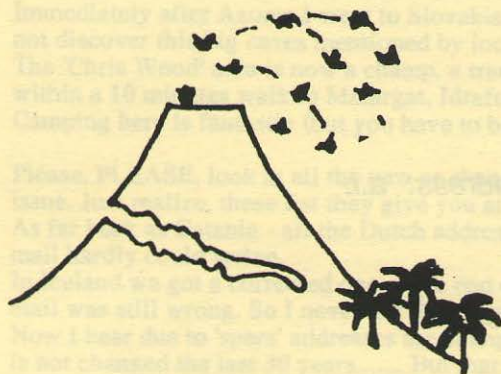


INTERNATIONAL UNION OF SPELEOLOGY  
UNION INTERNATIONALE DE SPÉLÉOLOGIE

## Commission on Volcanic Caves



Newsletter  
August 2004

Next International Symposium  
on Lava Tube caves probably

**Sept. '06 - KOREA**

# 41

*the U.I.S. is affiliated with UNESCO*

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

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

*Chairman & editorial address: a.i.*

J.P. van der PAS  
Vauwerhofweg 3  
6333 CB Schimmert  
Netherlands

jpgvanderpas@hetnet.nl

Due to mentioned problems of the publication of the proceedings from the  
Xth International Symposium on Vulcanospeleology (Reykjavik, Iceland,  
2002) a photocopied version of the abstracts in reduced size (A-5) is  
available from the editor of this Newsletter. Most costs are the sending, so  
for the fee of US\$ 5 or Euro 5 - only accepted in cash - you can get two  
copies of these abstracts.



Here than finally the Newsletter.....

Sorry for late issue.

The symposium on the Azores was a great success, many participants, many visits, events and possibilities for special (vulcanic) caves.

Via the famous web-site from the Pints already pictures have been distributed.

Actually this is a hurry issue, since I've hardly been home after the Azores. Immediately after Azores I went to Slovakia, after that to Iceland. No, I did not discover this big caves mentioned by locals around Miklafell and Laki. The 'Chris Wood' area is now a champ, a track around Miklafell brings you within a 10 minutes walk to Matargat, Idrafossar and many other caves. Camping here is fantastic (but you have to be self-supporting).

Please, PLEASE, look at all the new or changed addresses published in this issue. Just realize, these list they give you at symposia are FULL of errors. As far back as Catania - all the Dutch addresses had so much errors that mail hardly could arrive.

In Iceland we got a corrected one at the end of the symposium, but my E-mail was still wrong. So I never got the official 'Azores' invitation.....

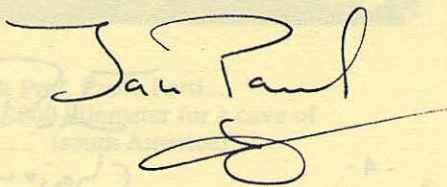
Now I hear due to 'spam' addresses are changed regular. My house address is not changed the last 30 years..... But that was another time.

In this, and previous issues, parts (or complete) letters and messages are brought as send to me. This has two reasons: I'm too lazy to process them, and also I like to leave the original style of the writers.

Tomorrow (6 August) is last day before holiday of my photocopyshop, so hope to get this out a.s.a.p.

As mentioned somewhere else in this issue my impressions (and information) about the UIS congress in Greece/Athens are not too good. Due to the lousy period (August....) IF I go it will only be a quick fly-in to the main congress. But at this moment they can not tell me the location..... Probably this was already announced by the Greeks in 2001 in Brazil: ... we will wait till after the Olympics, and see what comes available.....

But of course now we all look forward to 2006, and the Symposium in Korea!

A handwritten signature in dark ink, appearing to read 'Jan Paul', with a long, sweeping horizontal line extending from the bottom right of the signature.



## Commission Meeting 'Azores' - May 2004

### Held on the Island PICO

Due to a sudden change in the program we miss Bill Halliday and Stephan Kempe, who are on a cave trip.

Still 16 participants from Azores, Netherlands, Italy, Sweden, Mexico, Saudi Arabia, France, Korea, Japan, Austria, Australia, Spain. Two of these are former U.I.S. presidents.

Welcome to Dr. Szentes, who represents the UIS Commission on Pseudokarst. And thanks to the organizers.

Regrets for not participating from Mrs Connie Spelbrink co-organizer of the symposium on the Canary Islands, Siggi Jónsson organizer of the previous symposium on Iceland and Mr. Eszterhás president of the commission on pseudokarst.

Status of proceedings of the two former symposia (Catania & Iceland). See another page in this publication.

A short discussion about the fees to be paid to UIS to use/mention this name. It is quickly decided this is not needed, but an official request will be send to UIS to be voted on during the next UIS-congress (Athens 2005.....).

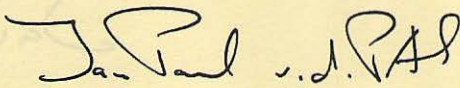
The most important item: where will be the next symposium.

There was a proposal for Saudi Arabia, but John Pint explains that due to the political situation this is impossible. Also permits for official happenings take (at least) two years. Ladies not permitted, so - no.

Prof. Woo suggest his country - Korea - as next location. Due to no competition this is virtually unanimously accepted. As date is suggested September 2006 (not 2005 due to the UIS congress in Athens) and location will be Jeju Island.

