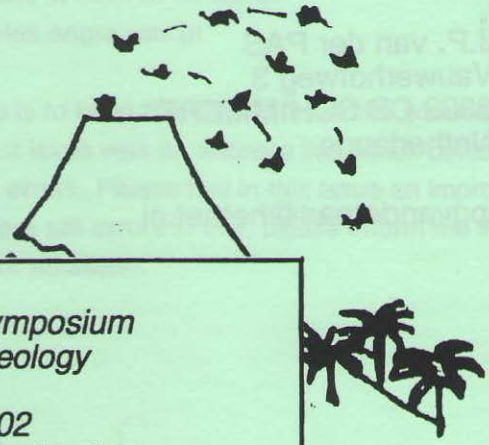
Commission on Volcanic Caves

INTERNATIONAL UNION OF SPELEOLOGY
UNION INTERNATIONALE DE SPÉLÉOLOGIE



Xth International Symposium on Volcanospeleology

9-15 September 2002
Reykjavik, Iceland

see: www.speleo.is

January 2002

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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!

Honorary President: Dr. W.R. Halliday
bnawrh@webtv.net

Chairman & editorial address:

J.P. van der PAS
Vauwerhofweg 3
6333 CB SCHIMMERT
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Editorial

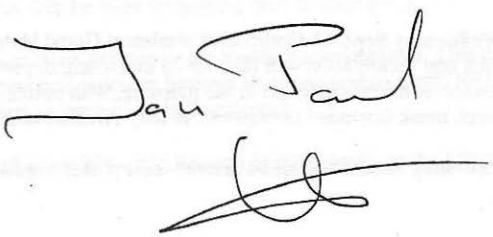
Here the first Newsletter of 2002.
To all who read it: please announce as much as possible the coming symposium, all info to be found on **www.speleo.is**
See also next two pages.

In last issue there was a request for a new chairman. Some input was supplied, but not a new chairman.....

More news about the proposal by the 'Azores' for the symposium in 2004. They will propose this in Iceland in September. Please inform them as soon as possible in case of remarks:
pbarcelos@notes.angra.uac.pt

One of the tasks of me is to keep the flock (I mean the commission of course) together. In last issue was an address list, which contained several emissions and errors. Please find in this issue an improved one. Most likely there are still errors in this, please inform me if you know corrections and/or additions.

All for now,



As announced several times, and for all to see on the web:

WWW. speleo. is

all information about the symposium this year on Iceland.

An excuse by the editor (= JP van der Pas): this text is perfect on the web.

Just when compiling this newsletter I noted there is a flaw in my printer, which ignored for an unknown reason the far right part of this publication. Sorry, sorry.... Since I want to have this newsletter out this day no time to investigate the problem.

Xth International Symposium on Volcanospeleology

September 9-15, 2002 Reykjavík, Iceland

Preliminary Program

Proposal -- Subject to change

Monday Sept. 9: Registration at Grand Hotel from 09:00 to 17:00.

Tuesday Sept. 10. Registration at Grand Hotel from 09:00 to 12:00. At 13:00 a bus will Grand Hotel for an excursion around the Reykjanes peninsula. A qualified guide will tak symposium's participants and accompanying persons to various Holocene and Quartinar aerial or sub-glacial origin. Several caves sites/lava-flows will be visited. The tour starts region southeast of Reykjavík and we will have a good view of the Þríhnúkagígur pit. Fr will visit the 800 m long lava-tube Leiðarendi, with a peculiar younger lava that has flov collapses of the underlying tube and partially blocked the passage. Caving gear is requir boots, helmet, gloves and lights. From Leiðarendi the trip goes to Krísuvík, with numero and geothermal activity and to the very tip of the Reykjanes peninsula. There are historic hyaloclastite craters partially eroded by the surf, and further inland are nice lava-crater o to be seen. From Reykjanes we drive back to Reykjavík, where a reception will be held (defined).

Wednesday Sept. 11 Oral/poster session at Grand Hotel. Further program is to be defin each oral presentation will take 15-20 min. each, depending on the amount of submitted session will begin at 09:00 in the morning, with coffee break from 10:00 to 10:20 and a lunch break (included in registration fee). Another coffee break will be taken in the after

Thursday Sept. 12 Same as above – oral/poster session from 09:00 to 17:00.

Friday Sept. 13 General excursion included in registration fee – whole day. The bus wil Grand Hotel at 09:00 and drive along the hot-water pipe between the Nesjavellir geother plant and Reykjavík. The first stop will be at the drill-hole site near the power station. Tl area is situated in a graben-like structure and flux of geothermal fluids is naturally divert lateral graben faults, where most of the production wells are located. From Nesjavellir w Thingvellir, the old Parliament site – overlooking the Thingavellir Lake. Form there we ~9500 years old Goðahraun lava shield (~10 km^3) where around 20 lava caves are know short stop will be at the hornito Tintron, surveyed by J. Reich in 1974. From Goðahraun us through the small village of Laugarvatn with abundant geothermal activity and lunch at the hotel – overlooking the Geysir geothermal area with spouting hot-springs. After sc geysers, we head for Selfoss and our final stop will be at Ölfus, just west of the town Th There we will take about 1 km hike up-hill the lava flow Leitarhraun and go down the na to Árnahellir, a famous lava cave in Iceland, with abundance of speleothems. A generato site and powerful lighting will be in the cave for a better view. The cave is a preserved n monument and traffic is very limited and under the supervision of the Icelandic Speleolo and the Nature Conservation Agency. Arrival in Reykjavík around 18:00 or little later.

Saturday Sept. 14 From 09:00 to 12:00 at Grand Hotel. Panel discussion, meeting of th commission on volcanic caves etc. Closing ceremony and rest of the day is free. At 18:0 take symposium participants to the island of Viðey outside Reykjavík harbour where coc served at a welcoming ceremony and later we will enjoy dinner at the symposium's final Guests will be ferried back to Reykjavík later in the evening.

