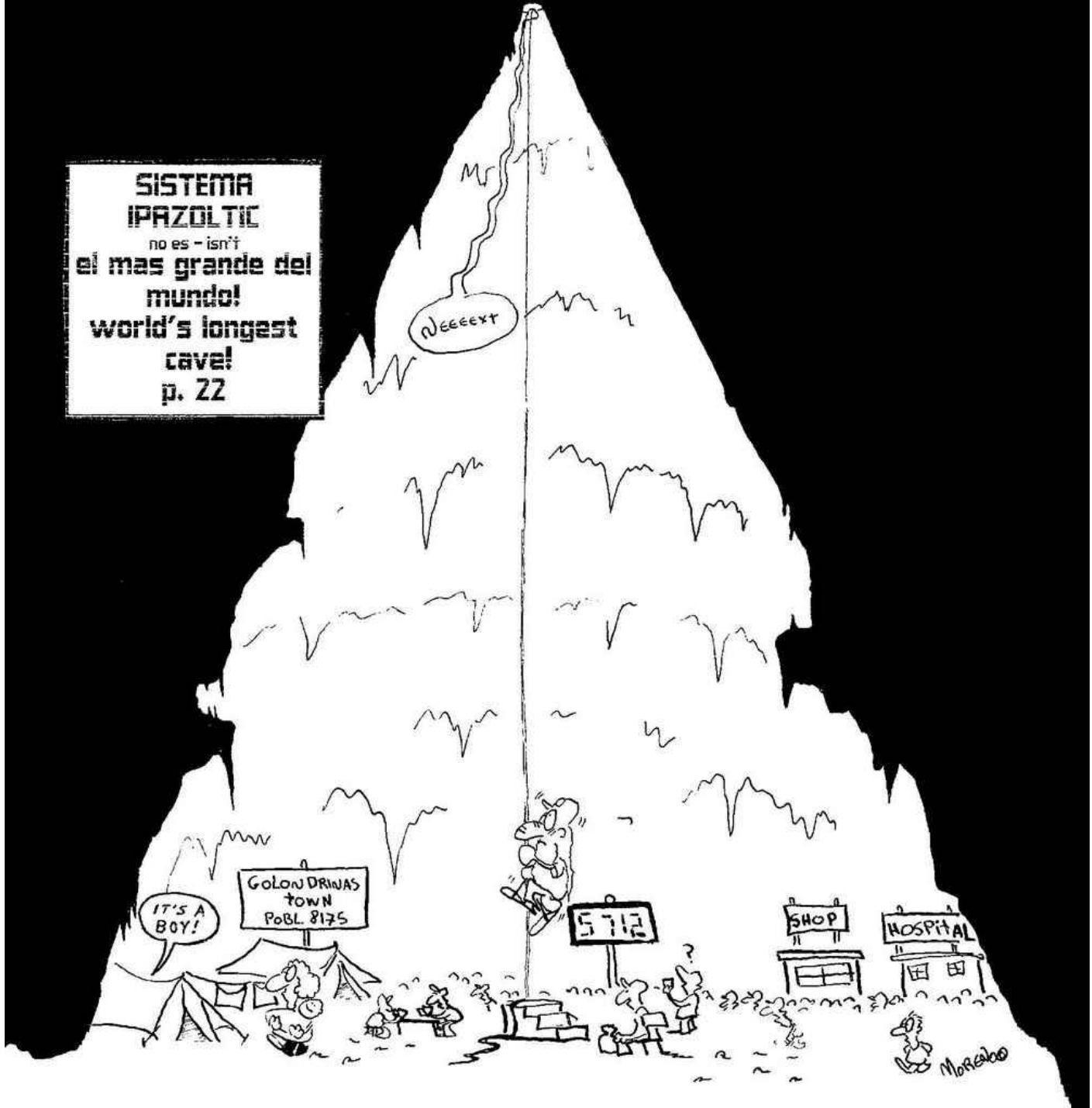


SUBTERRANEO

**SISTEMA
IPAZOLTIC**
no es - isn't
**el mas grande del
mundo!
world's longest
cave!**
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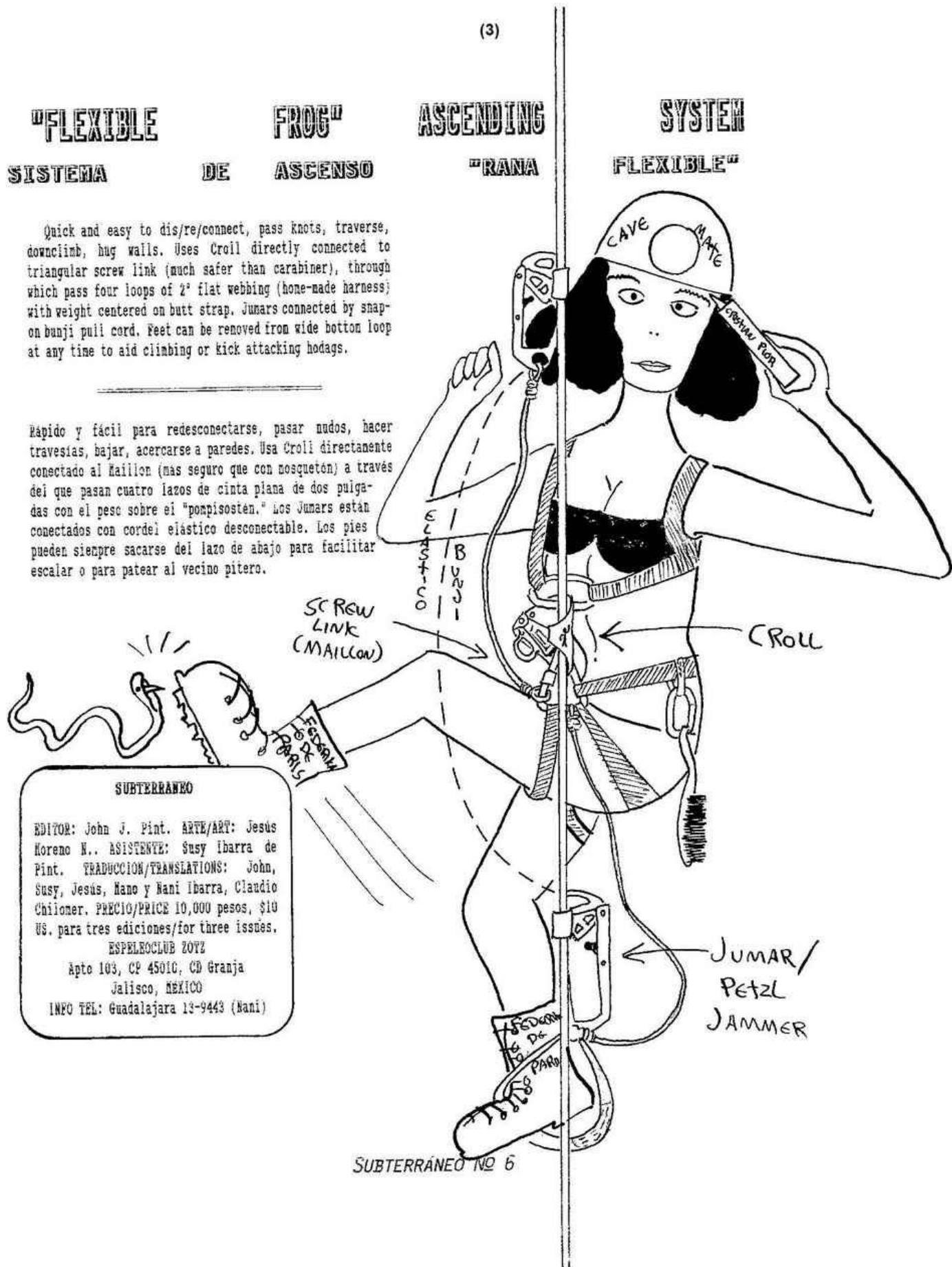
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Este PDF ©2016 por John Pint. Espeleoclub Zotz es conocido también como Grupo Espeleológico Zotz y fue fundado por John y Susy Pint en 1985. Zotz ha encontrado, explorado, topografiado y fotografiado cuevas en Jalisco, Colima, Nayarit y Michoacán. Los PDF de Subterráneo fueron publicados en el Internet en 2016 por John Pint, correo: ranchopint@hotmail.com.

"FLEXIBLE FROG" ASCENDING SYSTEM
SISTEMA DE ASCENSO "RANA FLEXIBLE"

Quick and easy to dis/re/connect, pass knots, traverse, downclimb, hug walls. Uses Croli directly connected to triangular screw link (much safer than carabiner), through which pass four loops of 2" flat webbing (home-made harness) with weight centered on butt strap. Jumar's connected by snap-on bunji pull cord. Feet can be removed from wide bottom loop at any time to aid climbing or kick attacking hodags.

Rápido y fácil para desconectarse, pasar nudos, hacer travesías, bajar, acercarse a paredes. Usa Croli directamente conectado al Maillo (mas seguro que con mosquetón) a través del que pasan cuatro lazos de cinta plana de dos pulgadas con el peso sobre el "pompososten." Los Jumar's están conectados con cordeles elásticos desconectables. Los pies pueden siempre sacarse del lazo de abajo para facilitar escalar o para patear al vecino pitero.