There is a proposal for a list of longest/deepest vulcanic caves. Or/and the most important caves. On the Azores Islands they work on such a list, there is a list maintained in the USA. So who organizes this. A proposal mentions João Paulo Costância as someone who could do this.... At this moment I don't know if he still agrees, but if you have any POSITIVE reaction just help him. < constancia@mail.telepac.pt >

Not attending, but a question by Michael Laumanns (Germany): to have a roundtable meeting at the UIS-congress in Athens (2005) to discuss the definition of segmented lava tubes. This would have to be organized ad hoc since this congress seems to be a catastrophic event. Only weeks ago I asked organizers WHERE is will be. This is not known at this moment. It will be probably in the Athens area, but if you book now a hotel you might be far away from the congress.

  
Chairman Commission

## *SOME NOTES from 'AZORES 2004'*

*J.P. van der Pas*

Already the 11th symposium on vulcanospeleology.....

Some 30 participants, from some 15 countries. Four-and-a-half continent represented: Mexico to Saudi Arabia, Japan to Tasmania, Korea to Netherlands, and all these enthusiastic cavers from the Azores.

One of the goals is to put Pico Island on the map - it is far away, not to be reached in one day from my country.....

The whole symposium is well-organized, and a handful of islands are visited for all kind of lavatubes and other geological features. Language is easy, each one speaks english. Nature protection is a very important item, and a Portugese (mainland) professor claims the Azores are ahead of Portugal itself.

Participants belong to the foremost cavers and scientists - cave minerals, origin of tubes, biology in lava tubes. All well presented. Excursions bring us to all kind of places. A museum on vulcanology on Picos, a lavatube used as transport for local water, the headquarters of 'Montanheiros' on Terceira (I've never seen a place as this - library, meeting and conference room, this on several floors , museum display).

Some brave ones go up to the top of Pico Vulcano, others just stay on lower levels. Items during the lectures are very diverse - from a digital database of pseudokarst (including volcanic features) of Hungary to an Icelandic project to drill a tunnel to make the inside of a (hollow) vulcano visible to tourists.

Fascinating is already the proposal for the next symposium in Korea.

As always - some pictures available on the net from the Pint's at

< [saudicaves.com](http://saudicaves.com) >



Prof. Stephan Kempe & Prof. Paolo Forti....

.... Paolo: I traveled 7000 kilometer for a cave of  
7 meters ..... (south America)

### Status of Proceedings 'Catania 1999'

*Just before the Symposium on the Azores I checked with Giuseppe Licitra about the status of the proceedings of the IXth International Symposium on Vulcanospeleology (September 1999, Catania, Italy).*

*He answered: .... In fact, only when we assembled all available papers (several ones are definitely missing, since their authors did never submit the cartaceous version of their presentation during the Symposium sessions, so we have only the relevant abstract), we materialised that all their formats are different from another, regardless of the writing directions we had given in our circulars, and now Francesco Petralia (actual CSE chairman) is working to re-format all papers (during the time nuggets left by his working commitments).....*

*..... all material should be ready between end of April and the first half of May (2004), and will be put into a CD-ROM published by CSE itself.....*

This was discussed at the Azores, and Paolo Forti promised to look into this matter. However, the address-list issued during the Catania-symposium contained many errors, so the question will stay if participants of that event ever will be notified. Giuseppe Licitra promised to keep me (JP v.d. Pas) informed. So now the responsible is Francesco Petralia, E-mail:

< Francesco.Petralia@poste.it >

### Status of Proceedings 'Iceland 2002'

*Just before the Symposium on the Azores I checked with Sigurdur Jónsson about the status of the proceedings of the Xth International Symposium on Vulcanospeleology (September 2002 Reykjavik, Iceland).*

*He answered: ..... I have only received two articles ..... Unfortunately there is not much happening and I do not know when the proceedings will be published.....*

This was discussed at the Azores and the following was reported:

The E-mail of Siggí had changed. Papers send e.g. by John Pint to the old address had not arrived. Later it was discovered (items send to the old address were not reported by the 'system' as not received) that Siggí was not aware of this. Note the new E-mail:

ssjo@isor.is

PS The abstracts as issued during the symposium are available as photocopies (reduced to A-5) at the editor of this publication. See note on other page.



During the 'Azores Symposium' some of the participants showed interest in our commission, or can give very important information .....

Prof. Kyung Sik WOO  
Department of Geology Kangwon National University  
Chungcheon, Gangwondo, 200 - 701, KOREA  
Tel. +82-33-250-8556  
Fax. +82-33-244-8556  
weeks@kangwon.ac.kr

*Prof. WOO suggested Korea as the location for the next International Symposium on Vulcanospeleology - September 2006*

Mr. Guy CANIAUX  
3, Clos des Massettes  
31170 TOURNEFEUILLE  
France  
Tel/fax 033(5)61070943  
caniaux@meteo.fr

*Mr. Caniaux is a professional geologist, publishes (also) in the French publication 'LAVE', and is a walking dictionary about geology of the Azores.*

Dr. Pedro OROMI  
Depto. Biología Animal  
Universidad La Laguna  
38205 La Laguna  
Tenerifa - Islas Canarias (Spain)  
Tel. 922 31 8429  
Fax. 922 31 8311  
poromi@ull.es