Sunday Sept. 15 Excursion to Surtshellir, Stefánshellir and Vidgelmir in the Hallmundarhraun lava-flow. Departure from Grand Hotel at 09:00 and this will be a rath long day probably with a lunch-pack and stop for Icelandic highway hamburgers on the way home for those who want. Arrival will probably be around 20:00.

Optional Post-Symposium trips.

Monday Sept 16

Tuesday Sept. 17

Wednesday Sept 18

Trip A. (Difficult) Two, maybe three-day trip to the recently discovered cave-area arou Laufbalavatn in the Skaftáreldahraun (Laki lava, Eldhraun lava) formed in 1783. Most o will be spent driving and playing tourist on the way east to the flow-field and accommoc provided in a hut that sleeps 18 persons and is owned by the local farmers. Bunkers and burners are the facilities provided. The next day participant will be taken to the extensive near the lake Laufbalavatn and most of the day spent caving. Arrival will be late in the c Miklafell, and the following day will be used for getting back to Reykjavík.

Trip B. (Moderate) Also two or three day trip to the Snæfellsnes peninsula. This trip is yet, but there are numerous caves and volcanic features on the peninsula worth looking a places can provide accommodation, even in beds if preferred.

Trip C. Undecided Undecided. (Possibly a trip through Sprengisandur to the Mývatn ar three days)

☞ Note by Jan Urban, Polish commission member
noalexan@cyf-kr.edu.pl

..... I was very busy this year finishing my Ph.D. thesis and having a job on bore holes overseas. Heard about your meeting with Michal Gradzinski (at Brazil 2001, ed.), who just published a very competent paper on the basic problems of volcanic tubes occurrence, genesis, studies and economic use in Polish Geological Review (in Polish with very short English abstract.

☞ From Yurii Slezin, Russian commission member
kuth@emsd.iksru

..... there were some problems with my health and E-mail. Glad to be informed that all is going well. They (the cavers, ed.) are a wonderful brotherhood. .... I continue my work in volcanology and give a course in local university. Recently I wrote only one small paper concerning mechanism of formation of levees and tubes on lava flows.

☞ From Stephan Kempe, commission member of Germany
kempe@geo.tu-darmstadt.de

..... about Kazumura Cave: there is a note in 'the Newsletter of the Hawai'i Speleological Survey' (June 2001, 9, p.7) by Carlene Allred, titled "Wonderland Section of Kazumura Cave". This reports about mappings of Nov/Dec 1999 and Oct/Nov 2000 of "Wonderland", a 3.510,4 m long lava tube system. It is part of the Kazumura Flow and connected with Kazumura Cave, bringing this to the longest lava tube on the world - 65,50 km.

☞ From Greg Middleton, commission member for the Indian Ocean
gregmidd@ozemail.com.au

..... spent 7 weeks in Oct/Nov in Mauritius and Madagascar. The main point for our Mada trip was to complete the exploration of lava tubes in Bobakilandy-Andranofanjava area. In '99 we got into a tube which had captured a river and required inflatable boats for exploration. The locals showed us where the water reappeared - over 2 km away, so the potential was great. Malheureusement, as is so often the case, the roof came down to meet the water after only a couple of hundred meters, so no world record for a river in a lava tube there.
This year I'm hoping to get into some of the lava tubes in Western Samoa, about which not much is known. Than back to Mada. Iceland is, unfortunately, looking fairly unlikely this year.

Although this message is not lava tube related it could be of interest to ALL cavers in (or visiting) Europe.
It was received from Nick Williams, secretairy of SFEC (speleological federation european community) <nick.williams@conformance.co.uk>

To - all delegates of the European Speleological Federation:

Gentlemen,

You may or may not be aware of a new EC Directive 2001/45/EC, called the 'temporary work at height directive' which was signed into European law on 14 June this year.

To cut a long story short, the directive requires that all roped access workers will need to use two ropes instead of one. This will affect cavers involved in professional training activities, and may also affect cavers involved in purely amateur activities.

It is possible that the implementation of the Directive in different member states of the EU, and in particular the way in which is enforced, will mean that this is not a major topic in many of the other member states. However, in the UK we are very concerned about how this will affect cavers since we believe our enforcement will be rigidly applied and without a proper understanding of the real issues as they affect cavers.

I would be grateful if you would let me know whether you expect the new legislation to have any effect on cavers in your country and what, if any, action your national federation is taking. I would be particularly interested to know if your national implementing legislation is being worded to specifically exclude caving activities.

Rgds, and Happy New Year.

Nick.

P.S. my apologies that this message is in English only. Please let me know if you need another language and I will try to get it translated.

Address until 14 January 2002:
6530 Cornwall Court
Nashville, TN 37205

Winter field address:
101 Aupuni St. #911
Hilo, HI 96720

The Story (still a sad one) continues.
Bill is still fighting for Mowich Cave.
Here the latest update.

Richard Sowa, ActingSupervisor
Umpqua National Forest
2900 Stewart Parkway
Roseburg, OR 97470

12 November 2001

Dear Mr. Sowa: re: Mowich Cave; meeting 9 Oct 2001

I have received no response from you about our meeting on 9 October 2001 in your office.

I am confident that you will recall that during that meeting, Mr. Mike Hupp took notes and stated that he would send me a summary of our discussions. As he has not done so within a reasonable time, in this letter I am documenting those discussions based on notes I made immediately after the meeting. Please inform me immediately if I have misunderstood or omitted anything significant. I am sending this letter by Certified Mail, and if I do not receive a response from you on or before 12 December 2001, I will proceed on the basis that the content of this letter is reasonably complete and accurate.

