by Rubén and David Valdés Farías



Photo by Monica Ponce

shared with us some pictures from Orion Team from Mexico from a 1970 photographic session with Orion Knox. Mauricio Perezgomez and Alfonso Ochoa from Coahuila, explored Bustamante cave at the same time, and they say the cave had more water back then than today.

Many cavers and people from the community participated to clean the cave over the years. American cavers formed “The Friends of Bustamante Association”, and came every year to clean the cave for 10 years!

I am looking for where that information is, and photos are, but the Bustamante people have ignored all the best projects of American cavers. That is a problem, the new municipality does not have information of all the teams that

have come to explore, and survey.

We have started to experiment in Busamante, for the first time camping inside of the cave, and spend more than one day exploring.

I have prepared a code for exploration, for easy survey by times, and subdivided the area in the cave in teams, prepared a protocol for security and camping inside. The difficult part to explain to people was how to go to the bathroom inside of the cave and how to store their waste for removal.

Our survey and exploration trip consisted of 16 people in three teams: Team One consisted of the fast people with leader Mauricio Perezgomez, were to go to the bottom and explore the back of the cave. Team Two, was a climbing team with Jose Fernandez as leader, to explore the Gigantes area.

Team Three led by me, explored the right and left borders of the cave.

On the third trip, saw a opillionido troglobitic, a brown spider in Step of the Devil in the wall. We took video and pictures. For the fourth trip my team found and photographed another opillionido troglobitic, this was orange with white legs in the last salon near the Gigantes.

Looking for more information about the opillionido spiders we had seen and photographed, I was put in contact with the master of biology, Jesus Cruz; a specialist in these spiders. His doctoral thesis was with Dr. Franke and in the study these bugs he is a specialist of opillionides in Nuevo Leon caves.

He told me the spiders are from Nuevo Leon caves, and it is possible they are Chiquipellobonus, and



Photo by Cynthia Esparza

The ACEAC Team (L-R back) Chema Navarro, Gabriela Morales, David Orozco Rosy Orozco, Arnolde Ibarra, José Fernández, Rubén Valdés, David Valdés, César Ibarra, Sr. Martín Rico; (L-R front) Mónica Ponce, Cynthia Esparza, Nancy Esparza, Mauricio Pérezgomez, Administrador, Guia de Butamante

subdivided in two species: *C. osorioi* and *C. mexicanus*. The species are similar to each other and can be found in the caves of Monterrey.

One of my jobs is to describe the speleothems of Bustamante cave. The cave has enormous stalagmite formations, and this is not common in the caves of northern Mexico. There is an enormous salon, galleries and drag passages and impressive speleothems everywhere.

We find raft cave, cone cave, filament helictites, aragonite crystals, giant flowstone with grey color, Celestite crystals (or similar), crystals of barite, eccentric crystals, red and purple bacon, and very much more. Some of my friends never saw speleothems like this before.

We conducted an experiment

with the dark salon of how the mind makes a game with the time. We also used a device that measures the temperature and humidity in different parts of the cave and collected data for two months.

For first time in the cave, we used a drone helicopter to video the big areas. Twins Ruben and David are new cavers, they like the electronic toys, so they brought their helicopter. The helicopter needed GPS for control so we experimented with it.

We used one of our days to make a video in the cave, to reach the top of the wall, and to try to find the best way to access at the window at the top.

Unfortunately, we needed more light than our lamps provided, but it is possible to see in the photo the

helicopter's red and green lights.

The ACEAC has been working with Peter Sprouse and Dr. Oscar Franke (Curator, National Collection of Arachnids of UNAM), since Espeleocoahuila 2005.

Now with 70% of the cave explored, we are close to finishing the first part of the project. Every two months we visit the cave for two weekends. The last visit was December 7, 2013.

We need help to do this. In 2014 we will continue the survey every month and need to finish the project soon.

Texas cavers are always welcome, so if you are interested in helping with the survey, contact Monica Ponce, at espeleocoahuila@gmail.com.



HUAUTLA EXPEDITION SET-UP OAXACA, MEXICO

Bill Steele

Following Christmas and into the New Year 2014, Ernie Garza, Ron Rutherford, Don Brossard, Tommy Shifflett (VA), and I drove from Texas to southern Mexico, about 200 miles southeast of Mexico City, to spend a week tending to things related to conducting a month-long expedition in April 2014. We drove the one-ton, 1995 Chevy cargo van that had once been owned by Ernie, is now mine.