*Dr. Oromi is a well known lava cave biologist. He was president and organizer (together with Connie Spelbrink) of the 7th International Symposium on Vulcanospeleology on the Canary Islands in 1994.*

Mr. Takayoshi Katsumata  
420-3 Nakayama  
Gotemba, Shizuoka  
Japan 412-0035  
Tel/fax 81-550-87-0286  
wbs04706@mail.wbs.ne.jp

*Mr. Katsumata represented the Speleological Society of Japan and the Mt Fuji Vulcanospeleological Society. He told about the bad physical condition of our friend Takanori Ogawa. He did the presentation of Dr. Honda: Investigation of the discharge mechanism of Hachijo-Fuketsu lava tube cave, Hachijo-Jima Island, Japan. However, he claimed for more information to contact < hondat@itergps.naka.jaeri.go.jp > He was probably the most cheerful person at the symposium!*



Mr. Arní S. Stefánsson  
Kambsvegur 10  
104 Reykjavík, Iceland  
gunnhildurstef@simnet.is

*Arní participated in the 2002 symposium on Iceland. He suggested a daring and very special project to make a (touristic) object of the interior of the Thrihnúkagígur crater/vault by drilling a tunnel and a viewing platform.*

Please note the next addresses. These are different from previous publications in this newsletter:

*John & Suzy Pint*  
E-mail as always - < thepints@saudicaves.com >  
printed matter(s) *John and Susy Pint*  
Mail Boxes Etc.  
413, Interamerica Blvd. WH1  
PMB 014 - 185  
Laredo, TX 78045  
U.S.A.

*Greg Middleton* < ozspeleo@optusnet.com.au >

*Ken Grimes*      *Ken has apparently as many others so many problems with spam he had to change the address.*  
now: < regmap1@ozemail.com.au >  
or:  
Regolith Mapping  
PO Box 362  
Hamilton, VIC 3300  
AUSTRALIA

*Siggi Jónsson*      ssjo@isor.is

*Jim Simons*      < fajo@kenyaweb.com >  
P.O. Box 710  
Village Market  
00621 Nairobi  
KENYA



At the end of the XIth International Symposium of Vulcanospeleology a report was made-up about the results. These were very impressive, and could be an example for other regions on the world, in the future. Here the original text as supplied at the end of the symposium.

## PICO ISLAND

AZORES – 2004

### Conclusions

#### A.

During the XI International Symposium of Vulcanospeleology several subjects were discussed, namely conservation management, geology, mineralogy, and Bioespeleology. The following aspects should be highlighted:

1. Recommend to the highest national and international institutions the need to recognize the relevance of the geological heritage, in particular the geodiversity inside and around the volcanic cave should be considered as a priority in the definition of conservation management plans.
2. The Vulcanospeleological structures as part of the Natural Patrimony should be considered as one of the key factors in sustainable economical development in volcanic regions.
3. Need to reinforce the studies in volcanic cavities, in particular in research areas of outstanding importance like mineralogy of speleothems and cave microbiology.



4. Having into account the sensitivity of many volcanic cavities, it is very important to consider the elaboration of monitoring studies to find indicators of environmental quality.

5. Official entities should implement measures that could be used to assure an equilibrium between the touristic activities and the conservation of the vulcanospeleological patrimony.

6. Create a Data Base on the 100 most important Volcanic caves of the World.

B.

During the Symposium and concerning the Azores we should highlight the following conclusions:

1. Discovery of a new species of troglobite insect (*Trechus* n.sp.) during the Pré-Symposium Field Trip to Algar do Montoso at S. Jorge island. This is the second species of this genus found at this island, being an important finding.

2. Recognition of the importance of the Azorean vulcanospeleological patrimony at world scale, reinforced by the fact that Algar do Carvão was considered as one of the 10 most important volcanic caves in the world in terms of the mineral contents of its speleothems.

C.

Relatively to the Azorean vulcanospeleological patrimony the following recommendations must be highlighted:

1. There is the need to promote new field work in the Azorean volcanic caves, namely in the research areas of Briology, Biospeleology, Mineralogy, Microbiology and Vulcanospeleology.

2. Conservation Management Measures should be taken in order to protect the Azorean volcanic cavities. This will be achieved throughout a Global Management Plan.

3. It is recommended the creation of conservation management measures for a list of Azorean volcanic cavities, considered to be of high priority based on modelling procedures performed by GESPEA using a the data base IPEA (Survey of the Azorean Volcanic Caves):





Cavidade	Ilha	I.V.-C.
Gruta dos Montanheiros	Pico	0.63
Gruta de Água de Pau	São Miguel	0.62
Gruta das Agulhas	Terceira	0.58
Gruta do Chocolate	Terceira	0.56
Algar das Bocas do Fogo	S. Jorge	0.55
Gruta dos Balcões	Terceira	0.53
Furna de Henrique Maciel	Pico	0.53
Gruta do Soldão	Pico	0.51
Furnas das Cabras II (terra)	Pico	0.51
Gruta da Ribeira do Fundo	Pico	0.50

I.V.-C. – Importance Value for Conservation

Madalena. 17 de Maio de 2004



*Here part of an E-mail from Jim Simons (21 July 2004).  
A note about his E-mail address and mail address.  
Read also his remark/request for funds for a 'Speleological  
Institute'(in Kenya).*

By the way, our E-Mail address is now fajo@kenyaweb.com and needs correcting on your list of members. It is also better to send anything to me via my personal box, P.O.Box 710, Village Market, 00621, Nairobi, than by Box 47583.

