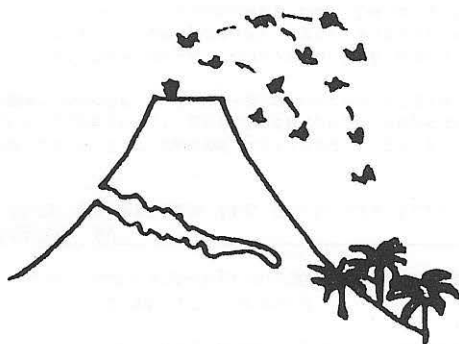


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Newsletter # 7 12



COMMISSION on

VOLCANIC CAVES

COMMISSION ON VOLCANIC CAVES
International Union of Speleology

Newsletter #7

July 17, 1995

ANSWERS TO QUESTIONS ABOUT PROPOSAL FOR A KENYA SYMPOSIUM

In followup of the information presented in Newsletter #6 (June 10, 1995), questions have arisen about costs of the proposed field camp and 3-day tent safari to Maasai Mara Game Reserve (and caves between Nairobi and that game reserve). When I visited Nairobi and two cave areas in May 1995, it was my impression that costs in Nairobi (except for wine, and perhaps food) were quite acceptable. But transportation outside Nairobi is very expensive and this escalates costs on nearly everything. Even at cost, expenses per person per night for the field camp and for the Maasai Mara safari are likely to be around US\$100. But ordinary tourists pay much more.

Another question, about a post-symposium field excursion to Mauritius and/or Reunion. Unfortunately February and March are not good months to visit these islands. It is their cyclone season.

PLEASE DO NOT FAIL TO RETURN THE RESPONSE FORM ATTACHED TO THE FRONT OF Newsletter #6.

POSSIBLE SECOND VULCANOSPELEOLOGICAL CONFERENCE OF THE
ATLANTIC ISLANDS

After the 7th International Symposium on Vulcanospeleology in 1994, a prominent Spanish caver informally proposed that the 2nd Vulcanospeleological Conference of the Atlantic Islands be in Tenerife and Lanzarote in 1996. Being unaware of this, Siggi Jónsson wrote to me in January 1995, proposing that this meeting be in Iceland in 1996. I suggested that the two groups discuss this between them. No further information about such a meeting has been received from either group, and planning time is running short for any 1996 meeting. I expect to be in Barcelona in September and hope to meet with Alfred Montserrat at that time, but if anyone can send any specific information NOW, it would be very helpful.

ARMENIAN VULCANOSPELEOLOGY

The Commission has made contact with two groups in Yerevan, Armenia. Most of the caves in Armenia are reported to be in volcanics although the illustrations of a book by Dr. Edward Sarkissian are mostly of speleothemic limestone caves. Dr. Sarkissian is Director of the Speleology Center of the Armenian Alpine Club, Avan Uchastok Tumanian 7-2, Apt. 27, Yerevan. FAX 7(8852) 151-048 attn. Mr. Vasken Melkonian. (over)

Dr. Sarkissian divides Armenian volcanic caves into a few groups according to their origin: (1) gas cavities, (2) contact caves, (3) clinker tunnels.

The largest group is in the gorges of the Debed River and its tributary Dzoraget. There are more than 500 caves here. The most remarkable one is a seven-story cave of Aigehat village, which he believes is destined for fame. It is the result of an unusual combination of gas cavities. The most interesting clinker tunnels is that located near SANahin village.

The second group is in the gorge of Kasakh River and its tributaries. it includes about 300 caves.

The third group is in the gorge of the Hrazdan River. It includes about 200 caves.

Other groups (canyon of Azat River, the upper Arpa River, the slopes of Aragats Mountain and Gegam Mountains) include up to 100 caves.

The caves bear traces of human activities from the Stone Age to the Late Middle Ages. In one, Dr. Sarkissian found a thousand-year-old printery with manuscripts still partially intact.

A U.S.A. contact for Dr. Sarkissian and this group is Mr. Vasken Melkonian, PO Box 421, Newbury Park, CA 91319. Tel: (805)-498-9466, FAX (805)-498-8426. Dr. Sarkissian would be glad to assist visiting vulcanospeleologists but communicates in Armenian and Russian.

The other group (which communicates in English) is the Armenian Speleological Centre. Mr. Armen Gevorgian is its vice-president. Address: Abovian str. 68, Yerevan 375025. They hope for more contact with vulcanospeleologists and others with experience in cave management and research. Mr. Gevorgian writes fluently in English.

AN IMPORTANT REFERENCE IN JAPANESE ON THE CANARY ISLANDS

Ogawa, Takanori. 1988. The important volcanic caves at Canary Islands. Dōjin (The Journal of the Association of Japanese Cavers), vol. 7, no. 4, July, p. 102-118. Excellent maps are included. Cueva de Los Verdes is listed as a single cave with a length of 6.1 km although elsewhere it is considered to be a segmented system.

SUMMER FIELD SEASON ADDRESS

Dr. William R. Halliday
101 Aupuni Street, #911
Hilo, HI USA 96720
(808) 969-7980.

