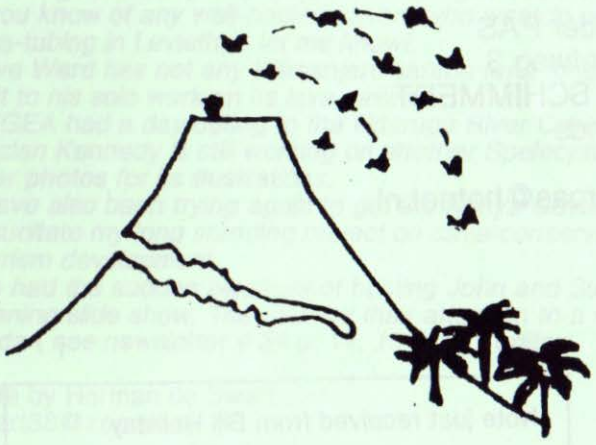
INTERNATIONAL UNION OF SPELEOLOGY
UNION INTERNATIONALE DE SPÉLÉOLOGIE

Commission on Volcanic Caves



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This Newsletter is send free to all members of the Commission.
It is not possible to subscribe - but will be send to all interested in lava tube caves.
News and information always appreciated!

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Note just received from Bill Halliday:

Japan - 4 July 2003
In the IAHS Newsletter an announcement "International Symposium on Groundwater and Volcanoes".

IMPORTANT NOTE !!

This Newsletter contains an address list of Commission Members. This is an update from the previous ones, some addresses are changed.

THE ICELAND 2002 SYMPOSIUM

Information to be found on www.speleo.is (and/or ssjo@os.is) Registration forms should be submitted before June 1 (which is deadline for a lower fee registration).

☞ Note by Jim Simons, Kenya
fajo@karibunet.com

..... things are still pretty tough. Are trying to sell the Umani camp, so if you know of any well-heeled cavers who want to buy a base to go lava-tubing in Leviathan let me know!.
Clive Ward has not any Kilimanjaro safaris for a long time, bringing a halt to his solo work on its lava caves.
CEGEA had a day outing to the Ndarugu River Caves - a great sport.
Declan Kennedy is still working on another Speleophant, I just passed over photos for its illustrations.
I have also been trying again to get the Kenya Government to resucitate my long standing project on cave-conservation through tourism development.
We had the sudden pleasure of hosting John and Susana Pint for an evening slide show. They turned their attention to a vast area of lava fields (see newsletter # 34 p. 14, 15 & 16 - editor).

☞ Note by Herman de Swart
swart38@zonnet.nl

..... during a stay on Gran Canaria we visited many (small) caves. An interesting one near Ingenio/Aguïmes (in the Southeast) has gas (I don't know which) on the bottom, a layer of around one meter thick. The owner gave interesting demonstration with a burning newspaper. This however was not necessary - there were plenty of dead birds on the floor.

☞ From the Commission on Glacier Caves
karmenka@gugu.usal.es

..... next symposium on glacier caves will be on September 2003 in Ny-Alesund (Svalbard), at 79o N.

LAVA TUBES OF CUERNAVACA

Chris Lloyd

NOVEMBER 1996:

I just got back from a weekend of mapping lava tubes with Ramón Espinasa just south of Mexico City. He had tempted me with prospects of pushing crawls in the top of his second longest tube cave but fortunately decided (at my prompting) to ask and see if there weren't some new entrances that he hadn't seen before and which would likely be easier to explore.

Sure enough, about 300 meters from the car (which was parked over the bottom end of his biggest tube system—Cueva Iglesia) we asked the local residents if they had any entrances in their back yard and received a positive reply.

After seeing that one (called Cueva Mina by them) we asked if there weren't any more around—might as well find out where we are going to come out before we go in! So knowing that we had this one to come back to we went down hill in search of the obvious entrance after the water pipe.

"You can't miss it," we were told. And we didn't—for a change. It turned out to be a pit entrance that Ramón and I looked at and figured on finding an easier way into. But we had young Tatchi along. Ramón had first met Tatchi six years previously coming out of the other tube (Cueva Ferrocarril) on Ramón's second exploration trip to the area.

Tatchi was 13 at the time and so keen to get out exploring caves with real cavers that he skipped school the next day to go up and discover the entrance to Cueva Iglesia, now the longest in the area at 3.1km. He just proceeded to downclimb into it pronouncing it quite doable, which it was.

It trended downhill at a steady 20 degrees in mainly walking or stooping passage. And you sure made sure you stooped when it was necessary for there are no nice brittle, fragile, calcite stalactites to break off—in these lava tubes there are solid, pointy, and sharp basalt stals which draw blood for those unwise enough to bump them.