I was at the camp for the last week of June. Prime reason was to host our Dutch Tourists, the first group of what is to be a very busy season for us with groups in every week for 2 nights, as from this week and all through August. There are then less frequent groups through to November and maybe beyond.

During this visit, I took the opportunity to check on the now up-graded track to the central collapses of Leviathan. Apart from a 200m.stretch that requires a bit more attention, it is very good and the 5km.right up to the Forest Collapse entrance took only ½ hr., a great improvement on the 1hr.of very rough 4x4 driving of 20 years ago! The park has also cut another track from Forest down to Compass Collapse, but this is yet to be surfaced. This is a definite move by KWS to make part of Leviathan a visitor attraction but there are still sections of the main Chyulu road that require serious attention before the cave can be easily accessible to mini-bus tourist traffic. The entrances are currently 26km.and a 2hr.drive from Umani Springs Camp. On this quick field inspection, I could not find our old route to KM Collapse, 'though I'm sure it could be relocated with more time by use of our old maps. However, I was able to easily relocate nearby ABCave and one of the entrances into the Pango Ya Moshi Cave complex. The new track will now make it much easier to get-in to survey these braided complexes of an estimated 1 and 3 km.length.

Have you any comments on the latter part of my earlier letter ref: donor-funding of cave projects and possible Speleological Institute for this part of the world ? In light of the above, I shall again be pressing KWS to re-new their search for donor-funds to enable me to be consultant advisor for the future development and management of the Leviathan resource and will also try approaching organisations directly myself.

## LAVA TUBES OF THE PINACATE VOLCANIC FIELD, SONORA AND ARIZONA

by William R. Halliday

Little has been documented about lava tubes and lava tube caves of the Pinacate volcanic field, located primarily in northernmost Sonora, Mexico. Recently in the US Geological Survey Library (Reston, VA) I encountered a thesis on this area which clarifies the problem.

This thesis is: GEOLOGY OF THE SIERRA DEL PINACATE VOLCANIC FIELD, NORTHERN SONORA, MEXICO AND SOUTHERN ARIZONA, U.S.A. A dissertation submitted to the Department of Geology...of Stanford University in partial fulfillment of the requirements for the degree of Doctor of Philosophy, June 1974, by Michael Francis Donnelly.

Page 103 of Volume 1 contains the following:

"The midline channels of most Pinacate pahoehoe lava flows developed a continuous roof, forming natural pipes or tubes...only a few lava tubes have been observed in cross section. The tubes are ovoid to nearly circular in section, range in diameter from three to 20 feet, and are almost entirely drained."

Pages 106-107 are of special interest because of early recognition of possible thermal erosion:

"According to Wentworth and MacDonald (1953, during the early stages of eruption the typical pahoehoe lava river flows in an open channel...The lava river starts to develop a continuous crust or roof, forming a natural pipe or tube. The most mobile lava of the main stream is then enclosed in less mobile lava, and generally forms a complex of anastomosing internal streams within distributary tubes (sic) that feed the active front and margins of the flow. Most of the larger tubes branch and rejoin in the manner of a braided river. MacDonald states that smaller tubes can form by the chilling of a skin around protruded pahoehoe toes. The crust thickens and forms a rigid shell over the still-fluid interior. Repeated surges of lava lengthen the toes and develop a small tube. During the latest stages of eruption, the tubes may remain filled with solidified lava, or the lava may drain out of the tube, leaving it partially or completely empty.

"In the Pinacate volcanic field, near the vents of Group 8 pahoehoe flows, late-stage lava rivers are rarely open...Only a few lava tubes have been observed, all within Group 1 flows in the South shield structure. The cross sections of these open tubes are ovoid to nearly circular, and range in diameter from 3 feet to 20 feet. The greatest exposed length is approximately 150 feet and, although the bottom of this tube is covered with eolian sand and alluvium, the floor is essentially the flat surface of the dwindled and congealed lava stream. These tubes are almost entirely drained, and typically have a number of openings where the roof either failed to form or was broken. The walls of all the larger tubes extend across several flow units, which represent either repeated overflow of the lava river before it formed the roof, or re-melting of the encasing lava by the main lava stream."

Page 108 briefly considers lava tubes in aa lava:

"The central rivers of Pinacate aa flows generally remained open until they died out near the distal ends of the flows. Rarely, channels are roofed over by congealed lava forming tubes within the massive central parts of flows. Only three small, nearly completely filled tube structures were observed in cross section within Pinacate aa flows. According to Wentworth and MacDonald (1953), aa lava is more viscous than pahoehoe, and does not readily drain out of the tube structure."

How far we have progressed in the subsequent 30 years!