It was used for the British Huautla expedition in early 2013, and in the course of driving it to Huautla and back from Driftwood it was given the name of “Chuckle Bus”. And it’s true, plenty of chuckles are generated as it rolls by the clicks (kilometers).

The expedition “set-up” trip was the first outing of the restarted “Huautla Caving Project,” now named Proyecto Espeleológico

Sistema Huautla, a name denoting a speleological project conducted jointly by both cavers from the United States and Mexico. The plan is for month-long expeditions to be conducted annually in April for the decade, with the objectives of continuing studies in all speleological disciplines (hydrology, geology, biology, and archaeology) and thoroughly exploring and surveying



Opposite: Bill Steele at a survey station from 1983 in Bazofina. Opposite: Bill at a survey station from 1983 in Bazofina. Above: Bill in the entrance of an archaeology cave found on this trip. Below: Bill nears the top of Sotano Bazofina's 30 m entrance pit. Photos by Tommy Shifflett.

the caves of the area, with the goals of extending Sistema Huautla's length from the current 65 km to over 100 km, and its depth from the current 1,545 meters to over 1,610 meters (or 5,280 feet – one vertical mile). Sistema Huautla is the deepest cave in the Western Hemisphere, the 8th deepest cave in the world, and the longest of the world's 16 deepest caves.

The set-up trip succeeded in making political connections with incoming elected officials, renting a

house as a field house in the village of San Agustin Zaragoza, which has seen much caving activity by cavers from many countries for the past 49 years, getting GPS locations for known cave entrances, finding new ones, and visiting old friends in the area so they know that the cavers are returning soon.

On the subject of driving across Mexico and back, we took toll roads from Nuevo Laredo to Tehuacan, Puebla, almost the whole way. It

cost about \$100 US each way for tolls, but the roads are excellent and safe being well patrolled by federal highway police. Once when we pulled into a Pemex gas station a police car flashed its lights behind us. When I pulled up to the pump and got out, the policeman saw me. He turned off his flashing lights and pulled back on the highway. Our read was that he saw I was a gringo and didn't want to bother us. Another time while waiting in line at a Pemex gas station a federal policeman walked up, thanked us for coming to Mexico and wished us a good vacation.

The only hassle was crossing back into the States on the way home. We hit the border on probably the worst day of the year to do it, the Saturday after New Year's Day. We waited for 8½ hours to get across the bridge at Laredo, creeping at half a mile an hour. There were thousands of cars and trucks that sought to cross into the US at the same time. The average time spent at the booth on the American side was 7 minutes, but the volume dictated extreme slowness. Next time we'll arrive in the middle of the night, not at noon, January 4.



Painting near Huautla showing cactus trees of nearby Tehuacan valley, traditional dress, and magic mushrooms for which the area is known.





CAVING WITH MOLES

Galen Falgout

LAST SUMMER ELLIE WATSON, JILL ORR, TOM ROGERS, AND MYSELF HEADED FOR ARKANSAS FOR THE ANNUAL MOLE'S LABOR DAY WEEKEND CAVE FEST.

We left Austin on Thursday evening and headed for Arkansas driving through the night. We arrived at the Buffalo River National Park on Friday morning around 9 am. We decided to spend the day setting up camp, relaxing, food shopping, and enjoying the river. We had all been to this location before. It is a nice private campsite along the beautiful river canyon.

Saturday we awoke and got ready to go to the first cave. Arkansans are very confidential about their cave locations and names, but we went into two unnamed caves in Newton County. Ellie, Tom and I had been to this cave the previous year. But that's ok - it's a beautiful cave and worth seeing again. There were lots of awesome speleothems, big and small. My two

favorite formations were the Angel Wing and the Rain Tree. In spite of the cooler temperatures compared to Texas caves, for part of the trip Tom was caving in his usual caving uniform of shorts with no shirt, much to the amusement of the Moles.