SUBTERRANEO
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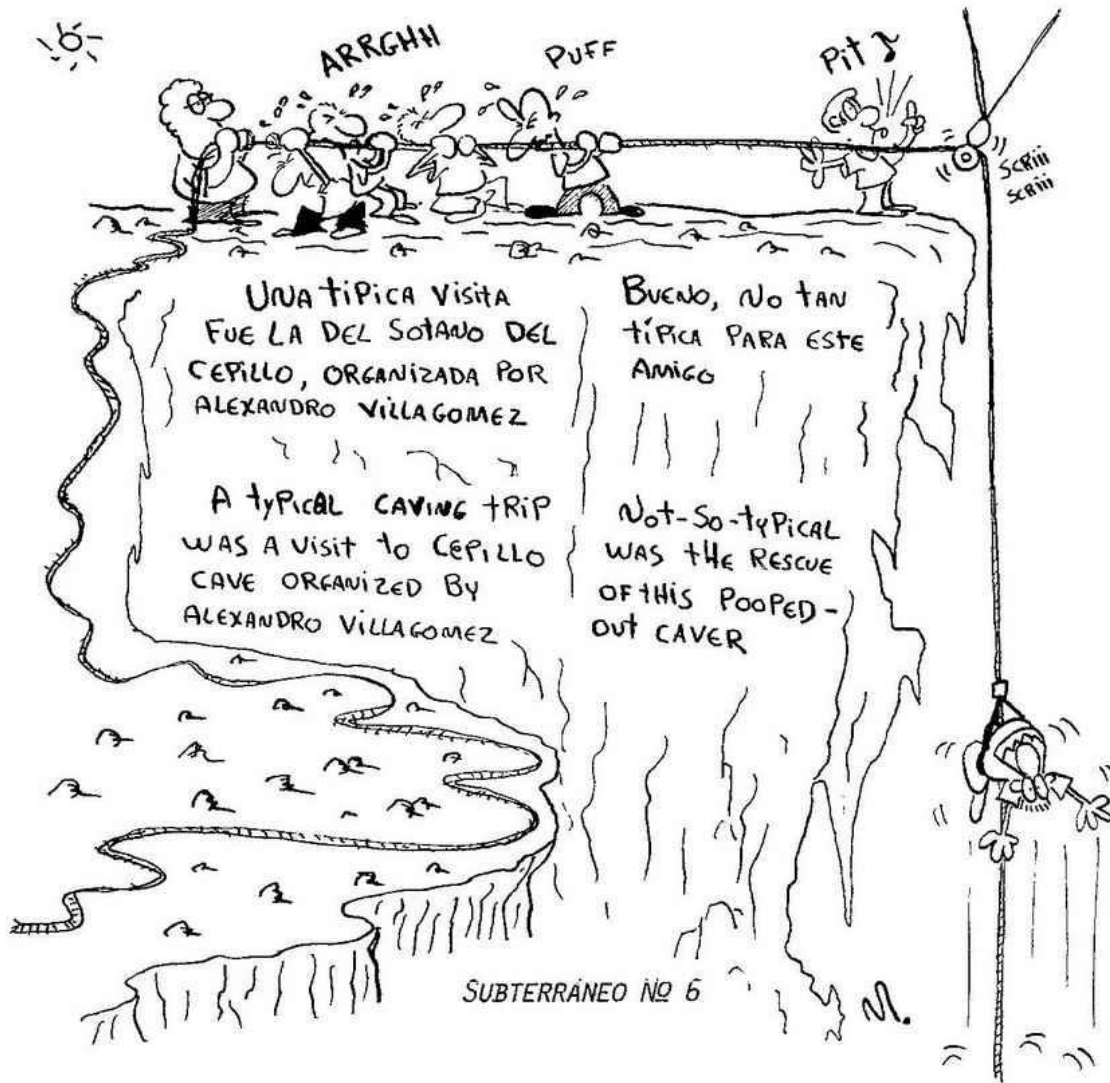
MEXPELEO '89 A L B U M

The final week of the old year saw hundreds of speleo-enthusiasts converging on Ciudad Valles, SLP, smack in the heart of one of Mexico's most renowned caving grounds. From France, Brazil, England, the USA, Canada and another country called "Quebec" (pronounced kay-BEK) they came, mainly to visit world famous pits like Golondrinas and Guaguas, but also to learn something about Mexico, rub shoulders with local cavers and participate in the well-run, varied schedule of events arranged by Peter Sprouse, Ramón Espinasa and their many helpers.

One glance at Zotz's scrapbook will convince you that no one was disappointed and that cavers the world over (including kay-BEK) are looking forward to the next Mexpeleo with bated breath (like what you get at the bottom of a pit full of CO₂).



Durante la última semana del año pasado, cientos de "espeleo-locos" llegaron a CD Valles, SLP, el centro de una zona famosísima por sus cuevas. Desde Francia, Brasil, Inglaterra, EEUU, Canadá y otro país llamado "Quebec" vinieron para visitar sótanos enormes o bellos como Golondrinas y Guaguas, para conocer México y sus espeleólogos y para participar en el excelente programa arreglado por Peter Sprouse, Ramón Espinasa, etc. ¡Ahora nadie piensa en otra cosa que en el próximo Mexpeleo!

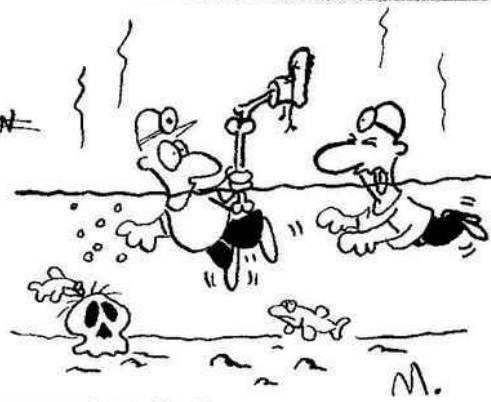




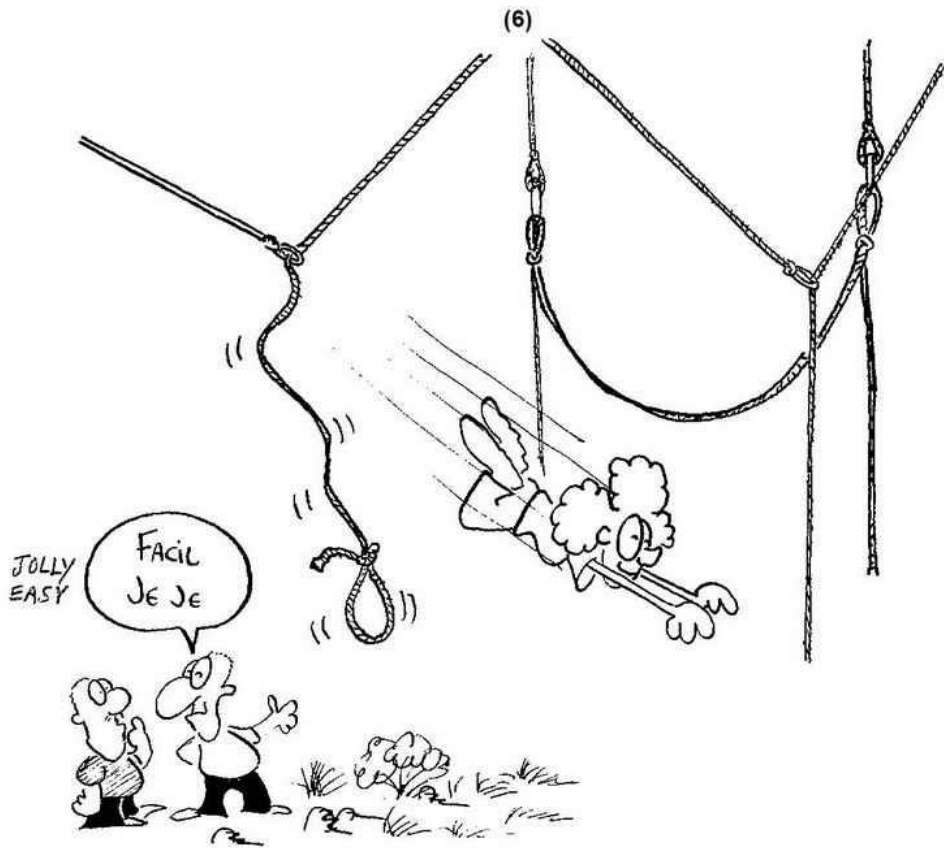
EVERY NIGHT WE SAW SLIDES OF FABULOUS CAVES, TRANSLATED BY RAMON INTO 17 LANGUAGES, INCLUDING TROGLODITE.

TODAS LAS NOCHES VIMOS TRANSPARENCIAS DE FANTASTICAS CAVERNAS, LA TRADUCCION EN 17 IDIOMAS INCLUYENDO EL CAVERNARIO, FUE HECHA POR RAMON.

EN LA CUEVA DEL CHOY, MIEMBROS DE ZOTZ ~~RESCATARON~~ RECOBRARON UN CADAVER



IN CHOY CAVE, ZOTZ MEMBERS ~~RESCUED~~ RECOVERED A DEAD BODY FLOATING IN THE UNDERGROUND RIVER.



AS FOR WORKSHOPS, EUROPEAN CAVERS TAUGHT THEIR REBELAY SYSTEMS AND CHALLENGED EVERYONE TO NEGOTIATE AN "EASY ROPE ROUTE"....

CUEVEROS EUROPEOS, OFRECERON UN TALLER MOSTRANDO EL SISTEMA EUROPEO DE DESCENSO CON UNA "RUTA FACIL"



SUBTERRANEO Nº 6



ZOTZ RAN A WELL-ATTENDED "HOME-MADE GEAR" SESSION....

ZOTZ SE ENCARGO DE UN TALLER DE EQUIPO HECHO EN CASA.

RUTH DIAMANT GAVE A VALUABLE DEMO ON SPELEO-COSMETICS...

RUTH DIAMANT DIO UNA VALIOSA DEMOSTRACION SOBRE ESPELEO-COSMETICOS.



IT WAS A GREAT GATHERING FOR EVERY BODY BUT THIS ONE GUY...

FUE UN GRAN ENCUENTRO PARA TODOS, EXCEPTO PARA ESTE CUATE.

THE CAVE AT THE END OF THE WORLD

La Cueva Cuata

"Yes, we were in *La Cueva Cuata* for six hours and never got to the end of it; finally crawled out at two in the morning!"

Inspired by this report from a friendly stranger, Susy and I headed down the road to Tequila one sunny Saturday morning, the back of our Jeep filled with boxes and bags of caving gear.

MANGOS IN THE MUD

Although it was January and the dead of Winter, we were pleasantly surprised to find all sorts of tropical fruits already ripening in the deep canyons of the Santiago River. We made our way through sleepy *pueblitos* with strange names like Achio and Chome, past tamarind trees, golden fields of corn, flowering apricot trees and enormous mangos drooping with fruit. Throughout the dry season, the many springs in the area keep the vegetation eternally green... and the roads eternally muddy.

A local resident named Arnulfo was willing to take us to the cave, though he had never actually entered the place and was none too anxious about doing so now. Leaving our Jeep under a shady mango tree, we hiked northwest along a narrow trail that

LA CUEVA CUATA

Vanamente habíamos buscado Mano, John y yo alguna cueva que valiese la pena uno de esos domingos en que nos lo habíamos propuesto. "Ah, sí! Por allá hay una cuevota bien grande...". Y después de horas: un hueco aquí y otro allá. Nada más.

