

INTERNATIONAL UNION OF SPELEOLOGY
UNION INTERNATIONALE DE SPÉLÉOLOGIE

Commission on Volcanic Caves

Next International Symposium
on Lava Tube Caves probably
Sept. '08 - KOREA



42

October 2004

U.I.S. is affiliated with UNESCO

Our 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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bnawrh@webtv.net

Chairman & editorial address: a.i.

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Vauwerhofweg 3
6333 CB Schimmert
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LATEST NEWS

LATEST NEWS

Just arives an E-mail from Gabier Les.

He announces an expedition to the Easter Islands (Iles de Pâques - Isla de Pascue - Chile).

It is organized by the 'President of the Society de Espeleológicas Alfonso Antxia', and participating are 2 universities, an association for submarine archaeology, the Sedeck and the Spanish Speleological Federation.

< <http://expediciónrapanui2005.com> >

It should be mentioned we (my secretary) could not reach this website (yet)

TAKANORI OGAWA

Dec. 1924 - 25 September 2004

Very bad news - Takanori is not with us anymore. Last time I saw him was in Iceland (2000). He was missed already on the Azores Symposium this year.

Takanori participated in most International Symposia on Vulcanospeleology (and many others). He introduced volcanic caves of Japan and East Asia to the world.

He was looking forward to the International Symposium in 2006, but this became a dream never realized.

We offer our sincere condolences to the Ogawa family with this sad loss.

Takanori, we will miss you.

The Commission on Vulcanospeleology

From the Frech publication 'LAVE' (July 2004, # 109):

In this publication an article by Guy Caniau about the XI symposium de volcano-speleologie (Ile de Pico - Acores - Portugal). A very nice report by the only French participant. Photocopies available by the editor.

From notes by Bill Halliday:

A very good 6 weeks on Hawaii. 15 trips into Kilauea Caldera with lots of mapping.

From notes received via Bill from Stephan Kempe:

Has been informed by Achmat Al-Malabeh from Jordan about 'three more lava caves in Jordan'.

From Siggi & Anna (Iceland):

Anna gave birth to a healthy and strong boy at 02.40 on the 29th of September. His name is Stigur. Congratulations !



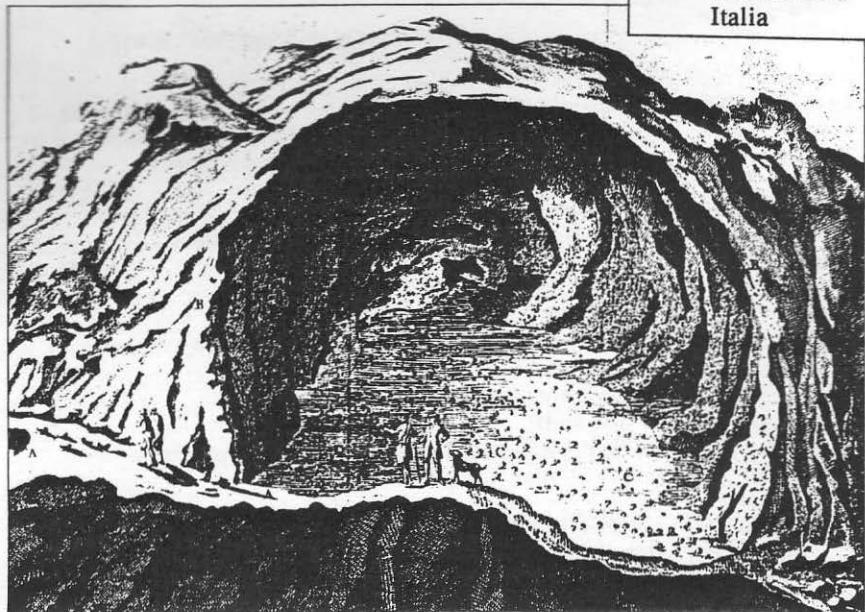
**SPALLANZANI -
Father of
Vulcano-
speleology**

This article by Banti's is originally written for a speleo-philatelic publication.

Lazzaro Spallanzani was depicted on an Italian stamp issued in 1979.