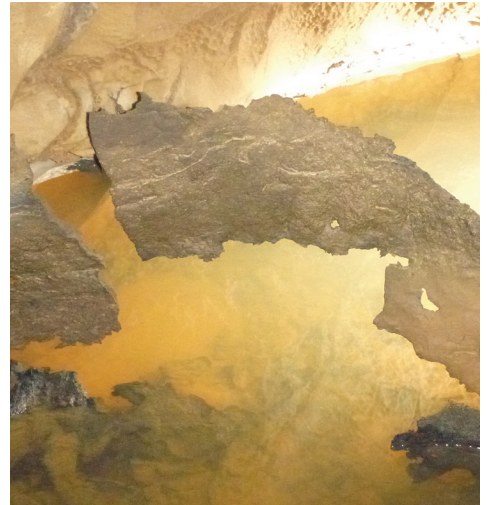
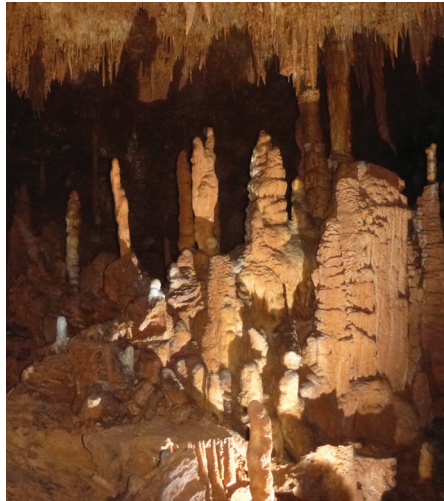
After spending the day in the cave we all made it out and headed back to camp. Saturday night there was a potluck group meal. There was lots of really great food. The Texas cavers made a fruit bowl out of a watermelon. It was popular and we had no dishes to wash!

After dinner, everyone gathered around the fire and the Moles meeting was started. The Moles are a grotto of elite Arkansas cavers. To become a Mole you have to be nominated by a member and voted in. After the meeting there was

much drinking, hanging out in the sauna and swimming in the river.

Sunday morning we woke up and got ready to go to the second cave. We were all really anticipating and were excited about because Joe Ray, our trip leader had talked this cave up for the past year. Joe said the cave was gonna beat us up! I couldn't wait to see what his idea of beat up was, because that's what he told us last year about some caves that were relatively easy by Texas standards. After two nuisance drops were rigged and many and many seed ticks removed, we were all eventually in the cave.

This cave sported lots of crawling, climbing up and down many free climbs, walking on walls, canyons, and pits. There were cool surprises everywhere.





I was so thankful that Joe Ray put up with me. I wanted to stop over and over again to take pictures of everything. Due to taking too long to get into the cave and photo sessions we did not get to see our main objective, and made it only two thirds of the way to the back of the cave. But no worries - there were so many things to see.

After about 8 hours of caving we were out. I have to say I was beat from all the crawling. Our caves here in central Texas have a lot of crawling and some even almost only crawling, but we don't have those long crawls here. That cave was huge, and we only saw a small portion of it. We all washed our gear off in the river back at camp and once all the mud was removed we sealed our gear in big black trash bags to transport back to Texas.

The next morning we packed up, said our good byes and headed home. Once home we heated up a big pot of water and deconned everything. Arkansas has confirmed WNS, so for those planning to go caving there - remember to decon!



Photos by Galen Falgout

SNAPSHOTS FROM TCR

Photos by Bill Steel





SPRING CREEK SURVEY

Bill Steele



The exploration and survey project at Spring Creek Cave, Kendall County, north of Boerne, Texas, being conducted by the Dallas/Fort Worth Grotto, has started up for the season, which runs from November through April, when the resident bats are not there.

A trip was made on December 14, 2013 with 17 cavers from four grottos. Three cavers explored and surveyed virgin cave, with everyone else touring the cave, which requires swimming throughout much of its main passages. We also took two inflatable kayaks, and managed to get them 1,800 feet into the cave to the “T” intersection for two round trips, which may well be the farthest kayaks have ever been into a Texas cave. This wasn’t the easiest thing to do. About 1,400 into the cave the ceiling is about three feet above the water and the kayaks scraped against the ceiling, but they did make it. Approximately 500 of passage to the left at the “T” intersection is also navigable.

Steve Webb, Rusty Jones, and I explored 301 feet of virgin cave passage in an upstream tributary, the DS survey, started in 1983, and not continued until 2013, thirty years later. On this trip, stations DS 53 – DS 70 were