Initially I thanked you for taking the time to meet with me on the first day of your new position. I stated that you knew about me from the abbreviated Vita I had sent you, but I needed to clarify whom I represented and whom I did not. You responded that you had not received my Vita; I found and gave you another copy and you stated that you would review it at leisure.

I then stated that I was representing the Commission on Volcanic Caves of the International Union of Speleology, whose position was supported by the Section on Cave Geology and Geography of the National Speleological Society, but I was not representing the latter. Further, I was not representing the Oregon High Desert Grotto of the National Speleological Society, but I anticipated that your acceptance of either of two of my three alternative proposals would resolve their grievance with the Umpqua National Forest as well as ours. It also was my understanding that you would soon be hearing from the Oregon Grotto of the National Speleological Society on a somewhat different matter. I specifically urged you not to underestimate National Speleological Society grottoes on the basis of the term "grotto". I explained that "grottoes" are full-fledged chapters of the National Speleological Society, and many have a high degree of scientific and political sophistication. The term "grotto" is merely a nostalgic term, beloved in the speleological community.

In response, you asked me what the grievance of the Oregon High Desert Grotto is. I explained that they had requested and received permission to visit Mowich Cave while the controversial gate was still open, but when they arrived from Bend, they found it locked against them and all their subsquent communications have ben been ignored.

☞

Moments before our meeting, I had received several pages of documents about bat counts at the cave, but on initial reading, I could find no evidence that the Umpqua has any counts during the "window" under discussion. I had written Steve Cross and tried to meet with him when I was in Ashland, without response, so I must presume that he, also, lacks this.

I further pointed out that both the Oregon High Desert Grotto and I had independently concluded that closure of this cave without at least an EA was a violation of NEPA, and that its closure without compliance with provisions of CFR was a very serious violation of CFR. You asked Mr. Hupp if this were true. He acknowledged this, and explained that the people involved had felt it best to keep it secret.

I further expressed my belief that the question of replacing the gate with the fence recommended by the Umpqua's consultant Mark Perkins was not an issue at this time, but might arise in the future. Mr. Hupp volunteered that the gate would not be replaced. I asked him if he was the person who made such decisions or if it were you. He replied that you were the decision-maker but he made important recommendations.

I then laid out the three alternative "win-win" proposals. Two were somewhat different proposals for cooperative action with members of your staff, including brief access between October 1 and 15, 2002 for one or two small teams including myself, some members of the Oregon High Desert Grotto of the National Speleological Society , and, if possible, Prof. Dr. Stephan Kempe. I guaranteed that we would accept any reasonable conditions imposed by your staff, provided only that they were not designed to be "Catch 22" conditions. We discussed "Catch 22" conditions, and agreed that everyone present was familiar with the concept. Specifically we would immediately terminate the study if we unexpectedly encountered an unseasonal hibernaculum or maternity colony, or disturbed any significant number of active bats.

The third alternative was that you treat my request for access as an appeal of the adverse decision by the district ranger on my recent request for reconsideration. This would apply only to Prof. Dr. Stephan Kempe and myself. I explained that I had intended to request only this from the former Supervisor, but when I learned of his retirement, I thought of the cooperative stance immediately taken by the staff of the Gifford Pinchot National Forest when Robert Tokarczyk left the Supervisor position there. You recalled meeting Mr. Tokarczyk. I expressed the opinion that he had run the Gifford Pinchot National Forest like his personal fiefdom; we talked about the development of the valuable cave management plans shortly after his departure. Mr. Hupp volunteered that a cave management plan was under development for Mowich Cave with no caver involvement.

I pointed out that more than two years had elapsed since the 1999 incident, and it was time to move toward closure. I hoped that a favorable decision could be reached during this meeting to avoid further delay. I mentioned that other obvious courses of remedial action could require many more weeks and even months, so I would have to initiate them if we could not reach agreement during this meeting.

You responded that it would not be possible to reach agreement during the meeting. You would look into the situation and communicate with me. I responded that I would have to begin other remedial actions, but if a favorable decision were forthcoming later, I would insure that they were held in abeyance.

Mr. Hupp broke in, asking from whom they had received permission. I told him that I did not know, but as most of its members are USFS staff persons, my guess was that they had contacted the district ranger. Mr. Hupp denied that they had received permission from the district ranger, but did not volunteer to contact them to verify whether it was the district ranger or someone else.

I then proceeded to specify three alternatives for your consideration, any one of which would resolve the grievance which Prof. Dr. Stephan Kempe and I had with the Umpqua National Forest, supported by the IUS Commission on Volcanic Caves and the National

Speleological Society Section on Cave Geology and Geography. I indicated that, with the change in Supervisors, it was time to let bygones by bygones and develop a "win-win" agreement that would meet most of the needs of all concerned. In my opinion, your acceptance of any one of the three alternatives would accomplish this. And if your staff could develop still another alternative which would accomplish this equally well or better, I would welcome that instead.

I briefly reviewed the 1999 event in which Prof. Dr. Stephan Kempe and I drove from Twin Falls, ID to Mowich Cave to study the unique structural load on its ceiling and walls. I gave you a photocopy of an article whose principles we had expected to follow. I described our shock at finding the cave secretly locked despite a cooperative agreement between the USFS and the National Speleological Society which seemingly forbade the USFS from such secret practices. I commented adversely on the disinformation sign placed inside the cave gate, which misleadingly attributed its primary authorship to Bat Conservation International (which had never heard of Mowich Cave), and added that I understood that this offensive sign had been replaced. Mr. Hupp confirmed its replacement.

Specifically I pointed out that my proposals would refer to the period between 1 and 15 October, 2002, 1-15 October being the time that the interagency Plecotus study team in Bend had determined that neither a maternity colony nor a hibernaculum would be present. I made the point that rejection of my previous request for studies 1-15 October 2001 had been on the basis that this was to protect the bats but it made no sense to protect the bats by keeping the cave closed when they weren't there.