*Already know from previous Newsletters: the quest of Bill Halliday to get access to Mowich Cave. Apparently this cave is in an area inaccessible to man and mail, hardly an answer is received.....  
Maybe some response will be given to Commission mail.....  
To be continued.....*

Address until 20 July 2004:  
6530 Cornwall Court  
Nashville, TN USA 37205

9 May 2004

Calvin N. Joyner, Director of Natural Resources  
Pacific Northwest Region, U.S. Forest Service  
PO Box 3623  
Portland, OR 97208-3623

re: 2670/2880/2350/2650 Mowich Cave issues

Dear Mr. Joyner:

In your letter of 19 December 2003, you stated that "The Regional Office staff and the Toketee District Staff met on July 29, 2003 to discuss the information provided by you and Forest Service policies regarding cave closures. The Staffs agreed that several internal follow-up actions were needed before the Forest Service can respond to your request. Those actions are now underway and we will respond to your request as soon as possible."

As you know, I represent the Commission on Volcanic Caves of the International Union of Speleology in this matter. I enclose a photocopy of your letter of 19 December as published in the Newsletter of that Commission together with a pithy comment by its President about the delay as of that date.

It now is more than 9 months since the meeting of July 29, 2003. That time span is generally considered significant in the course of human activities, yet there is no indication that this gestation period has produced any "internal followup action" nor that there will be any ending to these intolerable delays.

The next meeting of this Commission will be in Madalena, Pico Island, Azores Archipelago, Portugal during next week's XI International Symposium on Vulcanospeleology. If you wish to submit a further statement to that Commission, please do so immediately by e-mail directed to

Mr. Jan Paul van der Pas,  
President, IUS Commission on Volcanic Caves  
c/o Dr. Eduardo Carqueijeiro  
at: speleoazores@mail.telepac.pt

Sincerely yours,

William R. Halliday  
for the IUS Commission on Volcanic Caves

cc: IUS, van der Pas, Larson, Jim Nieland, Jim Miller





**Address 22 July - 31 August 2004:**

**101 Aupuni St. # 911**

**Hilo, HI 96720**

**williamrhalliday@mailstation.com (valid only during that time)**

**Permanent mailing address:**

**6530 Cornwall Court**

**Nashville, TN 37205**

**Calvin N. Joyner, Director, Natural Resources**

**Pacific Northwest Region, U.S. Forest Service**

**PO Box 3623**

**Portland, OR 97208-3623**

**21 July 2004**

**re: 2670/2880/2350/2650; yr ltr 19 Dec. 2003**

**Dear Mr. Joyner:**

In your letter cited above, you stated that, in response to my letter of 28 May 2003, "The Regional Office staff and the Toketee District staff met on July 29, 2003 to discuss the information provided by you and Forest Service policies regarding cave closures. The Staffs agreed that several internal follow-up actions were needed before the Forest Service can respond to your (my) request. These actions are now underway and we will respond to your request as soon as possible."

Next week, one year will have elapsed since the meeting of July 29, and there is no indication of any such "internal follow-up actions".

It is time for me to firm up my schedule in Washington and Oregon in September 2004. Please let me hear from you by 29 July 2004 whether I will receive the necessary permission for the studies I proposed - long ago - in Mowich Cave, in September 2004.

If I do not hear from you by July 29, 2004 I will necessarily conclude that this matter cannot be satisfactorily resolved at the District level, and will proceed accordingly.

**Very sincerely yours,**

**William R. Halliday**

**Honorary President**

**Commission on Volcanic Caves of the**

**International Union of Speleology**

**cc: Jan Paul van der Pas, President**

A note received via Herman w. de Swart (NL)

Lava tubes on Mars.

All on < [www.marssociety.ch/chapter/news.php?id=30](http://www.marssociety.ch/chapter/news.php?id=30) >

[www.newscientist.com](http://www.newscientist.com)

[www.newscientist.com/news/news.jsp?id=ns99994673](http://www.newscientist.com/news/news.jsp?id=ns99994673)

## Départ pour Mars ! > News

.: Lire une news .:

### Tubes de lave martiens

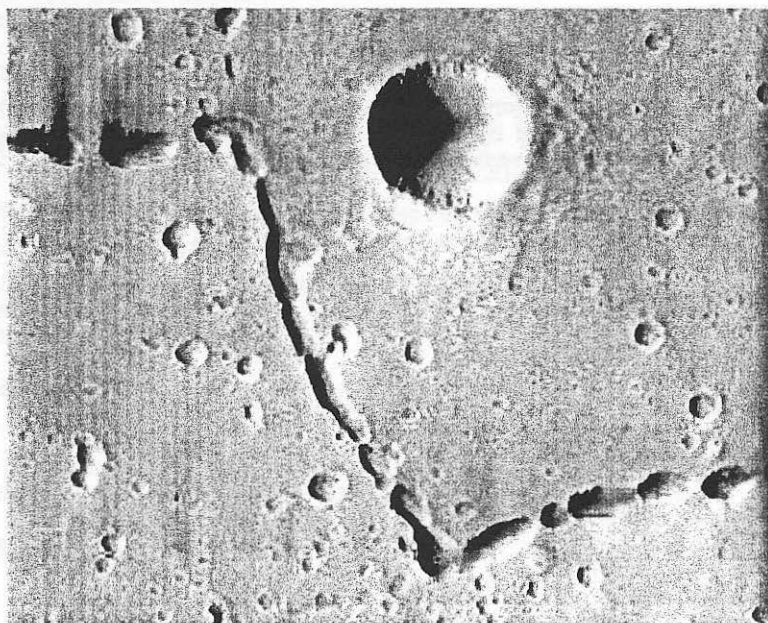
Envoyé par Philippe le 05/07/2002 à 10:22

Voilà une nouvelle qui ne peut que réjouir le spéléologue que je suis! Mon rêve le plus fou étant l'exploration des cavités martiennes, le fait de savoir qu'il en existe est pour moi déjà extraordinaire!