The engraving depicts one of the lava caves of the Vulcano Island made by Mr. Racine. It is one of 7 splendid engravings in the six books published in Paris (1800) "Voyages dans les deux Sicilies et dans quelques parties des Apeninns"

Renato Banti
via Tertullino, 41
00141 Roma
Italia



LAZZARO SPALLANZANI: THE FATHER OF VULCANOSPELEOLOGY (1729-1799)

By Mina & Renato Banti, Milano, Italy

When I look at the comments to the stamp or to the cancels related with Lazzaro Spallanzani most of the times I struck dumb: in fact Spallanzani is quickly "liquidated" as the man who investigated a lot about bats and visited some small cave here and there (the Dogs Cave for example...). I think it's time to give you a more clear presentation of a man who could be, without doubts, considered a forerunner of Speleology, of the modern Biology and, last but not least, of Vulcanospeleology. He was born in Scandiano (Reggio Emilia, Italy) the January 12th, 1729 and, after the normal school, being very bright and intelligent, in short time was graduated in Classically and, after a couple of years of intensive studies of Physics, Literature, Greek and French languages, during 1754 was named Professor of Philosophy and Literature of the Reggio Emilia's College. In the meantime he got the Minor Order of the Catholic Church and, during 1760 was qualified to teach Physics and Mathematics at the St. Charles College of Modena. Spallanzani received several offers from other Italian and foreign colleges and universities but always he refused because too linked with his parents. Only during 1770 he moved to Pavia's University, under solicitation (practically forced) by the Empress Maria Teresa of Austria. Lazzaro Spallanzani died in Pavia the February 12, 1799. During his life, between the other studies, he was interested in all connected with Speleology: underground waters, springs, karst landform, caves (several of them were explored and described in his works), karst geomorphology (in 1760 he gave the first description of karst dissolution surface microforms) and, finally, vulcanospeleology. In this direction the June 23th, 1788, he moved from Pavia and, for more than two months, visited several places linked with the volcanic activity, located in the South of Italy:

- Civita Castellana and the lava flow of the Cimino's mountain.
- Rome and the volcanic nature of the "Roman Castels".
- Terracina, where it's possible to observe the Calcium Carbonate rocks to soar high above the volcanic rocks because of the action of old earth-quakes.
- Naples, where he saw the Pozzuoli "solfatare", Posillipo where made the geological study of the surrounding cave, Ercolano, Pompei, Agnano and the Dogs Cave with the Carbon dioxide (CO₂) gas fumes, Capri, Ischia and Procida.
- Catania and the Etna volcano where he visited, mapped and described, expressing the hypothesis of its formation by gas expansion, the Goat's Cave. He reached also the summit crater (more than 3000 meters...).
- The Ciclopi's Isles, the Eolie's Isles: Lipari, Vulcano (study and mapping of several lava caves, description of a cave fully covered of sulphur crystals, sound of the deep of the crater), Stromboli (ascent to the summit of the volcano) and Saline.
- Naples again where finally he rises the Vesuvio volcano summit and where he gave a precise description of the caves and of the galleries lived as "scheats" by the lava flows. He was able to measure the lava flow speed from a shaft open on an active fluid lava tube.

In few words Lazzaro Spallanzani was not only a great scientist and speleologist but a real caver!! All the journey summarized in our short exposition, was published by Lazzaro Spallanzani in six books, in 8° (cm 20,7 x cm 12,5) by B. Comini editor, Pavia, during the years 1792-1797. The books were translated and edited 3 times in French language (1794/1798, 1799 and 1800) and one time in German language (1795/1788). We saw the French third edition (1800) in offer at 1033 Euro and we must say that the engravings are really splendid! Too much for this time



NEWS FROM KENYA

from notes of a letter by Jim Simons (Nairobi - Kenya)

This letter was received by the editor just at the moment we were on the Azores, so I could not forward at the symposium the wishes and remarks stated.

Certainly not the request 'how to obtain funds' (see the end of letter....). Someone has a suggestion for Jim?

Firstly, assuming you are in the Azores, I send my salaams to all at the Symposium and hope that everyone has had a very rewarding meeting and an excellent time caving. Wish I could be there ! Give my fondest to WRH -if he was able to make it-and of course any other old friends. Are you both still in the chair !