Cuando nos detuvimos a comer pasó una camioneta con unos señores y, casi adormilada y un poco dándole la espalda, escuché a uno de ellos que hablaba sobre una cierta Cueva Cuata en la que él y unos amigos habían pasado seis horas. ¡¡Seis horas!!... y, como por encanto, mi modorra se esfumo y de un salto estaba con el grupo toda oídos.

CUEVAS EN UN PARAISO TROPICAL

Un domingo más tarde John y yo nos encontrábamos en dirección a Ameca tomando luego el camino a Santa Rosa.

En Achio, Arnulfo, un lugareño, nos acompañó en busca de la cueva. Siguiendo una brecha pintada en las orillas por el azul verde de las parcelas de agave tequilero, continuamos por entre huertos de ciruelos, chirimoyos, papayos, y bajo unos hermosos y gigantescos mangos estacionamos el jeep y emprendimos la marcha hacia una mesa donde, de la distancia, se divisaban unos huecos más o menos a la mitad del precipicio

passed banana plants and papayas until suddenly we caught sight of the majestic *barranca* in the distance. "The cave is right at the edge of the precipice," explained Arnulfo. "I just hope I can find it..."

THE WORLD'S LAST CAVE

That problem resolved itself a few moments later when we came upon a rancher who introduced himself as Don Guadalupe, "the one in charge of visitors to the cave."

Well, we couldn't quite believe we'd found a tourist cave in this lonesome spot, so we pried Don Guadalupe for more information.

"Pues, you see, people come to this spot to pray, because -- *bueno*, there's something special about it. When the world ends, only seven places will be spared, and this is one of them! It's name is Tequilizinta, but we call it *La Cima de la Montaña*, The Summit."

Pulling out my pocket agenda, I enquired as to the precise date when the world would be ending. "Why, in 1998!" exclaimed our guide with a knowing look.

CAT-WALKING THE CLIFF

A little while later, the trail ended at a sort of corner precipice. Facing us was a line of dark holes in the cliffside and around the bend to the right was a drop of a good 100 meters straight down to the Santiago River.

We stepped into the cave entrance

cuyas paredes -de unos 150 Mts. de altura- bajaban hasta el contaminado río Santiago.

En el camino nos encontramos con Don Guadalupe Hidalgo quien resultó no solamente conocer la ubicación exacta de la cueva sino algo más que eso:

CUSTODIO DE UNO DE LOS SIETE LUGARES DE SALVACION

"Un día, Jesucristo se me apareció y me ordenó quedarme aquí el resto de mis días custodiando La Cueva y dándola a conocer a quienes quieran salvarse cuando sobrevenga el fin del mundo en 1998," nos platicaba visiblemente complacido de tener -después de tal vez mucho tiempo- un público que lo escuchaba. Y continuó, "Luego los llevo arriba. Allí vivo yo en un



rancho. De allí se ven unas entradas a otras cuevas en el cerro de enfrente."

"¿Un ranchito?" le preguntamos sorprendidos. "¿Y cuántas personas viven allí?"

"Bueno", nos dijo en tono lastimero, "hace algunos años, todos, incluso mi esposa y mis hijos, se fueron siguiendo a un charlatán que llegó a predicar cosas contrarias a nuestras creencias. ¡Y pobres de ellos, porque éste es uno de los siete lugares en el mundo que se salvarán! Aquí es como una Arca de Noé, y todos los que quieran, si se arrepienten de sus pecados, se salvarán de la catástrofe..."

Y mientras entusiasmado continuaba, llegamos a los huecos en el precipicio. Un olor a guano de murciélago se dejó

and I removed my pack. Two separate tunnels disappeared into blackness at the back of the cavern. "Which one do you recommend, Don Guadalupe?"

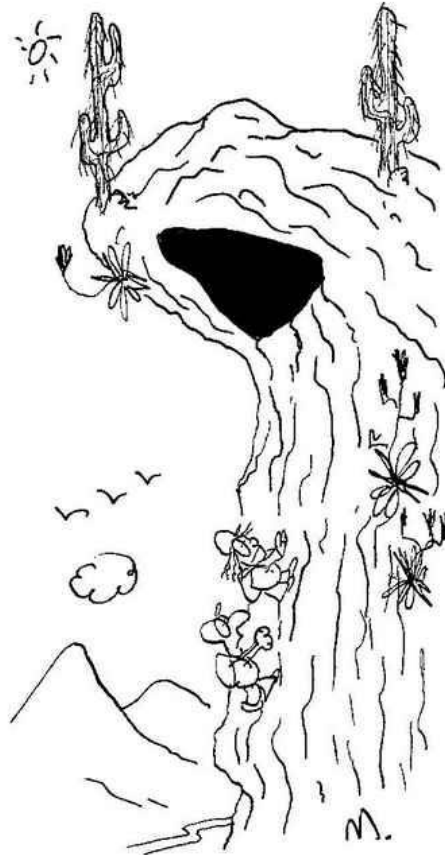
"Neither. This isn't the cave. The one we want is there," and he pointed straight up.

Since we were standing in a cave located in a sheer cliff wall, Susy queried how we were supposed to get to another spot above us. Don Guadalupe gestured toward the edge of the precipice outside: "thataway!"

Hugging the wall, this hardy little man began to edge his way right over the long drop. The rest of us looked at one another, gulped hard and, with Susy in the lead, began catwalking behind our guide. After a few meters, the "trail" mercifully switched back and we moved upward to La Cueva Cuata.

TRAPDOOR TO DEATH

The mouth of the cave had been converted into a kind of chapel, complete with altar smothered in candles. Something told me the first prayers said there were probably of thanksgiving for having made it alive. As in the cave below, two tunnels disappeared into darkness, one of them marked by a well-trampled trail. Half crawling and "Groucho-walking," we followed the footprints in the muddy floor. The passage was about four meters wide and anywhere from a foot



sentir al llegar frente al primero, que era un hueco de unos 5 Mts. de ancho por 2 Mts. de alto. "¿Es aquí?" le preguntamos al mismo tiempo que buscábamos alguna conexión al resto de la cueva.

"No. aquí no hay más que este hueco. 'La Cueva' está allá arriba."

Al principio me dió la impresión de que tendríamos que escalar de roca en roca y la idea, a decir verdad, no me gustó en lo más mínimo.

"¿Es pp-or allí?" le pregunté señalando hacia arriba.

"No, no. El camino está por allí," me contestó indicando una especie de escalera hecha con palos y troncos que parecía estar simplemente recargada sobre la

pared. "Luego se sigue por allí," dijo mostrando las paredes del barranco.

Alguna fuerza mágica me empujó a emprender el camino. Lo que era, era, y si no había un camino mejor, simplemente no lo había.

Subiendo la escalera, a la derecha, efectivamente había una veredita de unos 20 cms. de ancho, y por allí empecé a caminar buscando los mejores puntos de apoyo a los cuales me asía tan fuertemente como podía, tratando de olvidar que a mi costado había una caída muy poco grata hacia el río.

Las imágenes que en esos momentos danzaban por mi mente (unas en las que me veía rodando sin piedad por el barranco entre multitud de cactus; otras en las que insistía en poner en evidencia a mis acompañantes que

to just over a meter high.

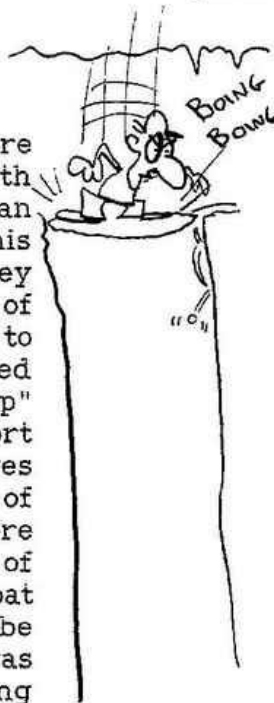
We arrived at a fork. "Go to the left, not the right!" warned Don Guadalupe, explaining that the right-hand passage led to a *trampa* -- a trap -- devised by the Indians who had used this cavern in ancient times. Naturally, we pressed him for details.

"The last person who went that way stepped onto a rock that operates on a swivel. As soon as he put his weight on one end of it, the rock flipped over and that man slid down a chute that shot him out of the cliff wall. They found his body down by the riverside."

We heeded this warning and contented ourselves with a touristic visit to the "Holey Room," a chamber with two small water holes and another altar, where one can almost stand up straight. Here we were pleasantly surprised to discover countless tiny stalactites and stalagmites apparently in process of formation by the seepage of dissolved minerals through cracks in the roof of this otherwise volcanic cave.

INTO THE TRAP

Several weeks later we were back at La Cuata Cave with Claudio, Jesus, new member Juan Blake and several guests. This time we had brought survey equipment and a length of webbing to which we planned to tie Jesús, who had volunteered to go first into the "Deathtrap" passage. However, after a short mud crawl we found ourselves at the edge of a wide pool of shallow water in which were floating numerous globules of gooey, black, vampire bat droppings. As I happened to be wearing tennis shoes, I was elected the honor of splashing around in this foul-smelling



también las mujeres podíamos hacer "esas cosas") continuaban distrayéndome, haciéndome tambalear más de una vez. Pero, se los aseguro: no estoy escribiendo esto en una cama de hospital.

Son ya tres los viajes que hacemos a la Cueva Cuata a cuya entrada se encuentra un altar con 7 escalinatas que representan los 7 lugares de salvación en donde posan coloridas veladoras.

En el segundo viaje comenzamos la tarea de medirla con otros miembros de Zotz.

El tercero nos presentó algunos detalles curiosos. Esta vez fuimos John, Jesús, un nuevo miembro, Juan Blake, Mónica y yo. Uno de los fines principales era entrar de nuevo al Pasaje de la Trampa, que es un pasaje lateral donde, según el señor Hidalgo, hay una piedra justamente sobre la boca de un tiro que baja hasta el río. Dicha piedra tiene un eje que, de moverse en lo más mínimo, hace que la piedra dé vuelta empujando con toda su fuerza al río al que la movió.

La verdad sobre esto, sin embargo, es bastante diferente. En el segundo viaje Jesús ofreció arriesgarse y aunque iba bien asegurado y nos tuvo a todos a la expectativa, lo desilusionó el charco que inunda el cuarto al que llega el pasaje y, no encontrando ninguna piedra que sugiriera la famosa trampa, regresó.

En el tercer viaje John decidió llegar al fondo del asunto y, ya sin ningún seguro, exploró el lugar. Lo que descubrió fue que, aparentemente, no existe tal trampa, a menos que ésta se encuentre al otro lado de donde proviene el agua: una abertura de sólo unos centímetros.