There were also some nice levee structures left behind as the lava flowed along as a molten mass and the banks cooled leaving the equivalent of mud banks. Eventually we found the mud for real after about 400m downhill in one single, non-branching tube. Growing in the mud at the bottom were roots that looked very similar to a prickly cactus.

Going up hill from the entrance, but still in the cave, we passed some infill volcanic ash sediment which got Ramón quite excited as he is doing his Masters thesis on these caves and this might give him an opportunity to date the eruption that dumped the ash and thus help bracket the age of the caves. A few weeks previously I went through the tourist cave of Cacahuamilpa with Ramón and saw a volcanic lahar (a mud a rock flow produced by cataclysmic eruptions) plastered to the walls which had come from a volcano 50km upstream and which passed through the cave and continued 30km further downstream.

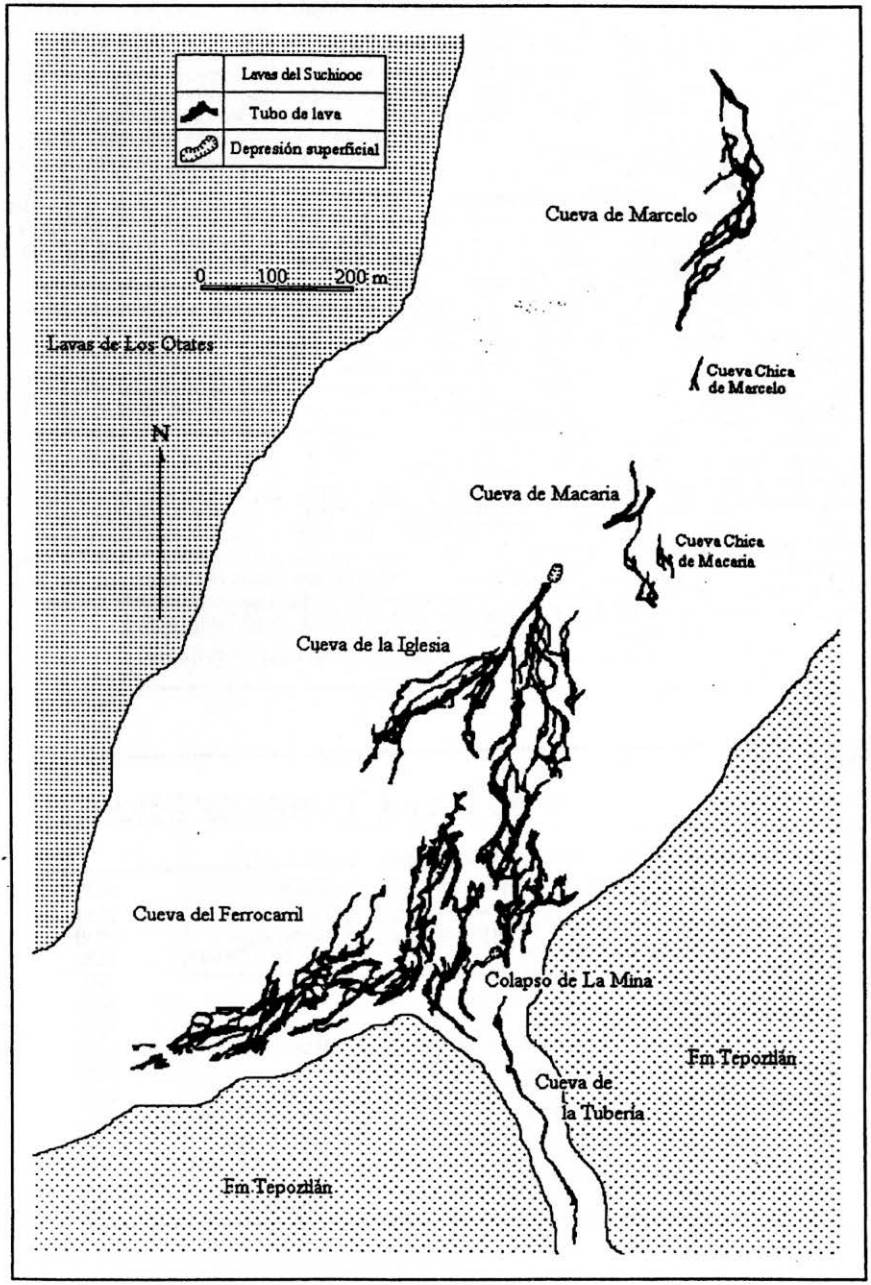
We then passed underneath a skylight entrance that showed flow marks indicating that surface lava flowed into this entrance and we could see the horizontal lines where it had ponded before draining out the bottom. Very similar to the water features that you see in limestone caves, but here the evidence is solidified in rock for posterity. Neat stuff.