I was particularly pleased to see the account by Michael Laumanns on the Virunga tubes in the last commission newsletter (no.40) and I shall make contact to get a copy of his report. I have always been fascinated by these volcanoes and the potential wealth of tubes that must be hidden there, especially around Nyamulagira & Nyiragongo. A year ago I lent my geological maps of the region to a researcher who is running a gorilla study project on the understanding that her field teams get fixes of any entrances they come across. Unfortunately, I have yet to have any feed back and need to renew contact.

By the way, I enjoy receiving the Newsletter in its present format and so far only one (No.35) has not reached me. If you have a spare, I would appreciate it to complete my library.

The very long awaited CEGEA issue of Speleophant is apparently now very close to completion and I thank you for your past offer to put it in the Newsletter. However, our editor had got so far with the original format that he did not want to change in mid-stream and, in any event, there is not much



of interest on lava tubes (except perhaps a way-back report on an end-to-end traverse of Leviathan) and the articles were done so long ago that they are very out-dated. Will keep you posted when it is finally finished.

A young caving geologist and his wife recently spent time doing work on speleogenesis and other aspects of some of the caves in the Mt. Elgon National Park and I am awaiting copies of their cave surveys. He is Don McFarlane and is an Associate Professor at W.M. Keck Science Center, The Claremont Colleges, in California. They are applying for funds to continue their work into other caves around the mountain and I have agreed to collaborate. It seems somewhat easier for outside cavers to get funds to make studies than those on the spot !

The above work, of course, lays further emphasis on my own long standing project with Kenya Wildlife Service for conservation and tourism development of caves for which funding has yet to be found. I hoping for a meeting with KWS next week to see in what way McFarlane's work could also be best incorporated into my proposals and how funds may be raised to ensure that I am able to be directly involved in pertinent aspects of the studies. Any ideas on to whom or where an approach may be made for this, not just for Elgon but the greater scheme of things ?

I think I have mentioned before that KWS has already nearly completed a track that passes the middle entrances to Leviathan and are keen to make it an attraction, as well as rehabilitate the Mathaioni tube, and to find the funds for me to do a pre-development assessment and later guide the development. If this is to be, then I want to make certain that only a selected part of the cave is utilised and that the development is properly done. The same goes for the Suswa tunnels and the limestone caves at the coast.

Although caving as a sport has not, in itself, taken off in this part of the world as one may have hoped, I have also long thought that an East African Speleological Center, or Institute (with a Museum) might be set up here to be able to direct and assist students who may wish to undertake studies in related fields. Perhaps it could be located near one of the caves areas such as the Chyulus ? Again, how to go about finding funds ? Would it be best to form a Trust or make it an attachment to an overseas University ? Any ideas as to who and what countries would be best to contact to plan a way forward (Holland-You, USA-Bill, Italy-Paolo) ??



After the two previous pages another mail came from Jim Simons. Those who know the area might be interested in his notes.

Please note Jim is still asking if someone knows how to get funds Sorry, the Commission has no money.....

Apparently not all have/use his correct address:

Jim Simons
P.O. Box 710
Village Market
00621 Nairobi
KENYA

fajo@kenyaweb.com

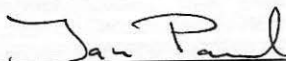
During this visit, I took the opportunity to check on the now up-graded track to the central collapses of Leviathan. Apart from a 200m. stretch that requires a bit more attention, it is very good and the 5km. right up to the Forest Collapse entrance took only ½ hr., a great improvement on the 1hr. of 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.



PROCEEDINGS CATANIA 1999

In the previous Newsletter (# 41, p. 6) the status of the proceedings of Catania was mentioned. An important message was received from Guiseppe Licitra, which is shown below. It makes perfectly clear what is going to happen. A critical note in the Newsletter was the status of the addresses as published during that symposium. So I (JP van der Pas) sent a list of all address-changes which the commission has. Included in this Newsletter an updated list, which has been forwarded to Guiseppe. But there might be more people interested: so if you read this, are interested in the CD-rom and how to get it - make sure your address is forwarded to Guiseppe (see his address in list).



I just received the issue # 41 of the newsletter, and read the last information. I know, I am late, as I told you "april-may". Well, we were further delayed by sudden Francesco's resignation (too many commitments, he was not able to work and devote further time to manage the association... In any case, almost all problems have been solved (the chairmanship has been resumed by Renato Bonaccorso [email: ren.bon@tin.it], immediate past president, and Nicola Barone, previous past president [email: nicolabarone@tin.it, though he does not write/read/understand English], who will act together for organising a new ballot in november) and now we are at the last steps of our hard work with our Proceedings.