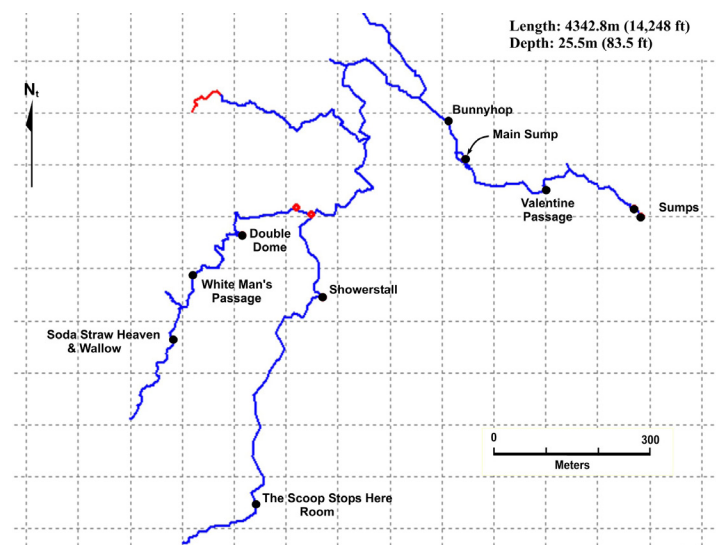
set. The passage continues on into virgin passage.

Following this trip, Spring Creek Cave is now 14,248 feet (4,342m) long, which is 2.7 miles, and remains the 12th longest cave in Texas.

Cavers on the trip included DFW Grotto - Diana Tomchick, Steve Webb, Jake McLeod, Jacqueline Hawk, Bill Steele; UTG - Vivian Loftin, Jennifer Thompson, Guin McDaid, Andy Edwards; Bexar Grotto - Rusty Jones, Aaron Wertheim, Vickie De Leon; ASS - Daniel Rossi, Omid Kazemi, Bryce Hamilton, Gabby Obkirchner, Damien Lerbrun-Grandie

Diana Tomchick meant to participate in the push of the DS side passage lead (the second of three side passages to the right after the “T” intersection), but just after starting, she fell onto a hard shell case on her waist belt and painfully bruised herself. Diana decided to exit the cave. All others, a total of 13 cavers, toured the cave up to the Shower Stall, an excellent destination in this water cave. Some of the ASS cavers, always a hardy bunch, who took their vertical gear with them, climbed up a rope that’s been rigged in the Shower Stall. It’s been there for about five years and is becoming calcite encrusted. The ASS cavers went upstream in low air spaces to where it sumps. This sump has been dived, explored, and surveyed to an end by Jean “Creature” Krejca and James Brown.

Thanks go out to Tom Summers, owner of Cave Without a Name, and Mike Burrell, resident manager at Cave Without a Name, for allowing us to camp there while working in nearby Spring Creek Cave, which is on private property.



Up-to-date cave map provided by Bill Steele.

CAVING WITH A **BALACLAVA**

Bill Steele

A few years ago a Texas caver flew to Atlanta and met me in Alabama for a challenging caving trip. In the end he could not make it out of the cave because of a very difficult move at the top of a rope drop not far from the entrance. He had to spend the night in the cave and wait to be rescued.

I loaned him my balaclava and he felt that it saved him. In fact, his wife later contacted me about where to get him one for Christmas.

On all of my caving trips that are more than a very short one I carry a half gallon Nalgene bottle containing spare lights, batteries, pliers, a knife, zip ties, food, and a balaclava. A balaclava is a hood that has a hole for your face and covers your neck. Mine is polyester. It is light and bunches up to be hardly bigger than a handful. It has been loose in my pack, totally soaked, and I have wrung it out, put it on, and in minutes felt warmer. They are inexpensive, small, light, and very effective.

In February I was on a trip in CM Cave to go to the sump and pick up a tank. About half way in I started feeling weak, stumbling, feeling awkward and dizzy. I was getting sick and it was coming on fast.

Realizing that I had no business going all the way to the sump, I told the cavers I was with that I was getting sick (it turned out to be the norovirus and I was very ill for 80 hours) and needed to wait and I would exit with them when they returned. We figured that their round trip would take about three hours.

I found a ledge to lie down on out of the water. My balaclava saved me. Two people returned from the sump in an hour and I had not gotten cold, even though I was in a wet wetsuit, and had been in water up to my chin. In my opinion a balaclava should be in every caver's pack. On Amazon there is a good one (Rothco One Hole Polar Fleece Balaclava) for \$6. 79 with free shipping.



PHOTO TIPS & TECHNIQUES

A NEW, AND REGULAR FEATURE
James Jasek



HOW TO PREVENT FOGGED LENSES IN COLD WEATHER.

Taking a cold camera into a warm cave creates a severe temperature difference, allowing fog to form on the lens and excessive moisture on the body.



A very easy way to prevent this is to put one or two activated hand warmers in with your camera about an hour before you go in the cave. When the package is opened, the moisture in the air causes the iron filings inside the hand warmer to heat up to around 135 degrees. This will last a little over 7 hours, providing a hot dry heat next to your camera. A camera hotter than the cave will not fog.