I further pointed out that the Umpqua National Forest had no documentation that any bats were present in this cave during this recognized window of time. Instead, your staff had been relying on:

1) a one-sentence statement by Jim Nieland of the Gifford Pinchot National Forest which did not explain why it was in conflict with the conclusions of the interagency Plecotus study team of which he is a member;

2) a generalized statement by the president of Bat Conservation International which did not explain why it was in conflict with these conclusions of the study team, and

3) a generalized statement by Dr. Steve Cross of Ashland, OR which also did not explain why it was in conflict with these conclusions.

I pointed out that all these were tainted statements, clearly generated by requests of someone on your staff to rubberstamp his or her previous decision – and that for this meeting, I had requested copies of whatever USFS communications had been used to generate them. But I had not received these.

I continue to look forward to a favorable response to one of these requests.

Sincerely yours,

WRH.

William R. Halliday
Honorary President,
Commission on Volcanic Caves of the International Union of Speleology

cc: IUS Commission on Volcanic Caves (van der Pas)
National Speleological Society
Oregon High Desert and Oregon Grottoes
Federal Liaison Committee
Section on Cave Geology and Geography (Veni)
Conservation Committee (Werkers, Hood)
Bat Conservation International (M. Tuttle)
USFS (J. Trout, M. Hupp)

Winter field address:
101 Aupuni St. #911
Hilo, HI 96720

Address until 14 January 2002:
6530 Cornwall Court
Nashville, TN 37205

2 January 2002

Robert B. Towne
Field Manager, Deschutes Resource Area
Bureau of Land Management
PO Box 550
Prineville, OR 97754

Dear Sir: Grievance: noncompliance with PL 80-242

Thank you for your letter of 20 December 2001 transmitting the analysis of the Management Situation. I have only begun to analyze it but I already note that PL 80-242 and also the Federal Cave Resources Protection Act (the number of which I do not have immediately at hand) are conspicuously missing from the list of required legal authorities begun on page 11. I urge you to correct this serious oversight immediately and take all necessary actions to comply with them.

Your letter of 20 December 2001 also makes it clear that your agency did not comply with the provisions of PL 80-242 and duly adopted policies of the U.S. Board on Geographic Names when it renamed Pictograph Cave sometime around 1996. As a former Director of the Western Speleological Survey, I am very much aware of problems which can result from unlawful changes of names as in this case. I am aggrieved by this action and insist on immediate correction of this unlawful act.

This is a serious matter. Changing the name of any physical landmark well established in scientific literature - such as Pictograph Cave - is highly disruptive even when done in accordance with procedures of this Board and the due process inherent in its procedures. It is not to be undertaken lightly even in accordance with its policies. I am concerned that you may have done this because of a single erroneous statement in Charlie Larson's booklet "Central Oregon Caves": "At one time this cave was known as Stout Cave, after one of a pair of men who ran across it n 1957". This name never became established, either among the public at large or in scientific publications. By 1964 it was in print as Pictograph Cave, and this name has appeared exclusively since then in the geological and speleological literature. I refer you to such noted publications as Ron Greeley's 1971 "Geology of Selected Lava Tube Caves in the Bend Area, Oregon", published by the state of Oregon.

To correct this illegal name change, I insist that you immediately cease and desist from all use of the name Stout Cave for Pictograph Cave, and notify all persons and organizations who may know of your action that the name Stout Cave is not a lawful official name for this cave.

Please notify me immediately how and when you intend to implement this essential corrective action.

Sincerely yours,

W.R. Halliday

William R. Halliday
Honorary President,
Commission on Volcanic Caves of the International Union of Speleology

cc: US Board on Geographic Names
J. van der Pas
C. Larson
L. King
H. Medville
President, National Speleological Society

This note about 'Malheur Lava Cave' comes from the newsletter of the 'Cave Diving Section of the National Speleological Society' - Underwater Speleology, November 2001.

Malheur Lava Project

The Malheur Lava Project is studying and exploring the underwater portion of an extensive lava cave in Eastern Oregon. Karl Anderson, the Project Director, first explored the system in 1986 and his efforts are documented in UWS, Volume 14, Number One, January 1987. The goals of the project are to document the cave through video, study the flora and fauna present in the cave, remove graffiti from the cave walls, and determine the location of resurgence in the nearby Malheur River.

Dr. Tom Iliffe has the following to say about the cave:

"I made dives in this system with the team on December 19-20, and we observed several species of invertebrates including isopods, amphipods, and flatworms. The amphipod (*Stygobromus hubbsi*), flatworm (*Kenkia rhynchida*), and pseudoscorpion (*Apochthonius malheuri*) are listed as Federal Species of Concern. We are undertaking a faunal survey of the cave, which may yield further undescribed species. From a scientific standpoint, this thermal cave contains the greatest assemble of aquatic and terrestrial cave adapted species from anywhere in the Pacific Northwest. A great deal of video filming and still photographs of both the cave and its invertebrate fauna were and are being taken and will be included with the articles for Underwater Speleology and the NSS Journal of Karst Studies. I will be collaborating with Karl Anderson on many of the technical articles that will result from our work on this project."

Karl Anderson, Project Leader reports on progress:

All is going great! We have pushed another 100 feet, discovered a rare, tiny species of amphipod that as of this time is undescribed, are taking water samples from the geothermal vents, core samples, and making good progress on tracing the location of the cave water's emergence in the river. We have just added a biologist from University of Washington (Dr. David Secord) and have been told by an amphipod specialist at Old Dominion University that "as far as scientific significance of lava caves goes, Malheur Cave is #1!!!!. It looks now like we will need a weekend for February, March, and possibly April, as there is so much scientific significance that has now emerged that must be covered.