The volume - almost 400 illustrated pages - should be distributed in september or october; it is a CD-ROM in pdf format, readable, printable and reproducible (provided the source is cited) by an Adobe-Acrobat-Reader 5 or more recent software. Maybe a printed cartaceous version will follow in one year by the original publisher, now INGV (National Institute for Geophysics and Vulcanology), but it is not yet confirmed.

By the way, I understand from the newsletter that several addresses in our files could be wrong, and ask your courtesy to send me as soon as possible an updated list, to avoid further delays for wrong mailings.

I thank you in advance and look forward to your reply. All the best.

Giuseppe



This report was sent by Dr. Trimmel, who participated in several lava cave symposia.

He is concerned about no reports recently from Indonesia. Indeed....

In an early Commission Newsletter (#1, Dec. 1993) Dr. Ko from the Indonesian Speleo Federation writes: Indonesia has the highest number of volcanoes but they only produce andesitic lava's so lava tubes are not 'impressive'.....

In the Spelunca Memoirs (#23, 1997) is a remark Claude Mouret visited 'des grottes volcanique' on Java in 1984.

Early 1980's a Belgian expedition measured apparently the Goa Lawah (pers. comm. Denis Wellins).

Here an early visit (sorry - main article in German language).

It should be noted the cave described is on Java, there also is a Goa Lawah (means 'Bat Cave') on the island of Bali.

Bericht vom Besuch einer Lavahöhle in Indonesien vor fast 20 Jahren

Report from a visit of a lava cave in Indonesia nearly 20 years ago.

Hubert Trimmel (Wien)

I think that during the last symposia of vulcanospeleology reports concerning lava tubes and caves in Indonesia have been missed. I don't have studies on this caves, but I have personal notes concerning a visit in a show cave, the "Goa Lawah" in Central Java, on august 28, 1985. I visited this cave in the region of Mount Selamat during a speleological excursion in Indonesia, guided by Dr. Ko, the leader of the Indonesian Federation of Speleology and delegate of this country in the International Union of Speleology.

Während der letzten Symposien über Vulkanospeleologie ist mir aufgefallen, dass kaum über Lavahöhlen in Indonesien berichtet worden ist. Mit meinem Bericht über den Besuch der Goa Lawah, einer Schauhöhle im Gebiet des Mount Selamat möchte ich auf die Lavahöhlen der Region aufmerksam machen. Ich habe die Höhle am 28. August 1985 während einer höhlenkundlichen Exkursion durch Java besichtigt, die von Dr. Ko, dem Vorstand der Indonesischen Föderation für Speleologie und Delegierten des Landes bei der Internationalen Union für Speleologie, organisiert und geleitet worden ist.



Der beste Ausgangspunkt für einen Besuch der Goa Lawah ist die Stadt Purbalingga etwa 120 Kilometer westnordwestlich von Yogyakarta (Java). Von dort erreicht man über Kecamatan und Karangduren nach 24 Kilometern Karangraja. Dort zweigt von der Hauptstrasse eine relativ steil ansteigende Strasse zur Höhle ab, die schon 1985 asphaltiert war. Ein grosser, teilweise von Verkaufsständen umsäumter Parkplatz ist vor dem Eingangstor zum Schauhöhlengelände vorhanden. Beim diesem Tor war auch die Kassa installiert. Der Eintrittspreis betrug damals 300 Rupien, was heute etwa 40 Eurocent entsprechen würde.

Vom Eingangstor führte ein breiter Promenadeweg durch ebenes Wiesengelände zum Höhleneingang. Auf diesem als Freizeitpark ausgestalteten Gelände war unter anderem ein Kinderspielplatz eingerichtet; einige "Pavillons" standen über den Schachtöffnungen, die Deckenfenster der rund 10 bis 15 Meter darunter verlaufenden Höhlengänge darstellen. An einzelnen Stellen waren die Lichter des Führungsweges in der Höhle von oben her sichtbar. Die erwähnte Überlagerung besteht nur zum Teil aus festem Gestein. Über diesem liegen bis zur Oberfläche noch mehrere Meter Verwitterungsböden. Dies kann nicht nur an den Deckenfenstern, sondern auch an Aufschlüssen im Bereich um die Höhle festgestellt werden, die durch das Ausheben von Abfallgruben entstanden sind. In diesen wird anscheinend der anfallende Müll vergraben.