Many cavers use the compact point & shoot cameras, and these cameras all have a protective cover over the lens to prevent damage. Moisture gets trapped under this cover causing fog on the lens. The hand warmer will help, but not totally solve this problem. Be sure the hand warmer is in contact with the front of the camera and the lens cover. This should solve most of the fog problems. If there is fog on the lens, hold the hand warmer against the open lens until the fog is gone. This will not harm the lens or the camera.

Generally, once the camera is warmed up, it will remain clear of fog for the entire trip, but always look at the lens before you take your picture.

For help on a specific problem, feel free to e-mail Jim Jasek at caverjam@hotmail.com.

NORVELL'S CAVE

CAVING IN THE BURBS

Marvin Miller

I was contacted in August by Ann Graham, the granddaughter of Walter Classen, who ranched a large piece of land north of the San Antonio city limits and east of Blanco Rd. The city has grown and swallowed the old ranch and she lives on several hundred acres that remain. There was a sinkhole that she wanted us to look at. Charles Cruz, Rick Corbell and I had an initial look. "Yes, it's a good feature," we said.

We arranged a date for the following Wednesday, after work, to put in a few hours, seeing if we could find a cave at the bottom of the meter – deep sink. Mike Harris and Kurt Menking joined Rick and me. In an hour, a large rock that I had thought to be a bedrock shelf had been proved otherwise and removed, and entrance to a small cavity had been obtained. A rock and dirt-choked lead sloped down and around a corner. We worked on opening up the entrance and the lead that evening and then again a week later. The 2nd dig got us to the top of a 2.5 meter drop, looking down at a floor a little over a meter in diameter. However, the entrance into the top of the room was too tight to get through and we had to leave it for another trip. When we started work that evening the air just inside the entrance was high in CO₂, making Kurt wheeze and cough like an old man.

By the time it came to be my turn to dig the airflow had reversed, bringing fresh outside air into the cave.

Jill Orr took Kurt's place on the third mid-week dig. It took only a few minutes of kicking to loosen a rock at the top of the drop and then dig it out of its matrix of dirt. With the rock removed I slithered on through and stemmed between the walls down to the floor. On the southwest side of the small area the ceiling dropped and the floor also dropped into a narrow crevice. The crevice stepped down about a meter and spilled through a tight slot into the top of a 7.5 meter pit. It looked like it would need a rope and probably some protection set. We spent the rest of the evening surveying the first part of the cave. Ann named the cave Norvell's after her father.

Knowing that pushing the going cave would now take a more concerted effort than just a few hours on a weekday evening, I scheduled Saturday, November 16th for us to return. Mike brought his electric chisel and a generator to drive it. Mike is dimensionally challenged when it comes to small passages and he was determined to get through the upper crawl and into the room at the top of the new pit. I was the first one in and, while waiting for the others, knocked a few nubs off the wall of the

slot above the pit and then decided that it looked free-climbable. That would save a bolt and some rigging. I lowered myself through the slot, found some foot holds on the walls where they belled out and was soon to the bottom, and Jill followed. Rick had come to the edge above and decided he didn't want to try it so stayed where he was to help Mike.

The floor at the bottom was about 1.5 meters long by a little over a meter wide. At the northeast end it dropped off into another free-climbable pit, but we put in a bolt and rigged it due to some delicate formations on the walls that taped out to 2.9 meters deep. At the north end of the flowstone floor a low alcove formed the top of the next drop. The whine of the drill drowned out the rat-a-tat of Mike's chisel somewhere above us as we set a bolt in the alcove wall. Jill was excited to be the first one down this pit. An awkward, feet-first maneuver was made worse by the harness, rope and associated accoutrements. It was a struggle getting into and even more so on the way out, but it was worth it. The pit belled out to a more comfortable size immediately. Draperies and formations accented the pit and the walls were coated with crystalline flowstone all the way down to the floor. We measured it at



Photos by Marvin Miller

7. 6 meters. The floor had a thick layer of organically rich and water soaked sticky dirt. At one end, a too-narrow passage led about a meter to the top of narrow slot. A rock tossed through it hit dirt after only about a second and there was a little bit of air flow coming from the drain. It continues but would take a lot of work to see if it is humanly passable after the slot.

On the way out we found that Mike had won his battle with the rock and was waiting to offer assistance at the top of the first pit, as was Rick. They had cut a stout section of cedar and laid it across the top of the slot that formed the entrance to the pit. Rick offered to rig a rope but I elected to free-climb out. Jill accepted the offer of a rope and after a bit of struggle to transition off the rope in the tight confines at the top, the rope was pulled and another cave done.