Un poco desilusionados

drink to see if the passage continued. It didn't, but then the question came up: how are we going to survey this 20-meter long lake?

"Well, John, seeing that you are already *in* it..."

Have you ever tried to survey an underground lake *by yourself*? Especially a lake with a ceiling so low you can't stand up straight? I won't vouch for the measurements, but who's ever going to check them out?

GUMMY, BUT NOT YUMMY

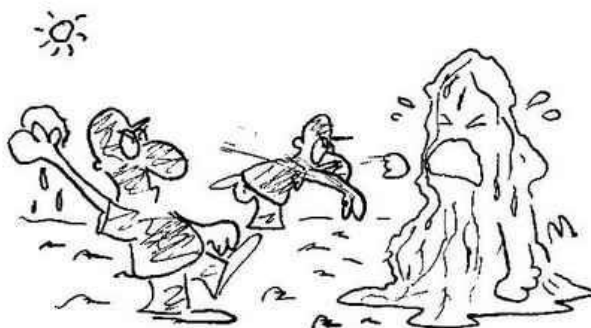
Having found nary a sign of the infamous trap, we headed back to the main passage and surveyed ourselves right into the Icky Sticky Gumhole where the cave ended in a low, "water"-filled passage that just might be negotiable after another month without rain. As we dragged our bodies and bags of gear through the thick mixture of mud and clay -- a veritable *Paradise for Pigs* -- our flashlights, compass and tape slowly turned into indistinguishable globs of mud... and so did we. This may sound somewhat unpleasant but actually, there are people who pay to watch wrestlers go at it in just such an *ambiance* (and how many people can you name who have seen Susy Pint covered with chocolate goo!). Besides, a historic event took place there in that mucky mess: Jesús Moreno invented the **INCREDIBLE SELF-STICKING FLASHLIGHT** by clopping his light on his knee and doing a jig to prove that it wouldn't fall off.

Thus it is that we can assure you that the future of mankind is not as bleak as some have made it seem. When the Judgement Day comes -- if you happen to be anywhere in the vicinity of Tequilizinta -- you can still look forward to fun and games deep inside Cuata Cave, just below The Summit at the End of the World.

John J. Pint

regresamos al pasaje principal el cual termina en una pequeña fosa inundada. El agua corre hacia otro lugar desconocido por nosotros hasta ahora.

Nuestra última esperanza era otro pasaje lateral al que dimos el nombre de Pasaje Chiclosa pues el suelo está completamente tapizado por una masa espesísima de un lodo pegajoso. Yo entré solamente unos cuantos metros y regresé, aunque poco me valió porque cuando los otros tres regresaron, enlodados hasta las orejas, se aseguraron de que yo quedara igual o peor que ellos.



Este último pasaje, al igual que los otros, termina en un charco cuyas aguas van al otro de la cueva y el conducto, en este caso, es más accesible, aunque debido a que está inundado, queremos esperar un par de meses hasta que el agua haya bajado.

Aunque es evidente que no es ésta una cueva en la que sea necesario pasar seis horas explorándola (a menos que -como me imagino tal vez sucedería con nuestro informante- se lleve la intención de brindar allí con los cuates para olvidar la frustración que les producirá a los lugareños al no encontrar el tesoro que todos ellos se empeñan por encontrar en las cuevas), es ésta la cueva volcánica más interesante que hemos encontrado después del Chapuzon.

Susy Ibarra de Pint

CAVERS SHOT ON COAST

MICHOACAN
HAS DELIGHTFUL BEACHES
AND NASTY KILLERS

It finally happened. The lurking bandido I'd always heard about but had never seen finally caught up with me. The trouble is, the reality turned out to be far worse than the scenario I'd always imagined ...

SOLITARY ROAD

On the morning of August 25, 1989, I headed for the coast in the company of Claudio Chilomer, the number one (and only) Brazilian member of ZOTZ. Our plan was to drive all the way along the Pacific Coast Highway (Mex 200) to Puerto Arista, Chiapas, where Jesus Moreno awaited us to begin a tour of that jungly state on Mexico's southern border.

We took the excellent new road via Colima and soon were speeding south, with occasional glimpses of the Pacific Ocean to our right. The beaches we came upon were so

EN AGOSTO DE
1989 UN ASE-
SINO DISPA-
RO CONTRA
JOHN PINT Y
CLAUDIO
CHILOMER EN
LA COSTA DE
MICHOACAN.
ESCAPARON
CON VIDA PE-
RO PINT
QUEDO CON
UNA BALA EN
UNA PIERNA.

beautiful that we couldn't resist stopping for a quick dip.

All we could see in both directions were miles of clean, gently rolling sand dunes. The surf was high, the water bathtub-warm and to make the picture complete, we discovered a group of five or six giant turtles, (each over two feet in diameter) frolicking in the surf nearby. They even let us come within twelve feet of them with no sign of being frightened. What we did not see was any trace of a human being. "This is it," we cried, "the perfect beach! We'll bring all our friends here next winter!" And we got back in the car to continue down the deserted road. Indeed, not a house nor a human nor even a passing car was to be seen.

ATTEMPTED MURDER

As we swung around the loneliest curve in this lonely stretch, a man hidden in the undergrowth stood up straight ahead of us, his feet planted firmly on the ground, white cloth tied around his head, a look of sheer madness in his eyes, and a large revolver held in both hands at arms' length, pointed straight at Claudio, who was driving.

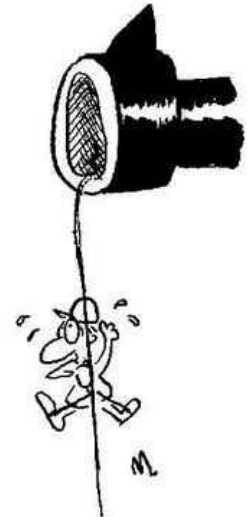
"My God, Claudio! He's going to shoot us!" And I tried to duck my head beneath the level of the windows, but my seat belt, that so-called life-saver, made it impossible for me to slide down into the space in front of my seat, so I leaned back and to my left, trying to get my head down into the opening between the two front seats. Doing this forced my left leg slightly upward, which possibly saved both our lives.

Claudio, meanwhile, ducked down as low as he possibly could without taking his eyes off the road or his foot off the gas pedal.

All this happened during the split second it took that madman to

pull the trigger. Two loud reports rang out as we went into the curve at about 60 km an hour.

"I saw the gun aimed straight at my chest," said Claudio afterwards, "so when I heard the shots, I assumed I was going to die. But I was apparently still alive! Then I heard John call my name and I knew he was alive too, so I pushed the accelerator to the floor and tried



to get the hell out of there. The one fear that possessed me was that there might be some kind of road block just ahead with more gunmen waiting."

FIRST BLOOD

Claudio's Renault squealed around two more curves and we both sat up again, figuring the bullets had missed us. However, that's when I saw the hole in the door to my right, about three inches below the level of the glass. I looked at that hole and some circuit in my brain calculated where the bullet must

have gone and then I looked down and saw the blood welling out of my leg, inches from my waist and the panic hit me for now I had no idea whether I was a survivor or moments from my death. "Claudio, I've been shot!"

Then I saw more blood oozing from a spot two inches further up and a real nightmare began. If two bullets had gone into me, where were they now? Was I bleeding somewhere else? At this juncture, I still felt no pain and could only rely on my eyes to indicate what had happened. Was I hemorrhaging internally?

NIGHTMARES

It would be many hours before I'd have an answer to all these questions, thus giving my imagination free rein to conjure up one image after another, each worse than the one before.

Thus it was that we drove away from a near tragedy, alive and relatively unharmed, yet in such a state of mind that every minute of the nearly three hours it took to reach the hospital in Lazaro Cardenas seemed to last forever. I doubt if any horror in nature can come close to those the mind can create when fully unleashed: what would have happened if the highwayman had aimed a hair higher? If Claudio had lost control? If...? If...?

We soon became aware of the danger in these what if questions and agreed to suppress them. It was bad enough dealing with our reactions every time we saw a lone man on the roadside. I suppose we were both in a state of shock.

PATCH UP

Once we were well out of the danger zone, the police appeared and guided us all the way to a hospital in Lazaro Cardenas where I was immediately patched up, X-rayed and, of course, interrogated. We had a few of our own questions for them,

too, the principal one being: how frequently does this happen around here? One policeman claimed there hadn't been an attack like this in two months. Another stated that, "It doesn't happen often, maybe to one in a hundred." Those odds were far from comforting.

Several hours later, I learned that I did indeed have a bullet in me (only one) which had done little damage and was now lodged in a place in my leg where it could stay the rest of my life without causing any harm. I had been incredibly lucky!

A MORE DANGEROUS ROAD

Chatting with the emergency-room staff and other local people convinced us that such acts of violence have been very common on the two lonely highways from Colima and Uruapan to Lazaro Cardenas, which presented us with a bit of a problem: how were we going to get back to good old Guadalajara? (Somehow we had lost the urge to see Chiapas.)

We found a bus heading for Uruapan and asked the driver if we could tag along behind. We had been told that this road was even more famous for holdups than the other one, but also carried a lot more traffic. It didn't matter too much. Nothing on earth was going to make Claudio drive along that coast road again.

We made it back to Guadalajara without incident, my wounds healed and I was soon back to hunting for caves, albeit with a slight limp.

Now the limp is gone though the bullet still remains. No doubt there are better souvenirs to be had from the unforgettable Coast of Michoacan!

LA CUEVA DEL CHIQUILICHE

por Juan Blake B.

Salimos a las 10:30 AM del Sábado 16 de Marzo de 1990 con dos coches con rumbo a Chiquilistlan como a dos horas de Guadalajara. Habia en el grupo Jesus, Claudio, Susy, John y yo.

Al llegar a la brecha para internarnos en el bosque, un señor nos pidio aventón y lo llevamos como unos 20 km, haciendo una pequeña escala en Tamazulita para proveernos de cervezas y arreglar una falla en uno de los vehiculos, mientras una parte del equipo investigaba sobre la localización de "la cueva de Chiquilistlan."

Platicando con el señor que llevamos, averiguamos que el mismo conocia la localización exacta de la cueva y amablemente nos dijo que nos llevaria hasta ella. Continuando así nuestro camino, llegamos por una brecha al Cerro del Chiquiliche donde como a 500 metros del camino se veia la entrada de una cueva.