Shortly above this point the lava flowed right to the roof, and thus we had finished Cueva de la Tuberia at 428m long and 116m deep. Having knocked off that part and still not reached the first entrance we headed back there and surveyed down what is surely the same tube that unfortunately became blocked by a lava plug. No easy digging for a connection here.

A side passage near the entrance beckoned us up into a crawlway. Having come all the way over from Guadalajara (a seven-hour, overnight bus ride) expecting to push crawls, I should have been in there like a shot. But after almost 500m of easy stuff I wasn't too keen to donate blood to this cave despite Ramón insisting that this was only pahoehoe lava.

Well I had to concede that it wasn't aa lava (so named because you go "aa aa" if you step on it), it still didn't look too friendly for belly crawls. As we could see at least 15m that was passable, I relinquished the lead tape position to Ramón and volunteered to record the distances as they shouted them back. As luck would have though in his shouting I could tell he had broken out into a much bigger space and it was going strong. Through I went.

Things started getting big and complicated as tubes branched off in multiple headings both upstream and down. We pushed on upwards trying to figure which was the big-


Lavas del Suchiooc
Tubo de lava
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0 100 200 m
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Cueva de Marcelo
Cueva Chica de Marcelo
Cueva de Macaria
Cueva Chica de Macaria
Cueva de la Iglesia
Cueva del Ferrocarril
Colapso de La Mina
Fm Tepoztlán
Cueva de la Tubería
Fm Tepoztlán

gest tube and thus have the best chance of going the furthest before choking. We added another 200m or so before running out of steam.

Caving for seven hours with no fluid intake is not a good idea. I was quite dehydrated, while the others didn't even have enough fluid left to pee in their generators and were thus getting low on light. A good day though in the new Cueva Mina and we decided against pushing a dome climb the next day in a limestone cave in favour of continued mapping in this growing system.

Sunday morning had us going into yet another new entrance over by the top end of Cueva Ferrocarril. This one was only 8m away from another one that Ramón's brother had found from the inside of Ferrocarril. Being pretty sure we could easily connect with Ferrocarril below us we headed upstream again. Lots of comfortable walking passage with branches anastomosing all over the place. Again we tried to follow the one most likely to continue and ended up surveying a few loops as the likely one didn't go.

The genesis of this part of the system involves the flowing lava melting through its own walls and breaching into a neighbouring tube. This may result in it cutting off the old one, or the new one with its left over solidified lava. We also saw evidence that supported Ramón's earlier thought that they also melt through their own floor creating an even larger tube probably due to the new increase in fresh lava.

After another 4-500m we were in an area of large wide tubes and we could hear the sound of music. Then we could hear foot steps of people running over head! The roof must be only a meter or so thick and we were obviously underneath the town. Which meant also that we were very near Cueva Iglesia, which we had suspected anyway. One tube had particularly nice levees and a flow that wrapped neatly around a heart shaped rafted block. Truly this was the heart of the whole system and was thus named the Heart Room.

Shortly upstream it pinched down again, but this time in a soft mud floor, just like the one Ramón remembered being in the bottom of Cueva Iglesia. Oh, so close. So we decided to head downstream on the eastern side of the heart where the tubes seemed to split, one half going down the Ferrocarril drainage and the other going down the Cueva Mina side that we had just mapped yesterday. We agreed on ten more legs as funny enough, we were out of water again (those two not having brought any again!). The tubes here were 15m wide and some 10m high and a treat to cruise down. In fewer than ten shots we connected into the line we had surveyed the day before confirming that the divide really did exist. So quite chaffed at this we headed back down to make the connection with Ferrocarril.

Ramón Espinasa
April 1999
Length, depth in meters

LONG LAVA TUBES OF MEXICO

1	Ferrocarril-Mina Inferior	Volcán Suchiooc	Morelos	5623	72
2	Iglesia-Mina Superior	Volcán Suchiooc	Morelos	5145	54
3	Cueva del Diablo	Volcán Suchiooc	Morelos	2020	70
4	Cañada de los Pastores	Rayón	San Luis Potosí	1882	43
5	Cueva de Huesitos	Volcán Xitle		1792	18
6	Cueva del Arbol	Volcán Suchiooc	Morelos	1480	118
7	Chimalacatepec	Volcán Suchiooc	Morelos	1388	201
8	Cueva de Marcelo	Volcán Suchiooc	Morelos	1268	62
9	Pedro el Negro	Volcán Xitle		1132	35
10	Cueva del Aire	Volcán Yololica		1083	87
11	Los Cuicillos	Rayón	San Luis Potosí	976	14
12	Sierra Partida	Ocampo	Tamaulipas	850	65
13	Cueva del Salvial	Rayón	San Luis Potosí	796	14
14	Cueva del Cocodrilo	Volcán Xitle		725	21
15	Cueva del Volcancillo	Toxtlacoaya	Veracruz	685	139