Grâce à Mars Odyssey, je peux maintenant déjà me dire qu'à défaut de cavités karstiques, nous pourrons un jour explorer des tubes de lave!

La photo d'aujourd'hui est prise sur le flanc ouest d'Elysium dans une région appelée Hephaestus Fossae. La photographie montre une série de puits alignés. Cette structure nous fait penser qu'il s'agit en fait d'un tube de lave qui se serait effondré!

Nous pouvons donc préparer nos lampes électriques, nos cordes, nos harnais et nos perforatrices! De la spéléologie se pratiquera sur Mars demain!



This article from the Speleo Digest was reported by Greg Middleton with the remark 'I've seen discussion about greatest length before, but not "greatest distance from daylight".'

Distances converted:

17000 feet = 5500 meter

8590 feet = 2816 meter

1.5 miles = 2400 meter

1.627 ,, = 2600 meter

Topic: 6

Digest: 5806

Date: Tue Apr 06 20:22:00 MDT 2004

From: Douglas Medville <medville@patriot.net>

Subject: Re: my lava tube question

In a lava tube on Hawaii, several of us (Nevin and Judy Davis, Pete Carter, Doug Medville, and Rob Pacheco) have been surveying a tube that has over 17,000 feet of passage- so far. From one of the entrances to this tube, we've gone in a distance of 8,590 feet to a terminal lava sump and for the entire distance we are in total darkness- there are no skylights, light holes, or other entrances along the way. The trip to the end of the passage involves an entrance drop, lots of breakdown climbs, crawls, etc. and takes 3.5 to 4 hours one way. Are there any tubes in which one can travel for a greater distance than this from an entrance without seeing any natural light or is this the deepest penetration of a lava tube without seeing daylight (i.e., if a tube has two entrances that are three miles apart, one is never more than 1.5 miles from one of the entrances and at the end of the tube that we're surveying, we're 1.627 miles from the entrance).

Doug Medville



Here 4 abstracts found  
in the *Journal of Cave  
and Karst Studies*  
which refer to lava  
tubes.

## LAVA TUBE SYMPOSIUM

### MAZE DEVELOPMENT IN HAWAIIAN BASALT CAVE SYSTEMS

*D. Coons, 586 E. 9th Rd., Rutland, IL 61358*

The geologic literature presents a general perception of basalt tube systems as being relatively short, simple, and ephemeral features. This concept is based primarily on study of lava flow systems located throughout the western continental states of America. Two decades of study beneath 3 active shield volcanoes on the Island of Hawaii have revealed a very different "landscape". Working from >280 km of survey accumulated under Mauna Loa, Kilauea, and Hualalai, a very different pattern begins to emerge. In fact, a large percentage of these tube systems is composed of parallels, braids, or mazes. In a few examples, these maze systems constitute interconnected vertical layers to form some of the most complicated skeins of survey ever documented by the caving community.

### CAVES OF THE 1919 FLOW, KILAUEA CALDERA, HAWAII

*W.R. Halliday, IUS Commission on Volcanic Caves, 6530 Cornwall Court, Nashville, TN 37205*

Nearly 200 caves have been identified in the 1919 "Postal Rift" lava flow in Kilauea Caldera. Only a few of these are traditional lava tube caves, and these are limited to the upper slope of the flow. Despite the current Glossary of Geology definition of "tumulus" as a solid structure, several subtypes of hollow tumuli are readily identifiable here, including dome, sinuous, and transverse types. Individual drained flow lobes and complexes thereof constitute the commonest type of cave in the flow. Some of the latter are measured in hundreds of meters.

Lava rise caves are of 2 subtypes: Circumferential and linear. A spectrum of combined and intermediate forms of all these subtypes is present; a lengthy longitudinal flow lobe cavern is intermediate between ordinary flow lobe caves and lava tube caves. This suggests that simple subcrustal drainage of lava may be the initial phase of speleogenesis of a common type of lava tube cave.



## LOOKING FOR LAVA TUBES IN COLORADO

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Unlike other adjacent states to the south and west, the state of Colorado has no known lava tubes. Recent tube-fed basaltic lava flows are rare in Colorado and tubes have not been documented in older flows, although some references to the possibility of tubes exist in the geologic literature. These references described entrances in a welded Oligocene ash flow tuff, and in Miocene basalts on Red Mountain and Flattop Mountain in central Colorado. In the San Luis Valley in south-central Colorado, candidate flows originate on the Los Mogotes Volcano, Volcano de la Culebra, and the State Line shield volcano. Here, indications of the existence of lava tubes in a Pliocene olivine andesite, a Pliocene theolitic basalt (Servilleta Fm.), and the Oligocene Hinsdale Fm., a basaltic lava, have been observed. A number of entrances were seen.