"¡Qué suerte tan más buena!" dijimos y allí nos sentamos a comer, en plena vista de la boca de la cueva, felices de no tener que pasar horas buscando en medio de espinas, *mala mujer*, cascabeles, etc..

Después de comer, nos pusimos los cascos y cargamos todo lo necesario para explorar una caverna larga y vertical. Pero cuando llegamos a la supuesta cueva,

--> p. 20

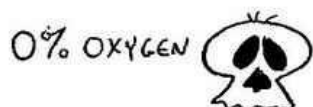


T H I S 'N' T H A T

THE TWO-BIT OXYGEN METER

IN THE JULY 1989 *NSS NEWS*, RAY HARDCASTLE DESCRIBES THE USE OF AN ORDINARY BIC LIGHTER TO DETECT THE LEVEL OF OXYGEN IN A CAVE. NORMAL PEOPLE SEEM TO GET ALONG WITH 17% OXYGEN BUT ARE LIKELY TO BLACK OUT BELOW THIS LEVEL. A CHEAP BUTANE LIGHTER PROVIDES THE FOLLOWING USEFUL INFO:

- 18% OXYGEN: BIC FLICKERS
- 17.5% OXYGEN: 1" GAP BETWEEN JET & FLAME; BIC STILL RELIGHTABLE
- 17% OXYGEN: BIC CANNOT BE RELIT



IT SEEMS CARBIDE LAMPS WILL WORK ON ONLY 14% OXYGEN, SO YOU ARE MORE LIKELY TO GO OUT BEFORE THE LAMP DOES!

THE BIC TEST WAS FIRST REPORTED BY BUTCH FRALIA IN THE DECEMBER '88 *HAVERICK BULL*, NEWSLETTER OF CAVERS IN ARLINGTON, TEXAS.



EL MEDIDOR DE OXIGENO ASEQUIBLE

EN LA EDICIÓN DEL *NSS NEWS* DE JULIO DE 1989, RAY HARDCASTLE DESCRIBE EL USO

DE UN ENCENDEDOR BIC PARA DETECTAR EL NIVEL DE OXÍGENO EN UNA CUEVA. LAS PERSONAS NORMALES PUEDEN SOBREVIVIR CON 17% DE OXÍGENO PERO ESTÁN MUY CERCA DEL DESMAYO ABAJO DE ESTE NIVEL. UN ENCENDEDOR DE GAS BUTANO BARATO NOS DA LA SIGUIENTE INFORMACIÓN DE GRAN UTILIDAD:

- 18% DE OXÍGENO: EL ENCENDEDOR PARPADEA
- 17.5% DE OXÍGENO: ESPACIO DE UNA PULGADA ENTRE EL ENCENDEDOR Y LA FLAMA. EL BIC TODAVÍA SE PUEDE PRENDER.
- 17% DE OXÍGENO: EL BIC YA NO PUEDE PRENDERSE.

LAS LÁMPARAS DE CARBURO TRABAJAN CON SOLAMENTE 14% DE OXÍGENO, POR LO TANTO TU ESTÁS MAS PROPENSO A "APAGARTE" ANTES QUE LA LÁMPARA LO HAGA.

LA PRUEBA DEL BIC FUE REPORTADA POR PRIMERA VEZ POR BUTCH FRALIA EN EL *HAVERICK BULL* DE DICIEMBRE DE 1988, BOLETÍN DE CUEVEROS EN ARLINGTON, TEXAS.



BATS IN THE RED

A RECENT ARTICLE IN THE *NSS NEWS* SUGGESTS THAT BATS REACT FAR MORE SLOWLY TO RED LIGHT THAN TO WHITE. DURING THE PAST FEW MONTHS, MEMBERS OF ZÖTZ EXPERIMENTED WITH RED LIGHTS AND DISCOVERED WHAT SEEM TO BE DIFFERENT RESPONSES FROM DIFFERENT SPECIES.

FRIENDLY *ARTIBEUS* BATS SEEMED EASIER TO APPROACH UNDER RED FLASHLIGHT BEAMS, WHILE *DESMODUS* VAMPIRES SEEMED AS JITTERY AS EVER. BOTH OF THESE ARE MEMBERS OF THE SAME FAMILY, *PHYLLOSTOMATIDAE* AND SHARE THE SAME CAVE (EL CHAPUZÓN).



IN GENERAL, MOST BATS SEEMED MORE IMMEDIATELY ALERTED TO OUR PRESENCE BY THE NOISE WE MADE RATHER THAN BY OUR LIGHTS, NO MATTER THE COLOR!



MURCIELAGOS BAJO LUZ ROJA.

UN ARTICULO RECIENTE DEL *NSS NEWS* SUGIERE QUE LOS MURCIELAGOS REACCIONAN MAS LENTAMENTE A LA LUZ ROJA QUE A LA BLANCA. DURANTE LOS MESES PASADOS MIEMBROS DE ZÖTZ HAN EXPERIMENTADO CON LUCES ROJAS Y DESCUBIERTO QUE PARECE HABER DIFERENTES RESPUESTAS ENTRE DIFERENTES ESPECIES. SE OBSERVÓ QUE LOS AMISTOSOS MURCIELAGOS *ARTIBEUS* PERMITÍAN UN MAYOR ACERCAMIENTO BAJO LA INFLUENCIA DE LA LUZ ROJA, MIENTRAS QUE LOS VAMPIROS *DESMODUS* PARECIAN ASUSTADOS COMO DE COSTUMBRE. AMBOS PERTENECEN A LA MISMA FAMILIA, *PHYLLOSTOMATIDAE*, Y

COMPARTEN LA MISMA CUEVA (EL CHAPUZÓN).
 EN GENERAL, LA MAYORÍA DE LOS MURCIÉLAGOS SE DAN CUENTA DE NUESTRA PRESENCIA MÁS POR EL RUIDO QUE POR NUESTRAS LUCES, NO IMPORTANDO EL COLOR.



PREVENTING (HIC!) HISTOPLASMOSSIS

ACCORDING TO CEO MEMBER LUIS ROJAS, A FRIEND OF HIS CAME ACROSS A REPORT IN A MEDICAL JOURNAL CLAIMING THAT *VODKA PREVENTS HISTOPLASMOSSIS*. SUPPOSEDLY, THE NASTY LITTLE SPORES ARE 100% TEETOTALERS AND REFUSE TO GROW IN LUNGS THAT REEK OF RUSSIAN BOOZE. CEO MEMBERS TESTED THIS THEORY OUT WITH ENTHUSIASM WHILE VISITING CAMINO REAL CAVE, KNOWN TO HAVE CAUSED NUMEROUS CASES OF HISTO.

TWO NOVICES AND THREE EXPERIENCED SPELUNKERS ENTERED THE CAVE, ALL OF THEM WELL FORTIFIED WITH VODKA EXCEPT FOR ONE OF NOVICES, WHO REFUSED TO TOUCH A DROP. A WEEK AND A HALF LATER, THE OLD-TIMERS GOT THE SNIFFLES, ONE OF THE NOVICES GOT WHAT SEEMED LIKE A BAD COLD FOR TWO DAYS, AND THE OTHER NOVICE ENDED UP IN THE HOSPITAL WITH AN EXTREMELY BAD CASE OF HISTO.

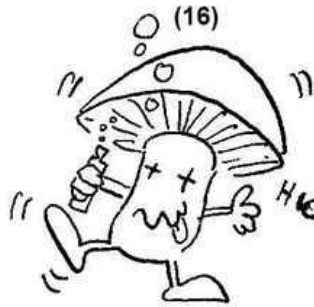
TURNS OUT THAT THE ONE IN THE HOSPITAL WAS THE GUY WHO WENT INTO THE CAVE SOBER!

UNFORTUNATELY, A SEARCH FOR THE MEDICAL REPORT THAT STARTED ALL THIS HAS PRODUCED NO RESULTS. WE WOULD GREATLY APPRECIATE RECEIVING MORE INFORMATION OF ANY KIND ON THE SUBJECT.



PREVIENIENDO LA (¡hic!) HISTOPLASMOSSIS.

DE ACUERDO AL MIEMBRO DE CEO, LUIS ROJAS, UN AMIGO SUYO HABLÓ SOBRE UN ARTICULO DE UNA EDICIÓN MEDICA DONDE DICE QUE *EL VODKA EVITA LA HISTOPLASMOSSIS*. SUPUESTAMENTE...AQUELLAS NECIAS ESPORITAS SON 100% ABSTEMIAS Y REHUSAN CRECER EN PULMONES QUE EXUDAN LA



BEBIDA RUSA, MIEMBROS DE CEO COMPROBARON ESTA TEORIA CON ENTUSIASMO CUANDO VISITARON LA CAVERNA DEL CAMINO REAL, CONOCIDA COMO CAUSANTE DE NUMEROSOS CASOS DE HISTOPLASMOSSIS.

DOS PRINCIPIANTES Y TRES CUEVEROS EXPERIMENTADOS ENTRARON A LA CUEVA, TODOS BIEN FORTIFICADOS CON VODKA A EXCEPCION DE UNO DE LOS NOVATOS, QUIEN REHUSÓ TOMAR UNA SOLA GOTTA. UNA SEMANA Y MEDIA DESPUÉS, AQUELLOS CON EXPERIENCIA PESCARON UN RESFRIADITO, UNO DE LOS NOVATOS AGARRÓ LO QUE PARECÍA SER UNA FUERTE GRIPA POR DOS DÍAS Y EL OTRO NOVATO TERMINO EN UN HOSPITAL CON UN CASO GRAVE DE HISTOPLASMOSSIS.

SUCEDU QUE EL QUE SE FUE AL HOSPITAL ERA LA PERSONA QUE ENTRÓ A LA CUEVA SIN SU DOSIS DE "INSECTICIDA".

DESAFORTUNADAMENTE LA BUSQUEDA POR EL REPORTE MEDICO QUE ENPEZÓ TODO ESO NO HA PRODUCIDO RESULTADOS. ÁGRADECERÍAMOS GRANDEMENTE CUALQUIER INFORMACION SOBRE ESTA MATERIA.



LIGHT THAT CAVE!

MR. PEDRO WOOD FERNANDEZ RECENTLY WROTE TO US ANNOUNCING A WORLD SPELEOLOGICAL CONVENTION TO BE HELD IN MONTERREY, SEPTEMBER 24-30 OF THIS YEAR. MR. WOOD IS THE MAN BEHIND THE BEAUTIFUL GRUTAS DE GARCIA TOURIST CAVE, WHICH PRODUCES INCOME FOR THE BENEFIT OF THE POOR (17 SCHOOLS, A CLINIC FOR THE BLIND, ETC.).