The cave mapped out at 30. 8 meters long and 24. 5 meters deep.



ASCENDING MULTI-SYSTEM

REUSE MOST COMPONENTS AND EASILY SWITCH AMONG ALL MAJOR ASCENDING SYSTEMS:
FROG, MITCHELL, TEXAS, AND ROPE WALKER.

Bennett Lee

DISCLAIMER: THIS GUIDE IS NOT A SUBSTITUTE FOR PROPER TRAINING BY A QUALIFIED INSTRUCTOR. YOUR LOCAL CAVING ORGANIZATION IS AN EXCELLENT PLACE TO START. AND ALWAYS, ALWAYS (YES, I SAID IT TWICE BECAUSE THIS IS EXTREMELY IMPORTANT) TEST YOUR SYSTEM ON ROPE JUST ABOVE THE GROUND TO ENSURE IT WORKS AND IS SIZED PROPERLY. DO NOT ASCEND ON AN UNTESTED SYSTEM!

Whether you use a Frog, Mitchell, Texas or Rope Walker, we all share many of the same components. What I am presenting here is a way to tweak your system that will allow you to quickly and easily switch among any of the aforementioned systems, even in the field at the base of an ascent. The way to accomplish this is share components between systems. Some components or setups presented here may be atypical, but they allow us to reuse gear between systems.

This article is not a complete discourse on any single system. For detailed information on vertical systems and techniques, I highly recommend the book *On Rope* by Bruce Smith and Allen Padgett, ISBN 1-879961-05-9.

WHAT IS AN ASCENDING MULTI-SYSTEM?

An ascending multi-system is a set of vertical gear that easily switches among multiple vertical systems. It's a term I coined because I don't know anyone doing this, specifically optimizing the individual systems for fast and easy switching (and hence, this article).

The multi-system presented here can easily convert to Frog, Mitchell, Texas, or Rope Walker. Since most of the components for the individual systems overlap, there are

very few extra components to carry. As you'll see below, upgrading from a single-purpose Rope Walker or Mitchell adds virtually nothing in terms of weight and bulk, while upgrading from a Frog only adds about 50% more weight but can create four different ascending systems, as well as have some redundancy in case components fail.

However, to accomplish all this, we need to tweak a few systems so all the key components can be reused.

CHANGES TO THE TYPICAL FROG SYSTEM

Frog Chest Harness

For the Frog, I replace the troublesome Frog chest harness with a bungee. (I can't take credit for this—it's an idea that I learned secondhand from Peter "Mudpuppy" Michaud.) In my opinion, the Frog chest harness is the worst component of the Frog System. More time is spent untangling, putting on, and adjusting the chest harness than the rest of the entire Frog system. Once the chest harness is on and tightened, the user is hunched over. Then, it requires even more tightening once the user is on rope. It's a huge amount of effort and energy spent just to hold the Croll upright.

In contrast, a bungee, even taut, does not force

	WT. ¹	MAX QTY.	FROG	MITCHELL	TEXAS	ROPE WALKER
Frog seat harness	697g	1	1	1	1	1
Double-roller chest harness	675g	1	x2	1	X	1
Foot strap with chicken loop	170g	2	2	2	1–2	2
Left-handled ascender	207g	1	1	1	1	opt.
Petzl Croll	130g	1	1	1	1	1
Petzl Basic	135g	1	X	opt.	X	1
Carabiner	57g	1	1	opt.	1	opt.
Half-round locking carabiner or 9-10mm screwlink	86g	1	1	1	1	1
5–7mm oval screwlink	21g	3	2	2–3	2	1–2
4–7mm delta screwlink	14g	2	2	2	1–2	2
3. 5mm oval screwlink	8g	2	2	X	X	2
Long rope, 9–11mm rope, ~10ft (3m)	153g	1	1	1	X	X
Cow's tail, 9–11mm rope, ~10ft (3m)	153g	2	1	1–2	2	1–2
5–6mm bungee, ~6ft (2m)	35g	1	1 ²	X	X	1
1/8" steel swivel pulley (fits 6mm rope)	24g	1	X	X	X	1
Min Weight ¹			1. 94kg (4. 3lb)	2. 51kg (5. 5lb)	1. 71kg (3. 8lb)	2. 34kg (5. 2lb)
Max Weight ^{1,3}			1. 94kg (4. 3lb)	2. 88kg (6. 3lb)	1. 89kg (4. 2lb)	2. 77kg (6. 1lb)
Multi-System Weight ^{1,3}		2. 95kg (6. 5lb)				

TABLE 1. Component and weight comparison by ascending system using the ascending multi-system as a base.
Your individual system may vary in actual components and weight.