## SPELEOTHEMS & LAVA FEATURES IN THE LAVA TUBE CAVES OF EL MALPAIS NATIONAL MONUMENT

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There are at least 8 tube-forming basalt flows within El Malpais National Monument. The lava tube caves within the Monument contain impressive lava features and numerous speleothems (secondary mineralization). The lava features include benches, gutters, linings, lava stalactites, stalagmites, columns, shelves, grooves, and cinder springs. Lava features provide information regarding the character of lava that flowed through the tubes. The speleothems are predominantly crusts, coralloids, iron-oxide coatings, and moonmilk; however, ice stalactites, stalagmites, draperies, flowstone, and columns are common during winter and spring. Speleothemic crusts, coatings, and moonmilk appear to be more abundant in the older lava tube caves. Not only do some interesting speleothems and minerals form in lava tube caves, but the speleothems have potential to reveal information regarding the timing of tube origin and general climate history. The microbiology related to some of these speleothems may also yield interesting findings.

*This note was received via Herman de Swart (NL)  
with the remark 'no idea what this means'.....  
However in this text deposits from basaltic caves.  
Just for the record.*

**Title:** Kerolite in carbonate-rich speleothems and microbial deposits from basaltic caves, Kauai, Hawaii **Author(s):** Richard J. L  veill   ; Fred J. Longstaffe ; William S. Fyfe **Source:** clays and clay minerals **Volume:** 50 **Number:** 4 **Page:** 514 – 524  
**DOI:** 10.1346/000986002320514235 **Publisher:** The Clay Minerals Society **Abstract:** The occurrence of kerolite in association with various secondary Ca-Mg carbonate mineral deposits (speleothems) was identified in basaltic sea caves on the island of Kauai, Hawaii. Kerolite is the dominant clay mineral in the deposits. X-ray diffraction (XRD) peaks of the kerolite are characteristically broadened indicating its extremely poor crystallinity. Few changes were observed in the XRD patterns of this kerolite when it was subjected to various humidity, temperature and ethylene-glycol treatments. The crystals appear as flaky masses with irregular or jagged edges in scanning (SEM) and transmission electron microscopy (TEM). Electron probe and energy dispersive X-ray (EDX) microanalysis show that the clay material is dominated by Mg-Si-O, with minor amounts of Al and Ca in some samples. The chemical composition, thermal analysis and TEM observations suggest that smaller amounts of an amorphous serpentine-like phase are mixed with the kerolite. Kerolite is often the only mineral associated with poorly mineralized, actively-growing microbial mats in these caves and it is common in completely lithified microbial mats. The latter commonly have microstromatolitic structures with kerolite as a dominant phase. These features suggest that kerolite formation is at least in part a result of microbial activity. The abundant extracellular polymers of the mat-forming bacteria bind and concentrate ions ( $Mg^{2+}$ , silica) from solution and serve as nucleation sites for kerolite precipitation. Conditions within the mats also probably lead to formation of Mg-Si-gels, amorphous Mg-silicate precursors and ultimately kerolite. Evaporation of the cave solutions may also contribute to kerolite formation.    2004, The Clay Minerals Society **Reference Links:** 27

*SOME NOTES from 'PSEUDOKARST SYMP. 2004'*  
*J.P. van der Pas*

Just 24 hours after the Azores symposium I wanted to be at the Pseudokarst Symposium in Slovakia. This was a kind of hectic, a small extra problem that during the flight back from the Azores my suitcase was (temporarily) lost. With lights and some other small items you like/need.

How different (beside the subject) from the Azores. Main language english. Yes, but only some 30% of the participants speak this. Some german helps, but best is still one of the central-Europe languages. So Polish, Slovak, Hungarian and so are dominant. But the atmosphere is fantastic.

Participants are from 10 countries, but mainly central-Europe. This is very due to the still terrible financial possibilities of this area. But excursions are also here highly interesting - treemolds of volcanic origin are visited, and other features shown. It would be so important if some of these people could go a further away. Again the (already on the Azores shown) Hungarian database of all pseudokarst features is demonstrated. Now it turns out the beamer on the Azores was low quality - here display is fantastic. For those interested look at

[geogr.elte.hu/nonkarstic](http://geogr.elte.hu/nonkarstic)

(I'm informed this only works with  
Netscape G browser)

(for even more info contact George Szentes < szentesg@aol.com >, he speaks english, hungarian and puszta-german).



Well .... Stephane Kempe and John Pint study  
some beach-cave-minerals on the Azores.



## ADVERTISEMENT

### THE CAVES OF RWANDA

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ISSN 1617 - 8572

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15834 Rangsdorf  
GERMANY

This report has 88 pages of text, with nearly every page a cave plan + around 25 pages (annex 4 and 5 and plans A ... P).

Size is A-4, weight 420 grams.

Bilingual: english and french.

This publication reports over 42 caves in the Ruhengeri province, NW Rwanda. All in Cenozoic volcanic rocks.

More info at < ~~Michael~~.Laumanns@bmf.bund.de >

... Michael ...

# Simpósio já rendeu o achado de nova espécie

Foi em São Jorge no algar do Montoso que a equipa do XI Simpósio fez a sua descoberta

SANDRA CRISTINA SOUSA  
scs@vulcanoespeleologia.pt

O IX Simpósio Internacional de Vulcanoespeleologia só começou há dois dias e as vantagens não param de aumentar a lista de satisfação da organização.

A primeira de todas prende-se com o facto deste Simpósio estar recheado de personalidades internacionais do sector, para além de reunir mais de 60 pessoas, o que ultrapassa em muito o número de participantes

especiais desceram o algar que tem cerca de oitenta metros na vertical. De resto, muito semelhante ao algar do Carvão.