APPARENTLY ONE OF THE GOALS OF THE CONVENTION WOULD BE TO FOSTER THE CREATION OF MANY MORE "CHARITABLE TOURIST CAVES" THROUGHOUT MEXICO. THE CONVENTION PROGRAM FEATURES NUMEROUS

SOCIAL EVENTS, MEALS AND VISITS TO AS MANY AS SIX CAVES (PRESUMABLY TOURIST).

AS MR. WOOD IS MAKING EVERY ATTEMPT TO CONTACT THE "WILD AND UNTAMED" CAVING COMMUNITY, WE HOPE THE OUTCOME WILL BE BETTER UNDERSTANDING OF THE PROS AND CONS OF "ILLUMINATING" THIS COUNTRY'S CAVES.

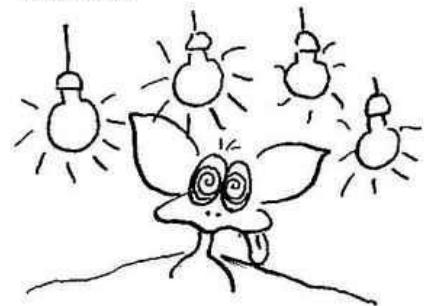
CALL 42-05-71, 44-80-08 OR 44-80-60 MONTERREY FOR INFORMATION.



CUEVAS TURISTICAS

EL SEÑOR PEDRO WOOD FERNÁNDEZ NOS ESCRIBIÓ RECIENTEMENTE ANUNCIANDO UNA CONVENCIÓN EXPELEOLÓGICA MUNDIAL, EN MONTERREY DEL DÍA 24 AL 30 DE SEPTIEMBRE DE ESTE AÑO. EL SR. WOOD ES EL HOMBRE RESPONSABLE DE LA HERMOSA GRUTA DE GARCÍA (UNA CUEVA TURÍSTICA), QUE PRODUCE UTILIDADES PARA EL BENEFICIO DE LOS POBRES (17 ESCUELAS, UNA CLÍNICA PARA LOS CIEGOS, ETC.).

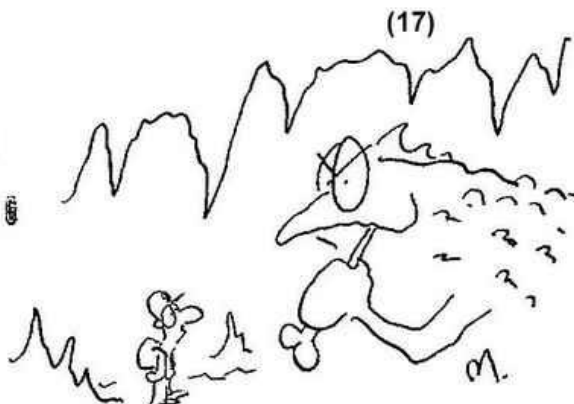
APARENTEMENTE UNO DE LOS OBJETIVOS DE LA CONVENCIÓN SERÍA LA CREACIÓN DE MUCHAS MAS "CUEVAS TURISTICAS DE CARIDAD" POR TODO MÉXICO. DENTRO DEL PROGRAMA DE LA CONVENCIÓN ESTÁN MUCHOS EVENTOS SOCIALES, COMIDAS Y VISITAS A CERCA DE SEIS CUEVAS (POSIBLEMENTE TURISTICAS).



COMO EL SR. WOOD ESTÁ HACIENDO TODO LOS INTENTOS POSIBLES POR CONTACTAR LA SALVAJE COMUNIDAD CAVERNÍCOLA, ESPERAMOS QUE ESTO CONTRIBUIRÁ A UNA MEJOR COMPRENSIÓN DE LOS PROS Y CONTRAS DE "ILUMINAR" LAS CUEVAS DE ESTE PAÍS.

PARA MAS INFORMACIÓN LLAME AL 42-05-71, 44-80-08 O 44-80-60 EN MONTERREY.

GHOUlish SPELUNKING



by Mitchell Ventura

MEXPELEO, the long-awaited International Speleological Convention, finally took place during the last part of December of 1989, and although I have been quite busy translating/writing a firefighting manual it was with great determination and self-discipline that all was set aside in order to get in shape for the BIG ONE — the deepest sheer vertical pit in the western hemisphere, El Sotano de las Golondrinas (1,380 ft.). I even went so far as to clean my poor old truck that Jesus Moreno has satirized in past issues.

Carlos Sanchez, a novice caver from Colima, and I arrived at Mano and Nani Ibarra's house and were well received with the hospitality of their parents. However, I soon had a feeling that the "deepest pit" was not to see me as one of its visitors because we heard that "so-and-so" is not bringing his rope, which means that "you-know-who" also is not going to bring his. Some quick mental arithmetic soon told me that 1,380 ft. less my 330 ft. rope was going to leave me dangling quite high above the pit floor. Even with all of this bad news, as Jesus would say (if he spoke English), "let's go for it!" (not the soundest or safest of thoughts, but it does make for adventure now and then). So, off to

the state of San Luis Potosi.

We were horribly surprised to discover (around four o'clock in the morning) that the area around Ciudad Valles, SLP (known for its heat extremes) was suffering from an intense "cold wave" (we were not totally unprepared, which is the same as saying that we were not totally PREPARED either). Please keep in mind, however, that thoughts about the BIG ONE gave most of us hope and energy to continue through all of this.

In keeping with the friendly atmosphere of all ZOTZ outings, and since most caving was not organized (unless you wanted to spend ten hours holding a Suunto tape to discover that a fifty meter passage is indeed fifty meters long!), we decided to visit a couple of horizontal caves in order for the novices to benefit. (Please remember that at least Jesus and I wanted to go down the BIG ONE which meant that we should be doing some vertical pits instead of horizontal ones). Our second day was promising though as one of the convention organizers told us of a cave by the name of "CHOY". It not only offered horizontal caving, but also a fifty meter rappel into a small lagoon.

I won't go into detail since by now the reader has probably guessed that we did not easily find the cave, that the truck did give some trouble, that ... well, maybe I should mention some of the

stumbling blocks.

We hiked up to a railroad track, then followed it to the "ceiling" of "CHOY". We tossed in a couple of small rocks (until one of the group members said that someone might be below. (... are you joking? There weren't any ropes set up and we couldn't see any other way of getting in.) We finally did find a trail, and since it was getting late we decided not to rappel, but just walk in through the relatively dry cave.

What a surprise when we saw that at the bottom there was some sort of tourist area for paying visitors (although no one else was there). Also, we could see water everywhere, and that dry cave looked wetter with every passing minute. I was getting slightly miffed since another of my pre-BIG ONE days was about to be shot. I took off most of my gear (except for my overalls, helmet, and headlamp), and as I bravely waded over to the other side, three gentlemen (who had arrived a few minutes before) had found a fallen log which permitted them to cross over before I did and remain dry.

By then I had also realized that I was becoming shorter since the water level was now past my eyes. I left the helmet and light on a wooden ramp and went in (there was enough light from the openings in the roof). Near the entrance there was a small but strong waterfall with a horribly twisted iron rail from the railroad track above (giving testimony to the force of a fall from that height). (As an aside, I would like to mention that I came across three bats in a row, all grasping onto the cave wall and at water level. They were also dead. Jesus conjectures that they were dehydrated and had died of rabies.

That seems quite reasonable, but what about the accompanying hydrophobia that rabid animals are supposed to suffer from? Wouldn't that keep them from the water?)

Back to the story, I was trying to keep out of the water as much as possible, and had been grasping small, sharp calcitic projections along the cave. I had discovered an upper entrance to the cave, and shouted to those below to come up through there. As I was down in the water again, someone above tossed in a rock, but it must have been the size of a small boulder. I shouted for he/she/it to stop, but realized that they would not hear my calls. I hugged even closer to the cave walls and continued towards the end. A tall rock that resembled some primordial monolith called my attention, and I swam out to it. I could now see the end, and it was divided by a conical rock. The right side seemed more interesting as there was a twisting vertical passage leading up from it. After exploring it, I looked up and over the other side of the rock and was surprised to see a pair of floating blue jeans.

The light was very low by now, and I was about to ignore the pants until I noticed that part of a "shirt" was still tucked in them. I suspected a body, but as I poked at it with a long stick (my feet had cuts from climbing the sharp limestone and I did not favor risking an infection for a mere corpse). There was no telltale odor, and as I was hanging over the rock to try and identify the UFO (Unidentified Floating Object) another boulder was tossed in. This coincided with Jesus making his way down from the dry entrance, and as he saw my prostrate body he logically thought that I had been the landing zone for the boulder.

I quietly let him know that I was alive but that someone else was not. As I swam over to him, he said that there was a large animal in the water with me. When he pointed at it (and asked me to swim over to it in the name of amateur science) the darned thing came my way. The way its big head was bouncing up and down, it looked like a large snake that I had seen years before in a river. It turned out to be a bat (but only after I had put some distance between the both of us). Jesus then informed me that we should not mention anything about a corpse to Susy since she was nervous about these things.

As I left the cave (the long way out by swimming), I could tell from Susy's expression that her husband John (never one for mincing words) had already told her, after Jesus told him. We decided to return to where we were staying (south of Ciudad Valles) then return and report to the police. One of the other convention organizers told us not to say anything since we may cause some bad publicity or worse, but our master plan was to report first to the fire department (since most fire chiefs know the police chief, and I had met a fellow firefighter that same morning).

As we told our story to the fire chief, who then called the authorities, I began to suspect that I did not really see a corpse, and that maybe I should have risked an infection in order to make sure and not look like a fool. However, it was decided that Jesus would accompany me and that the fire department would pick us up at seven in the morning the next day.

Back at the dormitories, I was asked to invite a leader of a certain rescue outfit in Mexico City (I won't mention names since

I am also part of that other organization and his behavior and ethics leave much to be desired). He declined the invitation since even though he founded a "cave rescue school," this was only a body recovery. Fair enough, I would then have to go with Jesus and — you guessed right — miss one more practice day for the "BIG ONE (it was my hope that the "expert" would do the recovery and leave me to do vertical caving).

Of course, we did not get picked up on time, the fire department could not spare any men, the forensic doctor was asleep, and so on. When we did get to Choy (around noon), lo and behold if the rescue "expert" from Mexico City wasn't there in all his glory with several helpers. I was furious since it was obvious that he had denied help as a ploy to get to the body first and so appear in a newspaper. I ordered his helpers out of the cave, and it turned out that they were not even near the body (it's one thing to put on a uniform and talk about rescue, and it's another to actually DO a body recovery).