Die Höhlenführung begann mit dem Abstieg in einen Einsturzschart über eine bequeme, zwei Meter breite Stiege. An der Abzweigung eines Seitenganges ("Gua Angin") vorbei gelangt man in die erste, teilweise noch vom Tageslicht erhellte Halle ("Waringin Seto"). Die Höhlenwände in diesem Bereich waren durch üppigen Pflanzenwuchs kaum sichtbar. Die Höhle selbst war elektrisch beleuchtet; die Lampen waren in Glaskugeln an der Spitze von Kandelabern angebracht; zur Stromerzeugung stand ein Benzinaggregat zur Verfügung.

Schon in der ersten Halle fällt auf, dass die Lavahöhle auf relativ kleinem Raum labyrinthartig verzweigt ist, wobei die Gänge in der Regel mehrere Meter breit und hoch sind. Versturzböcke an der Höhlensohle stammen von Nachbrüchen der Decke. Der weitere Führungsweg verlief zunächst in einen Gang, von dem zwei Deckenfenster an die Oberfläche führen. Von dort her dürften Besucher des Parkes immer wieder Müll in die Höhle werfen. Der Weg ist zum Teil betoniert und verläuft zum Teil auf dem natürlichen Felsboden. Die hohe Porosität der Lava bewirkte im übrigen einen bedeutenden Tropfenfall, der die Bildung seichter Tümpel an der Höhlensohle verursachte..

Die Führung ging anschliessend zur ersten Halle zurück und von dort zu einer zweiten Halle ("Altar Paseban"), die ebenfalls Verzweigungen und rege Tropftätigkeit aufwies. Daran schloss sich ein seitlicher Abstieg in einen weiteren Höhlenteil ("Ruang Langgar"), in dem ein etwa 50 Meter langer flacher "See" auf einem Betonsteg überquert wird. An einer weiteren, durch einen Deckensturz entstandenen Tagöffnung - dem späteren Ausstieg - vorbei wurde noch ein weiterer Höhlengang ("Gua Gepet") besucht. Der Ausstieg erfolgte dann wieder über eine Betonstiege. Er ist vom Eingangsschart etwa 150 Meter entfernt.

Der Hang unterhalb der Goa Lawah weist ein sehr bewegtes Relief auf. Dabei fallen insbesondere "collapses" auf, dolinenartige Senken mit Durchmesser bis 20 Meter. In diesen Senken dürften mehrfach Einstiegsöffnungen in "lava tubes" liegen, die aber fast ganz verwachsen sind. Die an einzelnen Stellen auffällige Dichte der Vegetation verrät offenbar die Lage der Einstiege.



Faithful readers of this publication know about the longtime effort of Bill Halliday to get access to Mowich Cave. Finally a result See here Bill's permit, and next pages the rules. The '7 Sept.' date however has been shifted to 15 October 2004.

Mowich Cave
Application for Cave Entry Permit

Applicant Name: William R. Halliday

Address: 6530 Cornwall Court

Nashville, TN 37205

Phone: (615) 352-9204

E-mail: bnawrh@webtv.net

Application Date: 25 August 2004

Proposed entry date(s): 7 September 2004

Number of people in proposed party 3

Describe reason for entry: Mowich Cave has the greatest overburden of any lava tube cave recorded in the world. I propose to determine whether there are any surficial features of this loading.

NOTE: Until 31 August I will be at 101 Aupuni St. #911 Hilo, HI 96720 808 961-5909 williamrhalliday@mailstation.com

Return this application to:

Umpqua National Forest
ATTN: Forest Cave Coordinator
2900 NW Stewart Pkwy
Roseburg, OR 97470





United States
Department of
Agriculture

Forest
Service

Umpqua
National
Forest

Diamond Lake Ranger District
2020 Toketee Ranger Station Road
Idleld Park, Oregon 97447
(541) 498-2531 FAX 498-2515