After surveying a couple of dead ends we finally crawled through into some good going passage. Which kept going and going and going. Where was the next bloody entrance? We knew that Ramón's brother only went 50m or so and we had just surveyed close to a 100m with tubes still going off in various directions. One junction had six passages leading away from it! Ramón was really wiped now so we sat and waited while the super kid ran up and down and back a couple times trying to locate that elusive entrance. With no luck. So close yet again.

We must be underneath or beside the upper passages of Ferrocarríl, but the connection will have to wait until another trip. I don't imagine that Ramón will have too much trouble rounding up a new crew this time as joining these three caves together will create one of the top ten longest lava tubes in the world. Not a bad weekend.

UPDATE TO 1999:

That weekend did indeed provide the incentive to get the project going again and over the next year about 8km more of tubes were mapped. I did one more trip, while other visiting Canadians such as Taco Van Ieperen and Kirk Safford also helped out. Cueva Iglesia and Ferrocarríl went from being about 3.1km and 3km long respectively to 5.145 and 5.623km. We had gone right by the connection into Ferrocarríl the day I was there as it turned out. Despite all the work though, the two main caves remain unconnected.

Slowly the available tubes are being crossed off. The most recent attempt was by Ramón's brother once again and resulted in him popping out yet another new entrance that happened to be a very small enclosure for a rather large bull. Needless to say this surprised the bull enormously and it actually jumped right out of the enclosure and went raging through town. This did not go over well with the local residents, particularly the bull's owner. Luis figures it best to let the connection search wait for a year or two before returning.

Tubos de lava en Cuernavaca

En 1996 el autor visitó, junto con Ramón Espinasa, tubos de lava formados en un flujo del Volcán Suchiooc, en el estado de Morelos. Esta exploración continuó hasta 1999. Las dos cuevas más largas, Iglesia y Ferrocarril, permanecen aún sin conectarse.

This article was published in the AMCS Activities Newsletter # 23 (May 1999), and sent to this newletter by Bill Halliday.

This information concerning Hawaii (and lava tube caves) as a long report were sent to this newsletter. Only some points here reproduced. A host of websites were mentioned - those are given here. If you are interested please look at these sites. Just for the record.

From: "Heazlit, Cindy" <cindy.heazlit@lmco.com>
Subject: Proposed Bill Makes Caving Illegal in Hawaii
To: "'sfbc@yahoogroups.com'" <sfbc@yahoogroups.com>,

Some of you may know that the State of Hawai`i is currently in the process of passing a cave protection act. What you may not know is that several individuals in the state are lobbying to make access to ANY cave illegal.

*** HISTORY ***

It has generally been regarded that Hawai`i needed a cave protection law. Many caves in the state have been vandalized, or worse. In July of 2001, the Hawaii Caves Task Force first met to seek input for a state cave protection law. The Task Force consists of several individuals - scientists, cave tour operators, and members of island burial councils.

*** PROBLEM ***

Unfortunately, a radical group of individuals has expanded the definition of sacred site to include all passages in all caves - not just burial caves. They have convinced Hawai`i Senator Lorraine R. Inouye to introduce additional text to the cave protection act. This can be seen at:

Section -3 Penalties. A violation of any provision of this chapter shall be punishable by a fine of not less than $10,000 and not more than $250,000, per violation."

In short, caving by anyone would become illegal. In fact, you could be fined for standing next to a cave, even if you didn't know it was there (pretty easy to do in the jungle)!

*** PROPOSED ACTION ***

Please read up on the links above, and become educated about the situation. It is very possible that we, as cavers and scientists, will need to provide informed input to the state. We may need to institute a letter writing campaign. Protecting caves is very important. Restricting all access to all caves will not allow us to accomplish this goal.

http://www.state.hi.us/dlnr/hpd/reports/cavesrpt.htm
http://www.coffeetimes.com/feb98.htm
http://www.capitol.hawii.gov/sessioncurrent/bills/hb2659.htm
http://www.capitol.hawii.gov/sessioncurrent/bills/sb2914.htm
cindy.heazlit@lmco.com