When we were ready, I had the "helpers" stay behind Jesus and me. We deliberately went over to the right side of the end of the cave so that the helpers would not get in the way. As I leaned over the rock (it was twelve noon with plenty of light filtering down), I was so pleased to see that it was actually a body. (Don't get me wrong! I'm sorry that some poor Joe (José) died, but my reputation was at stake. What if it had turned out to be just a pair of muddy jeans?) There was a beautiful femur hanging from the pants. Proof at last!

Jesus and I circled the area while swimming slowly so as to not disturb the silt and thus make

visibility in the water worse. We hoped to find other parts of the body. We finally had to move the body (which only consisted of the legs and the skin of the back — what I had originally thought to be a tucked-in shirt). The body bag we were handed was a trash bag (the police said that I ought to cut the body in pieces if it wouldn't fit), and the only protection that we had were worthless polyethylene gloves (which lasted about half a minute), diving masks and fins (no snorkels).

As I grabbed the corpse, three unsavory effects were the result of this action. First of all, my fingers literally sunk into the pelvic region, and, secondly, the air was permeated with that special odor that even an outhouse cannot match. (On the other side of the rock Jesus and I could hear one of the other rescuers begin to retch while his friends told him to "hang on". After all, how could they throw-up in front of us if they were "experts"?) Lastly, the surface of the water was covered with bits and pieces of the decomposing cadaver. (Tiny fish made the water seem to boil as they gobbled away at the fare.) After one of my dives, I popped out of the water and handed Jesus a femur. He took it rather calmly (for his first rescue/recovery), and I knew that I would never hesitate to take him along on other such ventures. I was only able to find one other slimy bone part and some material. The police said that we had found enough and that it was time to bring the corpse out. That was good news as I had cadaver slime in my hair and mouth (no snorkel), and even though I have a reputation in Colima as a bit of a ghoul, even I have my limits.

How did the corpse get there?

Well, I theorized that either accidentally or otherwise the victim had fallen through one of the ceiling openings since some of the locals do pass by while walking along the railroad tracks. The fall would have caused some fracturing, proven by the bone parts, and as the body decomposed it is more than possible that the legs separated. Enough branches and leaves were over at the end of the cave to prove that objects do float over to that section, and since blue jeans do not decompose as easily as other materials, that would account for the legs to have relatively stayed together. The "lagoon" was big enough and deep enough to have kept the other body parts hidden. The police were not particularly interested in finding everything since they said there were too many murders and deaths to solve around that area. Also, there was no real evidence that the victim was a caver.

We made our way out, and after passing the safety rope that the "experts" had tied near the waterfall (I did not wish to add insult to injury by telling them that they had not only tied the rope in the wrong position, but they had also failed to provide proper protection on the wear points). The "fearless" leader who never once got so much as a hair wet, began to give orders on how to take the "body bag" out of the water. By now, a macabre soup had formed so I had to dump some of the contents in the water. "Fearless" watched, and I think he actually touched a corner of the bag.

On the last day of the conference, during a talk on cave rescue, this same person actually had the gall to claim credit for the recovery (in front of me), then later informed me that he understood how I might misinterpret his actions and as proof of his



"good intentions" he told the newspapers to not mention OUR names since WE were not in the rescue business for publicity! (I do not mind NOT getting credit, but I do mind that someone else takes credit for what I have done.)

All of us ZOTZ went to El Cepillo (130 meters) the next day as a prelude to the BIG ONE, but only I got to rappel down (due to poor organization on the part of others and Jesus and John offering to hike back and bring another rope), but we got back at three in the morning; the trip to the BIG ONE was set for four o'clock a.m. (and the organizer of this trip did not care for our company — could have been the smell?).

Was the trip worth all the effort? It was slightly expensive and cold, the recovery was gross (and took up some vacation time), the truck gave me trouble (all the way back to Colima), but all of this was indeed worth it since we learned new techniques and met some interesting people. The only real setback to this trip though was that

WE

NEVER

MADE

IT

TO

THE

B I G O N E

LA CUEVA

DEL CHIQUILICHE

(Continúa de la página 14)

descubrimos que solo era un agujero como de 6 metros de profundidad y fue grande nuestra desilusión pero debido a que la esperanza muere al último, imaginamos que era sólo un error de ubicación y seguimos buscando, obteniendo finalmente (con pocas espinas y menos cascabeles) su localización correcta.

La entrada a la cueva es un tiro alto y ancho que me pareció muy impresionante. Posteriormente encontramos una entrada mas sencilla en la que había que desescalar como 10 metros.

Continuamos por una pendiente como a 30° y como a 60 metros de largo y finalmente llegamos a la entrada de la cueva (al fondo del tiro). Estaba dividida básicamente en tres: una lateral que llevaba a la entrada que originalmente encontramos, y dos centrales. Debido a esto, el equipo se dividió en dos subgrupos. Uno entró a la parte central y el grupo en él que yo estaba entró a la lateral. La cueva era realmente bonita. Tenia muchas formaciones. Continuando por la cueva, llegamos a un lugar donde se estrechaba como a unos 50 cm y en ese mismo lugar la cueva tenia una repisa superior, y en su parte inferior llegaba a su fin. Al escalar la repisa encontramos una piedra de cuarzo en el camino. Continuando, llegamos al fin de la cueva que resultó ser muy bonita aunque no muy grande. Fue una experiencia muy especial para mí.

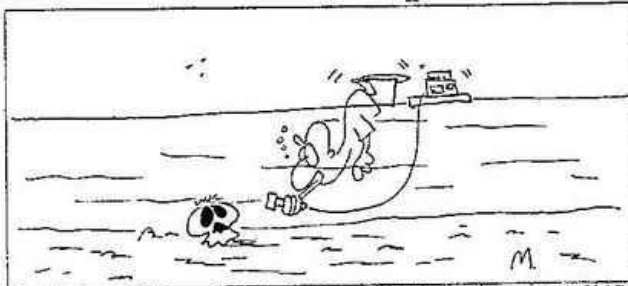
PAGINA 16

"EL MAÑANA".

CD. VALLES, S.L.P. - VIERNES 29 DE DICIEMBRE DE 1989.

MACABRO DESCUBRIMIENTO DE ESPELEOLOGOS

Hallaron Restos de un Cadáver, en una Cueva



Nuestro reportero investigador entrevistando a la víctima del heroico rescate ZOTZ.

EXPLORADORES AMERICANOS REALIZARON EL HALLAZGO

Restos humanos, al parecer de una persona del sexo masculino, fueron hallados por un grupo de espeleólogos norteamericanos, en el interior de una de las cuevas cercanas al paraje conocido como "El Naclimiento".

El macabro descubrimiento lo realizaron los miembros de la brigada de espeleólogos norteamericanos que participan en la Convención Internacional que se lleva a cabo en esta ciudad, cuando se dedicaban a explorar las cavernas en la sierra ubicada adelante del poblado "El Abra".

Ayer en la mañana, la Agencia del Ministerio Público de esta ciudad fue notificada del caso.

Pass a la Pag. 6

MURCIELAGOS EN MONOS



LOS MURCIELAGOS INSECTIVOROS TIENEN GENERALMENTE LAS OREJAS BIEN DESARROLLADAS, YA QUE DEPENDEN DEL SONAR PARA ALIMENTARSE

Y SON ENDEMONIADAMENTE EFECTIVOS

PERO EXISTE UN PROBLEMA

EN LA TEMPORADA FRIA NO HAY INSECTOS



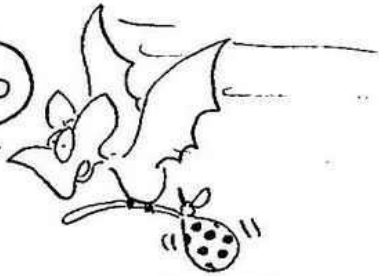
¡A CHISPIADOS! NI MODO DE NO TRAGAR



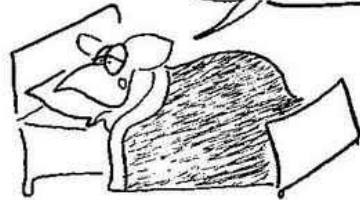
POR AHI VA LA SOLUCIÓN

ASI ES, LOS MURCIELAGOS QUE VIVEN EN ZONAS FRIAS, SOLUCIONAN EL PROBLEMA DE DOS FORMAS

VIAJANDO



O DURMIENDO



LOS QUE HIBERNAN
GENERALMENTE LO HACEN
EN GRANDES GRUPOS, DENTRO
DE LAS CUEVAS



PERTURBAR ESTAS
COLONIAS, ES MORTAL
PARA LOS MURCIELAGOS

AL DESPERTAR ASUSTADOS QUEMAN LAS
POCAS RESERVAS QUE PUEDEN ALMACENAR Y AL NO
HABER ALIMENTO, MUEREN



S I S T E M A

POR JESUS MORENO

BUSCANDO ZONAS DE ROCA CALIZA CERCA DE GUADALAJARA, DESCUBRIMOS QUE EXISTIA UNA POSIBILIDAD AL GESTE DE LA CIUDAD, ENTRE AMECA Y COCULA, ASI QUE CARGAMOS NUESTROS TILICHES Y PARTIMOS A BUSCAR CUEVAS, AUNQUE LA VERDAD, SIN MUCHAS ESPERANZAS.

ASI QUE PREGUNTANDO Y PREGUNTANDO, LO CUAL ES EL MEJOR SISTEMA, NOS INFORMAMOS DE UNA ENORME CAVERNA QUE CRUZABA CERROS Y CERROS, CON TESORO Y TODO LO DEMAS. "CRUZANDO EL CAMPO DE GARBANZO LLEGAN! NO HAY PIERDE," NOS DIJO NUESTRO PENULTIMO INFORMANTE ...

GARBANZOS

SIN EMBARGO, EN CUANTO LLEGAMOS A LA CIMA DE LA LOMA ¡EL DESASTRE! HECTÁREAS Y HECTÁREAS DE GARBANZOS! ¿CUÁL ERA EL CAMPO DE GARBANZO? MEDIA HORA DESPUÉS DE CRUZAR CAMPOS Y CAMPOS DE GARBANZO, RETOMAMOS NUESTRA RUTA, LA CUAL ERA UN CAMINO BASTANTE MALTRECHO, AÚN PARA EL JEEP, ASÍ LLEGAMOS A IPAZOLTIC DONDE DEBERÍA DE ESTAR LA FABULOSA CAVERNA. Y SI, ERA ROCA CALIZA, LO CUAL NOS DABA ESPERANZAS, Y AHÍ FUE DONDE CONOCIMOS A NUESTRO ÚLTIMO GUÍA...