File Code: 2670

Date: September 13, 2004

Pat Ormsbee
211 E. 7th
Eugene, OR 97401

Dear Pat,

On August 19th the Diamond Lake District received your application for entrance to Mowich Cave in order to map the cave and install temperature and motion sensors. Our District policy is to conduct an interdisciplinary review of these applications to evaluate the potential benefits and risks. This review has been completed and I have made a decision to authorize your request for entry on October 15th 2004. This approval is conditional upon your adherence to the following mitigation measures to protect cave dependant resources:

1. To minimize disturbance, only the following people are permitted entry:
Pat Ormsbee – Party leader
Jim Nieland
Bill Halliday
Roger Silver
Elaine Rybak
Grant Gunderson
Larry Broeker – Umpqua NF Geologist
Angie Snyder or Debra Barner – Umpqua NF Cultural Resource Specialist
2. To protect any rock art that may be present, all people entering will wear gloves to prevent skin exposure to bare rock surfaces.
3. No digging, probing or surface disturbance of ground layer is permitted other than what may incidentally occur while walking.
4. No material is to be removed from the cave.
5. This entry will combine data collection efforts to help complete the Mowich Cave management plan. As such, all people entering must meet with Jake O'Dowd, Forest Cave Manager, prior to entering the cave. Plan on meeting Jake at the Diamond Lake District Office at least an hour prior to your entry. Jake can be contacted at (541) 672-6601 to make arrangements.



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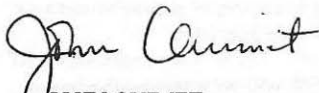
6. A summary of findings will be submitted to Jake within 1 month of visit (by November 15th, 2004) by each of the following people:

Pat Ormsbee – Significant cave biota
Jim Nieland – Cave gate and appropriate management strategies
Bill Halliday – Mapping and cave structure
Larry Broeker – Cave geology
Angie Snyder – Cultural resources within the cave

7. Total time within the cave will not exceed 4 hours.

A copy of this letter will serve as your authorization to enter Mowich Cave on October 15th, 2004. A similar authorization will be issued to you to retrieve the installed temperature and motion sensors next October. As this time approaches, please advise me of your proposed entrance date so I may again prepare the required paperwork. If you have any questions about this authorization, please contact me at the District Office.

Sincerely,


JOHN QUIMET
District Ranger



ABOUT LISTING OF LAVA TUBE CAVES

by J.P. van der Pas

Recently via Bill Halliday came some remark from Scott Fee about a 'list of 100 caves'.

Let's first make an inventory about what is done on listing lava tube caves. During the Commission Meeting on the Azores (May 2004) a suggestion was made about a list of lava tubes. Since (but that is my personal meaning) I'm not interested myself in lists a small discussion resulted.

The Azoreans are listing their caves according a system which was introduced during the Symposium in Iceland (2002) - see page 18 (C).

At the same symposium the Icelanders introduced their system- see page 17 (B). But a much older system of collecting data was mentioned in the Newsletter # 26. April 2000. This is the ASU Global Lava Tube Database - see page 16 (A).

Comparing these the criteria are quite different. See also my note on page 17 about listing lava tubes against e.g. limestone caves.

During the Azores meeting all noses pointed to Mr. João Paulo Costância.... He promised to look into this.

But what a task it will be! Maybe a new database has to be designed - to fit all existing data without changing into one.

It should be clear: the Commission can/will not do it, but of course people can be approached. And some coordination done.

Another listing was mentioned in Newsletter # 24 (Nov. '99). These data were compiled by Chris Lloyd and published on 'Cavers Digest'.

It has to be seen how far all these lists - with exception of the one for the Azores - are constantly updated.

As told before, I myself am not interested. Those who visited the magnificent caves Árnahellir or Lofthellir on Iceland would be disappointed to see these caves probably never on such lists.

And why just length and/or depth. Why not volume? Just see (I did for fun) what result you get if you compare caves by length x depth!

I know some cavers only want to do the 'deepest' caves - just because you 'should have done them'.

A lot of work will have to be done to get a 'real' world-lava-tube-list. Do all the mentioned above systems already work together?
We'll see.



A.