Dr. Ralph Hitz, a geology professor from Tacoma Community College has joined our team and will be conducting sediment core samples and geothermal temperature testing.

The Oregon Field guide is airing a special on Malheur cave on October 11. We are working on a full-length film to air sometime next year. We are planning at least two more trips to the cave this year.

John R. Holsinger, Professor of Biological Sciences:

Thanks for the greeting and the great photograph of the lake in Malheur Cave, OR. I've been there twice in past years. It is clearly one of the most interesting and biologically significant lava caves in the world (in my opinion). I have a good series or two of the amphipod from there (Stygobromus hubbsi), which I redescribed years ago, but Jerry Lewis can use specimens of the undescribed asellid isopod from there. If you happened to find isopods and collected them, please contact Jerry. He plans a description very soon. I recall the isopods being very rare and tiny. Season's greetings and best wishes for 2001.

This is an abstract concerning a lava tube on Hawaii.
It was published in the 'Journal of Cave and Karst Studies, Dec. 2001
(Volume 63, Number 3, a NSS publication)

STREAM FLOW IN KAUMANA CAVE

Patricia Kambesis, Hoffman Environmental Research Institute, Western Kentucky University, Bowling Green, Kentucky 42101 USA

Kaumana Cave is a lava tube located within the 1881 lava flow originating from Mauna Loa. Situated in the lowermost reaches of the flow, Kaumana Cave typifies the morphology of Mauna Loa tubes within long, linear flows. However, it does display one unusual character for a lava tube: during medium to heavy rains, it carries a stream that floods some of the middle sections of the tube.

Stream flow in Hawaiian lava tubes is highly unusual because of the high permeability of basaltic rock which normally favors rapid infiltration. In Kaumana Cave, a combination of factors may contribute to the observed stream flow including:

extremely high rainfall on the east side of the Big Island;

floodwaters redirected via man-made drainages into the upper entrances of the tube;

the 1881 flow, between the town of Kaumana and the western outskirts of Hilo, is underlain with an impermeable ash deposit that perches the stream through most of the cave.

The high stream flow during heavy rains moves floodwaters through the system extremely quickly (within a couple of hours). Waters exiting the lowermost entrance are redirected to a storm sewer located 60 m away. The exact course of the floodwaters once they exit the lava tube is not known. However, it is probable that the water eventually resurges in fresh water springs in Hilo Bay.

Lava Tube Caves in Harrat Kishb, Saudi Arabia

(excerpts from a long expedition report, by permission of John Pint - received via Bill Halliday)

For hours we worked our way through great black blankets of volcanic rubble, broken by occasional smooth, flat areas dotted with acacia trees.

At last we found ourselves on top of a somewhat flat place alongside Jebel Hil and - lo and behold! - while searching for a good camping spot, we spotted a dark patch on a low wall. This proved to be a vertical cave entrance about 20 meters high. Leaning over the edge, spacious tunnels could be seen going off in opposite directions. Our first lava tube!

We set up camp nearby, ate and decided to go have a look at the series of holes proceeding from Jebel Hil.

A ten-minute drive brought us to a lookout point right beside the volcano. We had a magnificent view of the flat plain below us but, alas, couldn't see the line of collapses from this position.

"Ye can see everything from the top of volcano," remarked John Roobol, who (as is his way) immediately began climbing. Well, it was about 4:45 and it looked like we could just make it to the top and back before sunset, so we all followed him.

ROOBLING UP THE VOLCANO

Ah, but this "Hil" is not a "hill" up which one can merrily prance while filling the air with the sound of music! No, I swear the sides of this volcano are as close to 90 degrees as I would ever want to get and only 20 meters or so on the way up you could see almost every member of the group hanging onto some tiny knob of rock, the only thing solid in a sea of loose gravel, ALMOST everyone, that is, because Abdulrahman, the biggest guy among us (excluding JR, of course) was dashing up that exasperating Mountain. like a rabbit. "He's a bedu; that explains it," I said to myself, but then who did I see right behind Abdulrahman, but Saeed, who is not a bedu and who usually looks terrified every time he has to do a rappel.

"Gulp, I guess if they can do it, so can I," I muttered and began inching my way up that wretched slope, which grew ever steeper as the few handholds were replaced by fine scree. By then I was halfway up and could see the silhouettes of my two trainees on top of the cone. I had to keep going.

It seemed as if an eternity passed before I made it. After catching my breath, I began to take pictures of the magnificent interior of the crater, in which you could see a wide, flat "ledge" which had once been the surface of a lake of lava, and the collapsed hole through which lava had flowed into. yes, on the plain far below you could just discern one of those collapses in what must be a mighty impressive lava tube.

The following morning, Monday, we sent our ancient, decrepit, pickup truck off to Oomadoom for supplies. I figured it had a 10% chance of making this voyage and that we'd be hunting Hamadi's snake for food by the next day. Unfazed by our plight, as befits intrepid and tenacious geologists, we spent the day trapsing over kilometers of harrat, all spread out in a long line, hoping to find those walk-in lava tubes in the photos. What we did find were lots of olivine gems and even a garnet. Finally, we resorted to hunting up some bedus who led us to an area where the hills resembled those in the background of the famous snapshots.

☞

Here, at last, we found three fine caves, two of them walk-in and one vertical, a 7 meter deep collapse with passages going off in two directions. We strolled far into the walk-in cave and agreed we would survey it next day. We took the coordinates and headed back to camp where we discovered that our pickup had failed to arrive. Scraping together the last of our provisions and even opening our emergency cans of beans, we shared a meager meal, discussing the strong possibility of having to abort our mission the following morning.

As darkness approached, everyone took turns watching for headlights in the vast lava plain below. But how could anyone negotiate that featureless rubble, confusing enough by day, in the gloom of darkness, when the jagged black lava swallows the pale headlights of any vehicle?