1. **Weight based on my personal system - your results may vary.**
2. **Optional bungee to replace the troublesome Frog chest harness.**
3. **Includes all optional components.**

the wearer to hunch over. If it does or is even slightly uncomfortable, you can simply slide it off your shoulder until you're ready to get on rope. It takes only seconds to slip back over your shoulder and doesn't need to be adjusted again. Furthermore, I think it actually keeps the Croll upright better than a typical Frog chest harness. If it does not keep the Croll upright, most likely the bungee just needs to be tightened.

The only argument I've heard against a bungee is that some people use the Frog chest harness to help keep them upright. However, this practice is wrong! The standard Frog chest harness is not designed to be load bearing. It is designed to apply only a few pounds of force upward to keep the Croll upright, not to hold a 200 lb person upright. If you need help staying upright, switch to a Mitchell or Rope Walker.

Frog Foot Loop

Instead of the typical Frog open foot loop, by necessity, this Frog system uses a long rope connected to two foot straps with chicken loops. Using the chicken loops is optional for the Frog, but they are required for all other systems.

SO MANY ROPE WALKERS

There are numerous Rope Walker systems, usually identified by their bungee configuration: No Bungee, Single Bungee, Double Bungee, even a Bungee and a Half. Also, while the Frog typically uses a Croll and a handled ascender, Rope Walkers can use a wide variety of ascenders, often using a specialized ascender like the Gibbs which doesn't play well with other systems.

The Rope Walker that best fits into our goal of reusable components is the Double Bungee Rope Walker using a Petzl Croll for the foot ascender and a Petzl Basic for the knee ascender. Unless otherwise specified, any mention of the Rope Walker in this article implies this Double Bungee Rope Walker.

Additionally, instead of the typical single roller chest harness, you will need a double roller variety so it can be reused for the Mitchell.

COMPARING WEIGHT AND COMPONENTS

Since all the systems use overlapping components, upgrading to an ascending multi-system has a negligible impact on size, weight, and additional components. For example, upgrading from a typical Frog to a full multi-system adds only 1 kg (2.2 lb). Unfortunately, it requires additional components, most significantly a double roller chest harness, which typically costs almost as much as a full Frog system and almost doubles the system size.

Regarding the Table 1, note that my foot straps require delta screwlinks. Regardless of what foot straps you select, you will probably need either deltas or two additional oval screwlinks to attach your foot straps.

Additionally, even though there are two cow's tails listed, only one is used as a cow's tail. The second is used as a connector for your knee ascender, which coincidentally requires the same dimensions and knots and is thus interchangeable with a cow's tail. For simplicity, I list both as cow's tails.

The only commercial chest roller currently available in the USA is the PMI Chest Roller. The chest plate and chest harness and are usually sold separately. Be sure to buy a double-roller so it can be reused for the Mitchell.

Foot straps must have a chicken loop. The Frog does not need chicken straps, but all the other systems do. There are many commercial varieties, but I favor OnRope1's Stiff Step™, which has a metal insert to keep the foot strap from uncomfortably cinching around your foot. Compared to regular foot straps, they add some bulk and weight, but the comfort is worth it. Also, these particular foot straps need delta screwlinks (hence their inclusion in the table).

This system uses screwlinks (a.k.a., maillons or quick links) to connect components instead of tying directly. This allows quick and easy configuration changes.

I use stainless steel Peguet Maillon Rapide. Stainless is heavier, but also stronger and more importantly resists corrosion. Corroded screwlinks and carabiners are weaker and can lockup, making it difficult to change gear.

For my half-round, I use a locking half-round carabiner instead of a half-round screwlink. I use the Petzl Omni (manual locking, not the frustrating autolocking) because it has a visible red stripe when unlocked, making it easy to visually check ("Red you're dead"). I have witnessed far too many half-round screwlink lockups where even wrenches could not budge the nut, ultimately requiring the user (Wade) to saw off the screwlink back in civilization.

NOTE: the carabiner/screwlink for your Frog harness is called a "half-round" or "semi-round"! It is NOT a "D" carabiner, damn it! If you are confused, reread my well-written and enlightening article on carabiners in the Texas Caver Volume 59, Issue 1 (2013 Q1), available online in the Members Area at www.cavetexas.org.