EL VENDEDOR CAVERNÍCOLA MAS GRANDE DEL MUNDO

"YO LOS LLEVO, LA CUEVA ES MIA, YO HE VIVIDO AQUI TODA MI VIDA, YO HE RECORRIDO LA CUEVA, YO SOY MINERO," Y ASÍ NOS LLEVO A LA CUEVA, LA CUAL NOS DIJO HACIA ALGUNOS AÑOS SE HABÍA DERRUMBADO.

ENTRAMOS A LA CUEVA Y NUESTRO GUÍA NOS MOSTRO UN TUNEL. "POR AHÍ SIGUE LA CUEVA. SON COMO DOS DIAS DE RECORRIDO. ¿QUÉ LES INTERESA? ¿MINERALES? YO VENDO. ¿EXPLORAR? YO LOS GUÍO POR UNA MODICA SUMA."

A MI SE ME OCURRIO PREGUNTAR SI HABRÍA MURCIÉLAGOS EN LA CAVERNA.

"¡YO TE LOS VENDO!" DIJO RAPIDAMENTE.

UNA VEZ QUE LE HUBIMOS EXPLICADO QUE NO QUERIAMOS COMPRAR NADA, NI NECESITÁBAMOS UN GUÍA, SE FUE, NO SIN ANTES PEDIR QUE LO LLEVÁRAMOS AL PUEBLO EN EL JEEP.

HUAUTLA EN SEGUNDO LUGAR

YA QUE NOS LIBRAMOS DE AQUEL ÚG MANDINO PUEBLERINO, ENTRAMOS A LA CUEVA CON NUESTRO

IN SEARCH OF LIMESTONE IN THE GUADALAJARA AREA, ONE FINE DAY WE FOUND OURSELVES SOUTH OF THE TOWN OF AMECA, WHERE WE RAN INTO A FELLOW WHO TOLD US OF AN ENORMOUS NETWORK OF TUNNELS STUFFED WITH HIDDEN TREASURE AND LOCATED BENEATH A RANGE OF MOUNTAINS, WHICH, TO HEAR HIM TALK, MUST GREATLY RESEMBLE SWISS CHEESE.

"JUST ON THE OTHER SIDE O' THE BEAN FIELD ... YE CAN'T MISS IT!" HE EXCLAIMED.

BEANS

HOWEVER, ON REACHING THE TOP OF THE HILL, WE SAW SPREAD BEFORE US ACRES UPON ACRES OF BEANFIELDS, WHICH ONE WAS THE BEANFIELD? AFTER A HALF AN HOUR OF CRISSCROSSING FIELDS AND MORE FIELDS, WE ENDED UP ON A ROCKSTREWN, RUT-RIDDEN "ROAD" THAT NEARLY TORE THE JEEP APART, BUT FINALLY, WE CAME TO IPAZOLTIC WHERE INDEED WE FOUND LIMESTONE ... AND A LOCAL TYPE EAGER TO BE OUR GUIDE...

THE WORLD'S GREATEST CAVE VENDOR

"I'LL SHOW YOU THE WAY - IT'S MY CAVE - LIVED HERE ALL MY LIFE - BEEN ALL THROUGH THE CAVE - A MINER I AM!" AND, BEFORE WE COULD EVEN GET OUT A FLASHLIGHT, DOWN HE TOOK US INTO THIS PARTIALLY CAVED-IN MINE.

HE POINTED TOWARDS AN INVITING PATCH OF INKY BLACKNESS. "THERE'S THE CONNECTION BETWEEN THE OLD MINE AND THE CAVE - IT'S A NATURAL TUNNEL - GOES BACK DEEP INSIDE THE MOUNTAIN AND NEVER STOPS - NOBODY'S SEEN THE END OF IT - WHATCHA INTERESTED IN? - MINERALS? - I SELL 'EM - EXPLORING? - I'LL GUIDE YOU FOR A SMALL FEE."



"WE'RE NOT AFTER ANYTHING VALUABLE," I SAID, JUST LIKE TO LOOK AT BATS."

"BATS? I CAN SELL YOU SOME!"

ONCE OUR LOCAL ÚG MANDINO DISCOVERED THERE WAS NOTHING WE WERE GOING TO BUY, HE DEPARTED, BUT ONLY AFTER TALKING US INTO GIVING HIM A RIDE BACK TO HIS PUEBLO.

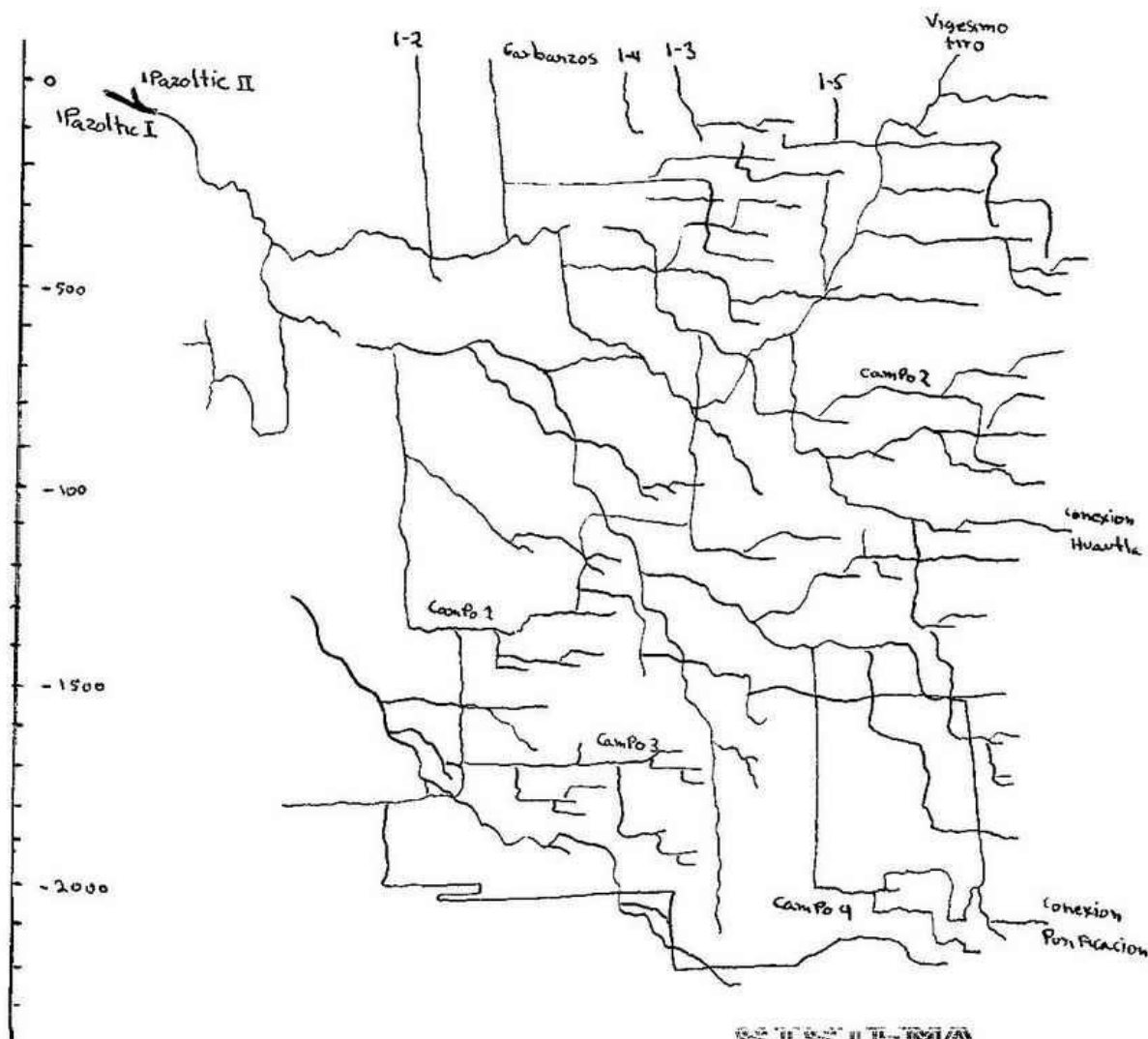
IPAZOLTIC

EQUIPO, DISPUESTOS A INICIAR UNA GRAN EXPLORACIÓN...

DESPUÉS DE EXHAUSTIVOS Y CONCIENZUDOS ESTUDIOS SOBRE ESTE SISTEMA, Y BASADOS EN DECLARACIONES DE GENTE QUE "TODA SU VIDA LA PASÓ EXPLORANDO EL SISTEMA" PRESENTAMOS A SU CONSIDERACIÓN UN MAPA PRELIMINAR DEL SISTEMA IPAZOLTIC, CLARO, EL ESTUDIO FORZOSAMENTE DEBE SER PRELIMINAR DEBIDO A LA FANTÁSTICA COMPLEJIDAD DEL SISTEMA...

HUAUTLA FINALLY OVERSHADOWED

AND AT LAST, WE BEGAN THE FIRST STEPS OF OUR EXPLORATION... WHICH HAS RESULTED IN THE FOLLOWING PRELIMINARY *MAP OF SISTEMA IPAZOLTIC* BASED UPON EXHAUSTIVE AND DETAILED STUDIES OF THE DECLARATIONS OF PEOPLE WHO "SPENT THEIR ENTIRE LIVES EXPLORING" WHAT IS SAID TO BE THE MOST COMPLICATED AND FAR-REACHING SYSTEM IN MEXICO.



NOTA: ES NECESARIO ACLARAR QUE LAS PARTES QUE EN EL MAPA APARECEN CON UNA LINEA DELGADA DEBEN SER EXCAVADOS EN ROCA SOLIDA, DOS METROS DESPUÉS DE DONDE NUESTRO GUÍA NOS INDICÓ, TERMINABA EL FABULOSO SISTEMA IPAZOLTIC.

SISTEMA IPAZOLTIC

SAN MARTÍN HIDALGO
JALISCO

ASUUMPTION AND TRIPE
SURVEY

ALL MEASUREMENTS IN MITOS
SCALE 1:250,000,000,000