Impossible as it seems, we spotted car lights around 8 PM and I started waving an LED flashlight in a circle, which they spotted. A half-hour later, the pickup arrived to a hero's welcome. They had gotten lost on the way back and had spent all afternoon working their way towards Jebel Hil. But they made it and bought us an extra day.

THE BED THAT ATE SHOES

On Tuesday morning we split into two groups. Four valiant souls went to hunt for the lava tube holes below Jebel Hil. They trudged some 12 kms over a very rough lava bed, visiting each entrance, noting depth, diameter and amount of collapse, etc. Commented Mahmoud and Abdullah Eissa: "It was prickly "Aa" lava most of the time with irregular, loose chunks ready to break your ankle mixed with thin pieces ready to collapse under your weight. John Roobol kept reminding us to be careful with every step because "We could all die out here."
They returned, not dead, but dead tired, around 5 PM, having lost considerable shoe leather.

I was in group two, whose mission was to map the caves found yesterday. I "guided" our driver ""Eagle-eye Sa'ad" to the site using GPS coordinates, a method of navigation Sa'ad did not approve of at all. On the way back he asked me not to use the GPS and he got us home in half the time, by an entirely different route!

FIRST LAVA TUBE SURVEY

Upon reaching the entrance to the first cave, I think I sent my three Saudi trainees into a state of shock by announcing that THEY would carry out the first survey of a Saudi lava tube. Susy and I would merely assist.

We then spent a while practicing how to use the compass, clinometer and Disto digital measuring device as well as how to fill in the B&B survey book.
This lava tube is about four meters high, 157 meters long and easy walking all the way. About half-way in, we began to see small basalt stalactites which had once been drops of molten lava. According to John Roobol, the cave was 1000 degrees, walls glowing red, when this happened. Seventy-five meters from the entrance we found a raised side chamber with what appear to be very old hyena, wolf and who-knows-what droppings, surrounded by bones.

Twelve survey stations later we came to the end of the cave and the home of a handful of bats. The floor was smooth, hard mud sectioned in a nice-looking pattern. Near here were also a number of "soda-straw lava-mites," thin and delicate-looking, but, of course, hard as rock.

Exiting this cave, I asked the surveyors what they wanted to name it. "Kahf Mut'eb" they told me. This word means "very difficult cave." Now, if this is how my trainees categorize surveying a flat, smooth easy-walkin' single passage, what would they think of the kind where you have to take readings while lying on your belly in a tight crawlway half full of a gooey mixture of guano, mud and bat urine?

Worn out from their "ordeal" and aching for lunch, the survey crew preferred to stand

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by and let me have all the pleasure of exploring the 7-meter-deep hole just a short walk away.

GHOSTLY CAVE

There was a big pile of breakdown below, on one side of the hole, so I only had to climb the ladder five meters to reach these rocks. I could see passages going off in opposite directions. I walked over to the one heading west. The entrance to it was long and low. I bent over and peeked inside. In the half-light beyond, I could see a large chamber filled with figures. It was as if I had surprised a gathering of skinny goblins and they had immediately turned to stone.

Slowly - and I do mean slowly! - I stepped into the room. "These statues look like stalagmites," I thought to myself, "but there are no stalactites above them, and, besides, I'm in a lava tube, not a limestone cave.

On closer examination I found that these strange figures were made of bird droppings. There must have been fifty of them in there, the tallest standing five feet (1.52 m). Now, one rock dove had flown out of that room when I entered, but what had happened to all the others?

I also wondered how old those guanomites were, as I made my way through them, deeper into the cave. The floor consisted of fine, powdery dirt covered with a thin layer of bird guano. It crunched like snow. At one point, I broke through the crust and my foot sank down 20 cms. This was a new sort of cave experience for me and I regret I was in a hurry and couldn' t examine the place better.

I followed this passage to its end where I found stuffy air and a handful of very small bats. Then I counted off 180 paces back to daylight.

The passage going the opposite way was also interesting. Only a few guanomites, but they were inside a huge room maybe 50 meters around. A large part of the wall and roof were covered with a crispy crust of a pure white mineral which is not calcite. At the end of this large room there was a passage heading east. I followed it a bit and it just kept going. Good reason for a return trip, I figured and headed back to the cable ladder.

Strong winds tested our tents all night long. The Eurekas won out over Coleman and even did better than our mighty North Face! Next morning we packed up and headed for Oomadoom. However, we got ourselves good and lost on the way. Fortunately, we found some local bedus who were unstintingly generous (as they inevitably are). One of them jumped in his truck and led us for what seemed hours to a wide track.

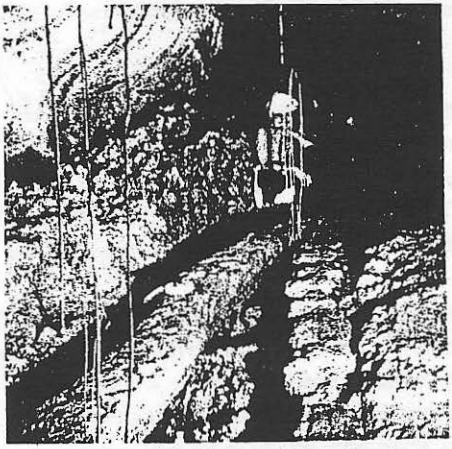
Although this track did not seem at all familiar, it led us out of the harrat. However, instead of reaching Oomadoom, we ended up in a town called Marran. No matter, we were on black top again and on our way back to Jeddah. And we hadn't seen a single snake, scorpion or even mosquito inside the wonderful lava tubes of Harrat Kishb.

John Pint

The following article is an extract from 'Transactions British Cave Research Association ', Vol. 11, no. 2, July 1984.

from: Limestone and Volcanic Caves of the FIJI ISLANDS
by the late **Tim Gilbert**

abstract of the complete article:
The small limestone areas in the Fiji Islands contain many caves. There are lava caves in the south of Taveuni Island, the most extensive being 920 m long.