For rope, I recommend 9mm dynamic. 9mm just barely squeezes through 5mm screwlinks; larger rope will require larger, heavier screwlinks. Do not use webbing or manufactured (sewn) cow's tails. The rope's knots help absorb some of the impact if you fall, plus ropes can be re-tied or adjusted to replace another missing or damaged rope, giving you both redundancy and a custom fit.

CREATE YOUR OWN MULTI-SYSTEM

The first thing you need to do is buy the components in Table 1, then measure, cut, and tie your ropes. After that, you're ready to assemble whichever system you desire.

Measure Your Mitchell Long Rope

The long rope has figure-8 loops on both ends and extends from your foot strap to just above your chest harness.

1. Tie a figure-8 loop in one end and attach it to your foot strap.
2. Put the rope through a roller in your chest harness.
3. Tie another figure-8 about 2-6in (5-15cm) above your chest harness when standing. Do not cut off the excess rope!

Measure Your Cow's Tail

A typical cow's tail has figure-8 loops on both ends and a midline figure-8 or butterfly knot offset so that the length of one side is about 2ft (60cm) and the other is 1ft (30cm).

NOTE: A common variation of the knots is to tie a half barrel knot in place of the figure-8 on an end. The barrel knot is stronger, more compact, easier to untie, and cinches tightly onto the carabiner or screwlink in its loop when load is applied. Cinching can be good if you want the rope to remain at a fixed location on a carabiner, but bad if you need freedom of movement or need to change equipment. To remedy this, you can add an overhand stopper, as described in the bungee section.

1. Tie a figure-8 in one end of a second rope.
2. Tie a figure-8 or butterfly knot in the middle of the rope so the end loop is 2-4in (5-10cm) above your chest harness when the midline knot is attached to your seat harness.
3. Tie another figure-8 in the other end of the rope so that it is half the length of the side you just tied. Do not cut off the excess rope!
4. Test the cow's tail size as a knee ascender (i.e., Mitchell or Texas). If you cannot reach the ascender with your hand, make it longer, keeping the side lengths at a 2:1 ratio.
5. If possible, test the cow's tail on rope as a Frog System safety. If it stops the upper ascender before you fully squat, make it longer, keeping the sides lengths at a 2:1 ratio.

Cut and Re-Tie Your Ropes

1. Mark the potential ends of both the cow's tail and long rope. Untie all knots and find the longest mark.
2. Cut all ropes to the longest mark (all ropes the same length). Be sure to properly seal the ends of your rope!
3. Re-tie your long rope and both cow's tails. You may need to adjust the end loop diameter or tail length of knots. You can also slightly change the length of the short side of your cow's tails, but the long side should remain the length you measured.

For reference, I am 6ft tall and use 8ft ropes. My long rope is 4.5ft tied, cow's tail long

loop is 2ft and short loop is 1.5ft. For the next step, my bungee is 5ft long and 3.5ft tied.

NOTE: Creating all three ropes the same longest length helps reuse components and facilitates emergency repair. If the ropes are identical in length and one becomes damaged or lost, you can easily retie a Frog or Mitchell long rope into a cow's tail or vice versa.

Make Your Rope Walker Bungee

1. In one end of the bungee, make an end loop by tying half a barrel with an optional overhand stopper (the stopper prevents the loop from cinching onto screwlinks and makes it easier to adjust the bungee length).
 - a. Tie an overhand knot about 12in (30cm) from the end of the bungee.
 - b. Using this end, tie half a barrel knot on the other side of the overhand knot to create a loop. The overhand knot should be inside the loop to act as a stopper.
2. Using one of the cow's tails you just created, put on your Rope Walker system and attach the bungee loop to your foot loop then through a chest roller.
3. Raise your knee ascender leg as if you are taking a step up and tie an end loop in the bungee 2-4in (5-10cm) above the knee ascender.
4. Attach the bungee to the knee ascender and take several steps up. The bungee should be slightly tight, keeping both ascenders upright throughout the entire step.
5. Cut off any excess bungee.

Now, recheck the sizing of all your systems, adjust the lengths accordingly, and test them on rope just above the ground. Lather, rinse, and repeat.

ASSEMBLING SPECIFIC SYSTEMS

Due to space, the assembly of the individual systems won't be covered until next issue. However, for those who want a sneak peak of the full article as well as a few other future Texas Caver articles, you can download a printable PDF at <http://www.bennettlee.com/AscendingMultiSystem.pdf>.



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