The ASU Global Lava Tube Database: A New and Expanding Resource

Steven D. Kadel and Ronald Greeley, Dept. of Geology, Arizona State University, Tempe, Arizona 85287-1404 (e-mail: kadel@asu.edu)

As part of our ongoing investigation of the dynamics of tube-fed lava flows on Earth and the terrestrial planets, the Arizona State University (ASU) Global Lava Tube Database has been compiled. In particular, the potential of lava flowing through tube systems to erode various substrates has been investigated. This investigation has produced several manuscripts in the past two years evaluating the erosive potential of tube-fed and channelized lava flow on Earth (Greeley et al., 1998; Fagents and Greeley, *in review*), the Moon (Williams et al., *in review*), and Io (Williams et al., *in press*). The Database has been a valuable research tool, allowing the identification of over two dozen terrestrial lava tubes where evidence of lava erosion has been reported. Follow-up field investigations by the authors and others have been facilitated by the Database and derived map products. Using this database, correlations previously difficult or impossible to evaluate due to a lack of data, such as potential for lava erosion vs. tube slope or substrate composition, can now be investigated.

The ASU Global Lava Tube Database is a digital database and hard-copy collection including data sheets, maps, photographs and other documentation of lava tube caves throughout the world. No comparable resource exists for the study of lava tubes. The database contains entries for tubes from 34 countries on 6 continents. Tubes from 9 U.S. states are included, with information regarding lava tubes in Hawaii currently being added to the database. Data such as tube length in meters are available for 858 tubes (approximately 60%) in the database, as well as floor slope, volcanic complex name, tube system name, elevation, evidence for lava erosion, etc., for smaller percentages of the catalogued tubes. Data may be searched, sorted and used to derive data for lava tubes in general. For example, floor slope data exist for 56 tubes in the database, yielding an average slope of 4.9°; the average tube length is 646.5 m. Current summary statistics for the database are given in Table 1. See Figure 1 below for a sample page from the database.

Initial compilation of the database began in 1993, with large portions of the hard-copy database being obtained from Dr. William R. Halliday and the Hawaiian Speleological Survey. Detailed mapping (by the authors) of several lava tubes in the database began in 1969 and continued through 1995. Most of these field investigations took place in basaltic lava tube systems in Washington (the Cave Basalt lava tube system on Mount St. Helens), California (the Hambone lava tube system), Oregon (Bend area lava tubes), and Hawaii (several tube systems). The digital portion of the ASU Global Lava Tube Database continues to expand, with over 1440 individual lava tubes currently catalogued. Compilation of the database has taken place in the Space Photography Laboratory (SPL) at Arizona State University, and has benefited from a joint mentoring program involving students from North Canyon High School in Phoenix, Arizona.

Table 1. Selected Summary Data
for ASU Global Lava Tube Database

# of Lava Tubes	# of Countries	Tube Lengths (meters)	Tube Widths (meters)	Tube Heights (meters)	Tube Slopes (°)
>1440	34	5 to 47,200	1.2 to 20	0.2 to 20	0.57 to 30
		Average: 646.5	Average: 5.5	Average: 3.9	Average: 4.9

Sketch maps, photographs (both color and monochrome), and published references are available for many of the lava tubes. The maps provided in the digital database are low-resolution gif images. However, larger and higher-resolution image files can be made available (as scanned images of hard-copy maps) in a variety of image formats upon formal request. Over 100 plan maps, most with cross-sectional diagrams and longitudinal profiles,



are included in the hard-copy collection. Photocopies of these materials may be obtained from the Space Photography Laboratory, by request, for educational purposes only. Scanning and addition of the remainder of these maps and profiles to the digital database will occur during the summer and fall of 2000.

The Arizona State University Global Lava Tube Database is currently accessible via the world wide web at address <http://europa.la.asu.edu/spl/navigator.html>. Please note this link has been updated within the past year and previous, outdated web links will not allow access to the database. Accessing the new web link will allow the user to search through the most complete database of its kind.

In the 'Journal of Cave and Karst Studies' (Aug. 2004, Vol. 66, nr.2) is a list compiled by Bob Gulden (caverbob@aol.com) of the deep and long caves of the world. Each list counts 55 entries.

Of the deep caves Kazamura Cave is listed as #51, being second to #50 by being 0.7% less deep, but still 20x longer than this Arabikskaja Cave.

Of the long caves Kazamura is listed as #23, being 0.9% shorter than #22, but 10x deeper than this Ogot Draenen Cave.

Kazamura is the only lava tube cave in this listing (this is mentioned). But looking at the above facts is it really possible to compare caves on these data? Importance nor beauty plays a part in this kind of lists

B.