4. Lava tube with clinkery floor and roots hanging through the roof, Waimaqere Cave, Taveuni.

Lava tube with clinkery floor and roots hanging through the roof. Waimaqere Cave, Taveuni.

Almost the whole island has experienced recent volcanic activity and most of it is covered by lava flows, with many cinder cones, one of which is known to have erupted only 2000 years ago. Most of the known lava tubes are in the coconut plantations at the southern end of the island (Fig. A.); but there may be more in the uninhabited rain forest along the south-eastern side of the island.

a) Salialevu

The cave entrance, a 5m. deep collapse hole, is about 30 minutes walk from Salialevu Village (Fig. B). It is possible to walk all the way through the cave to the upper entrance, apart from one awkward pool, and climbs up to some of the lava falls. The small stream has invaded the cave only relatively recently, and has had very little erosive effect on the original lava formations. Mud and gravel deposits obscure them in some places. Most of the walls are very smooth, but where the floor is unaffected by the stream it is commonly very rough and sharp, especially at the lava falls. There are lava terraces in the passage walls, and in some places a false floor divides the lava tube. Downstream of the main entrance, there are deep deposits of soft and putrid-smelling mud. It is probable that the passage is filled with mud or water beyond this point. Most of this 920 m long cave could easely be developed as a tourist attraction. The estimated slope of the cave is 10°.

b) Waimagere

Both of the lava caves at Waimagere are in the coconut plantation, about 30 minutes walk from the village. Cave Number 1 (Fig. C) needs a 6 m ladder to enter the collapse hole entrance. The surveyed lenght is about 330 m, with another 100 m unsurveyed. Cave Number 2 has a constant slope of about 8° downwards from the walk-in entrance. It is a single lava tube, mostly 6 m high and 3 to 9 m wide, for the surveyed lenght of 180 m. PLant roots hang from the roof in places.

There are only a few drips of water entering these caves, so the lava formations are better preserved than in Salialevu Cave. These include lava falls, deep channels in the rough clinkery floor (see picture) which sometimes meet and join at junctions, lava terraces and false floors and ropy lava. Much of the rock is very rough and sharp. In some places there are small brownish coloured straw stalactites, in others, a grey-white deposit on the roof.

c) Soqulu

The two collapse hole entrances to Soqulu Cave are a 30 minute walk uphill from the Soqulu Estate House, 12 km northeast of Waimaqere. The cave is a single lava tube with a floor of mud and boulders, and contains few interesting formations. The humped top of the lava flow it follows can be clearly seen on the surface. Like other lava tubes, it does not dip far below the surface, and roots can be seen in several places. There are piles of bones in the lower part of the cave. The estimated length of the cave is 165 m.

d) Other Locations

Many smaller and less interesting lava tunnels have been found in southern Taveuni.One which may be long but has not been explored is Qara Tabu. This cave really is tabu; it was forbidden by the Tui Vuna to enter the cave. There are also practical difficulties; the entrance, near the South Cape, is at sea level in a cliff face and can only be entered by boat in good conditions.

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Figure 'A'

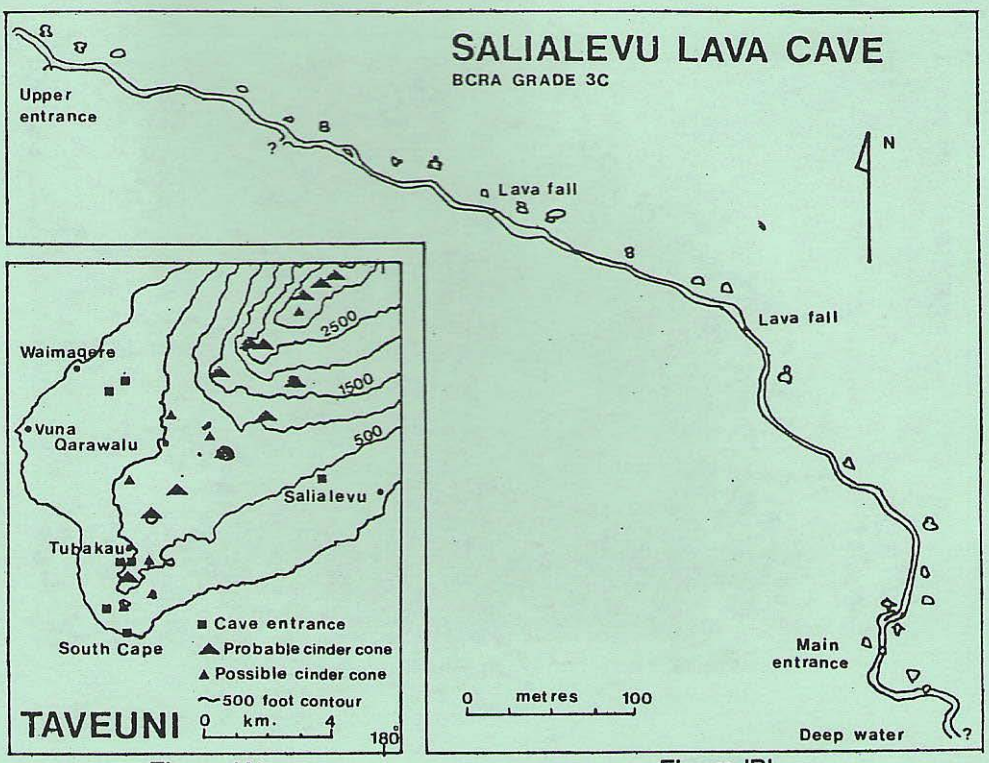


Figure 'B'