Nessa expedição a equipa encontrou uma nova espécie de insecto adaptada ao habitat cavernícola. O achado ainda não foi baptizado, mas espera-se que no decorrer do Simpósio mereça a atribuição de um nome.

De lembrar que nos últimos quinze a vinte anos foram inventariadas na Região dos Açores cerca de seis espécies novas, sendo três do Pico, uma do Capelo, no Faial, outra em São Jorge, nas

NA EXPEDIÇÃO A EQUIPA ENCONTROU UMA NOVA ESPÉCIE DE INSECTO, ADAPTADA AO HABITAT CAVERNÍCOLA. AINDA NÃO FOI BAPTIZADO, MAS ESPERA-SE QUE O



Faial Especialistas internacionais ficaram fascinados com a visita ao Vulcão dos Capelinhos

investigação e pesquisa no que to- Não es-  
vulcanoespeleol parti-



Above: John & Susy Pint

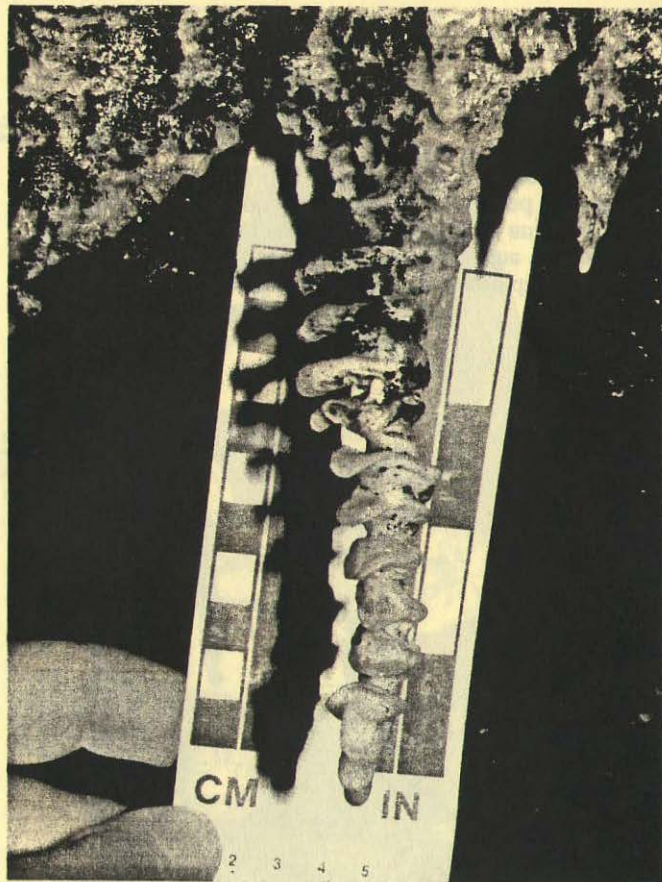
Below: Susy and Takayoshi (Japan)



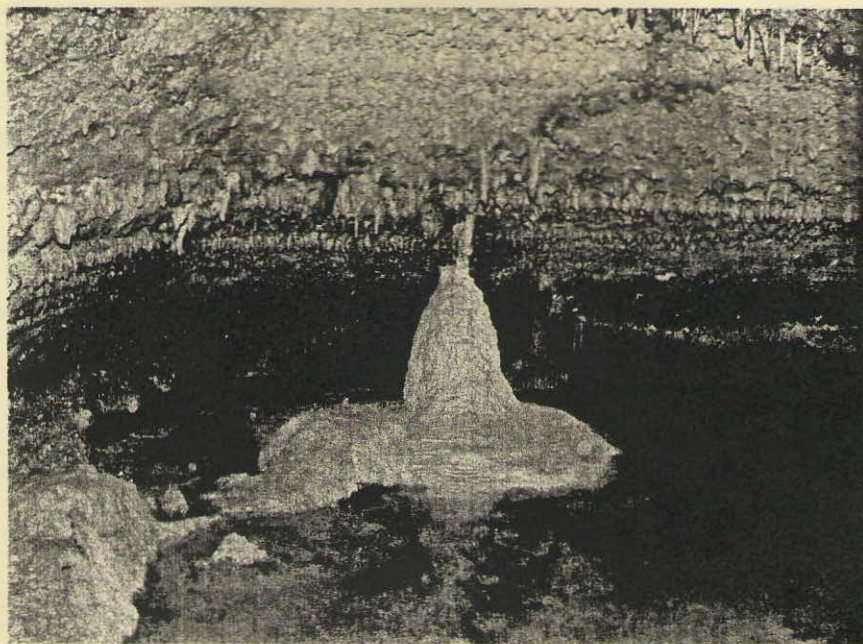


From left to right:  
During one of the fantastic dinners on the Azores.....  
Bill Halliday, founder of the Commission on Volcanic Caves,  
Jan Paul, current chairman and editor of the Newsletter,  
Stephan Kempe, scientist and lava-tube-specialist,  
Bep van der Pas - anyone who got an E-mail from Jan Paul actually got this  
via Bep .....





Last day on the Azores  
Terceira - Cueva .....  
Pictures Stephane Kempe



Last day on the Azores  
Terceira - Cueva .....  
Pictures Stephane Kempe