Data base on Icelandic caves

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The first list of Icelandic lava caves was compiled by Hróarsson in 1990 in his book "*Hraunhellar á Íslandi*" (Lava caves in Iceland). The list comprised a geographically sorted list of about 170 caves, mostly caves mentioned or described in earlier publications but also several newly discovered caves and caves only known to locals in the vicinity of the caves. Hróarsson's list laid the foundation for a "*dbase IV*" table with cave names, lava flow, length and other relevant data and the "*dbase IV*" file was maintained for several years. Later that format was abandoned and the whole list was imported and maintained in a large "*Excel*" spreadsheet.

The author will present a whole new design of a cave database, running on Microsoft Access®, using data and data fields from the previously existing Excel spreadsheet. Attempt has been made to simplify data input, and general filtering, sorting and other data extraction capabilities. The ISS cave database now holds about 60 caves with known GPS-coordinates, but a large pile of data waits to be inserted into the ISS cave database.



C.

A data base and classification system for the Azorean volcanic caves

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The Azorean Regional Government, being aware of the importance of the volcanic caves and pits as elements of our natural heritage, created in 1998 a multidisciplinary task force to promote its study. One of the main objectives of this group was to act as a consultant to the government, by recommending initiatives concerning de conservation and preservation of these volcanic underground structures.

As a first priority, this group decided to develop a database, which could be used as a managing tool for the Azorean volcanic caves and pits. To achieve this goal it was found necessary to create a field form, to register as many data as possible, allowing a satisfactory description of the underground volcanic structures, and also that could provide the principles for the database structure.

Due to the geographical dispersion of the Azorean islands, and the number and diversity of the lava tubes, it was consider most relevant that managing decisions should be based on accurate knowledge. At that time it was settled the idea of an instrument that could organize the information, in a way it would be possible to evaluate among several parameters of each volcanic caves, to build different sorting accessions, and to produce meaningful lists. These fundaments gave origin to a computer application built over FileMaker Pro 4.0, combining both a database and a classification system.

The sorting and classifying systems presume an objectively chosen criteria set, so that the results are logical, coherent and reliable. It is also significant the possibility to generate diverse classifications based on different preset criteria, deduced from established objectives and aimed to real applications.

The Azorean Speleological Inventory and Classifying System (IPEA) incorporate six major classification issues, as follows: scientific value; potential for tourism; access; surrounding threats; available information and conservation status. Each classification comprises five classes (I to V) where the volcanic caves are sorted as a result of weight calculation upon the values given by nine criteria sets. These criteria are: biologic component; geologic features; accessibility; singularity and beauty; safety; caving progress; threats; integrity and available information. For each of these criteria were established six parameters, where 0 is the lack of information and the other five parameters are objective and clear statements that describe the cave within the criteria.

Each volcanic cave is than characterized by choosing one of the six parameters of the different criteria, that allows among other possibilities to sort the caves in many different ways and to produce relevant lists. It is expected that this application becomes a useful tool to managing Azorean caves for conservation, study and exploration.



address change of the COMMISSION for PSEUDOKARST:
www.nhm-wien.ac.at/nhm/hoehle/pseudokarst.htm

Some libraries & institutes who receive the Newsletter:

The NSS - Library
2813 Cave Avenue
Huntsville AL 35810 - 4431
U.S.A.

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PO Box 51
Hawaii Volcanoes National Park
HI 96718
U.S.A.

Library - US Geological Survey
National Center MS 950
Sunrise Valley Road
Reston VA 20192
U.S.A.

Centre de Documentation U.I.S.
c/o Bibliothèque de la Société de la Suisse de Spéléologie
CH - 1614 Granges
SWITZERLAND

BCRA Library c/o Roy Poulson
Holt House - Holt Lane
Lea near Matlock
Derbshire DE4 5GQ
U.K.

LATEST NEWS

LATEST NEWS

Just arrives an E-mail from Gabier Les.

He announces an expedition to the Easter Islands (Iles de Pâques - Isla de Pascua - Chile).

It is organized by the 'President of the Society de Espeleológicas Alfonso Antxia', and participating are 2 universities, an association for submarine archaeology, the Sedek and the Spanish Speleological Federation.

< <http://expedicionrapanui2005.com> >

It should be mentioned we (my secretary) could not reach this website (yet)