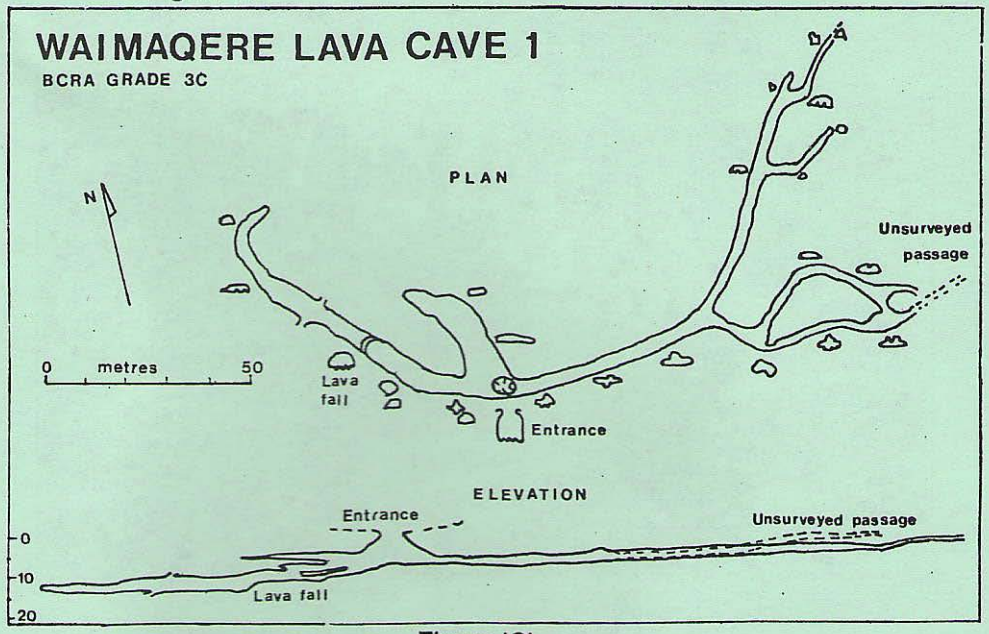
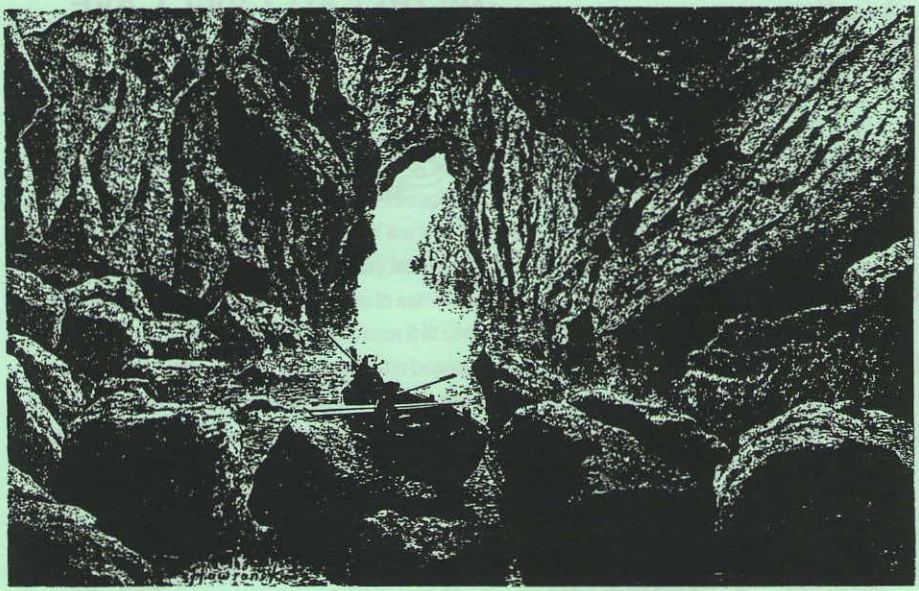
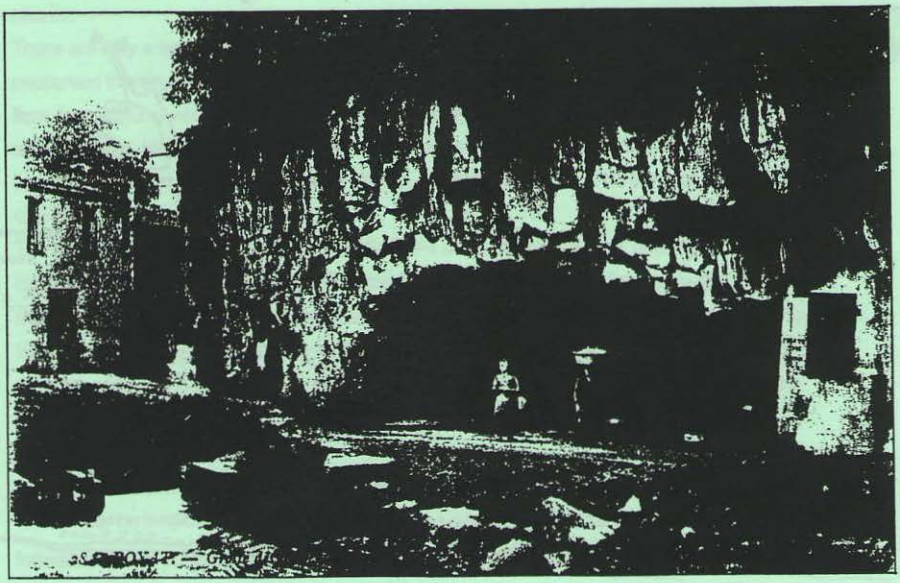


Figure 'C'



Vulcano, 1898 - Gli scogli nella Grotta del Cavallo
disegno di Ludvwig von Lothringen



Grotte des Laveuses (Cave of the Washing Ladies)
Cavity in basalt - Royat, France