(July 25-August 27, 1995)

COMMISSION ON VOLCANIC CAVES
International Union of Speleology

Newsletter #8

October 15, 1995

8TH SYMPOSIUM TO BE IN KENYA

As a result of the formal responses to the "Response Form" attached to Newsletter #6, it is clear that most of the vulcanospeleological world wishes the 8th International Symposium on Vulcanospeleology in 1998 to be in Kenya. (Good support for Giuseppe Licitra's proposal came from France and Spain, however.) Symposium chairman or co-chairman will be:

Hon. Jim Simons
PO Box 47363
Nairobi, Kenya

The date has not been fixed. At the 7th Symposium, the Commission and its friends expressed a strong preference for the week of February 1998 during which European universities will be on holiday. I have asked Jim Simons to work with IUS President Paolo Forti in setting the exact dates. More details will be supplied as soon as possible. Persons with information on how to obtain "bucket shop", ("consolidator") fares to Nairobi are asked to send it to me as soon as possible.

POSSIBLE SECOND VULCANOSPELEOLOGICAL CONFERENCE OF THE
ATLANTIC ISLANDS

Alfredo Lainez has determined that it is not practical to convene a 2nd Atlantic Islands conference in the Canary Islands in 1996. As Chairman of this Commission, I have expressed the hope that a similar conference will be possible at a later date.

Siggi Jónsson also had proposed such a conference in 1996, to be held in Iceland. No recent word has been received about this. If the Icelandic society proceeds with this proposal, it will be announced in this Newsletter as soon as possible.

ROAD CONSTRUCTION THREAT TO KAZUMURA CAVE, KEALA CAVE AND OTHERS

On page 3 of this Newsletter are details of a serious threat to caves in the heartland of the Puna (Hawaii) lava tube cave area. Further details will be provided as they become available. At this time it would be very helpful if each member of the Commission and other friends of lava tube caves writes to the County of Hawaii and request the information as specified.

(8-1)

A GREAT NEW BOOK ON LAVA TUBES

Vulcanospeleologists of the Canary Islands have published a magnificent new book entitled LA CUEVA DEL VIENTO. A 98-page paperback printed on high-quality glossy paper, it contains wonderful color photographs illustrating important speleogenetic points emphasized in the text. The book is supplied by in a heavy paper jacket with a pocket containing five maps. One is a partially schematic map showing 17,180 m of the cave. The others are geomorphological maps of sections of the cave which show its true labyrinthine pattern.

As would be expected of a book with Pedro Oromi as one of the five co-authors, the book is truly multidisciplinary, with a notable historical section and very important biology chapter. While the front cover carries a fine color photos of geological features, the back cover has an equally fine color photo of a "fan-tail" (ciixid).

The book is not perfect (what book is?). One photo is upside down. The authors follow the 1977 concepts of Wood and Mills in explaining passage cross-sections etc. I do not understand their use of "estafilitos". And despite the published descriptions by Montoriol Pous and DeMier they consider Cueva de Los Verdes to be a single cave. But these are minor points. This is truly a major contribution to world vulcanospeleology.

Presumably the book can be ordered through:

Rte. Grupo de Espeleologia de Canarias Benisahare
Apartado de Correos no. 1124
38080 Santa Cruz de Tenerife
Islas Canarias, Spain.

I have no information on price yet.

AND ANOTHER IMPORTANT CONTRIBUTION

SpeleoClub Nivernibou of Decize (France) has published a well-illustrated Compte Rendu entitled EXPLORATIONS SOUTERRAINES A L'ILE MAURICE: EXPEDITION AVRIL 1991. Authors were François Billon, Philippe Chojnacki, Catherine Billon and Ghislaine Rousseau. Included are 9 cave maps and many black-and-white photos. Although Greg Middleton has mapped many more caves on Mauritius since 1991, this Compte Rendu is the fundamental reference on vulcanospeleology of this important cave area. I have received no information on availability nor price. The address of François Billon is: Nievre Explo Karst, 24 rue Denfert Rochereau, 58300 Decize, France.

MAURITIUS SPELEO-CLUB ADDRESS

M. Clement Moutou is chairman of the SpeleoClub de l'Ocean Indien.
His address is: Impasse Rennards
Beau Bassin
Ile Maurice (Mauritius)
Indian Ocean

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THE PUNA "EMERGENCY ROAD" PROPOSAL

In August 1995, Mr. Norman Olesen announced plans for a cut-rate "emergency road" to be built in 1996 through the heart of the Puna lava cave area, the world's greatest concentration of lava tube caves. Mr. Olesen is Deputy Director of the Hawaii County Planning Department, and a member of the staff of the office of the Mayor of Hawaii County.

Most of this "emergency road" would consist of upgrading present unpaved or partly paved subdivision roads, with a short length of new road to connect Ainaloa Boulevard to 9 Road in Hawaiian Acres Subdivision. Parts of 9 Road, F Road, and 8 Road would be rebuilt. Ainaloa Boulevard may or may not be rebuilt.

Cut-and-fill techniques are planned to "smooth out" lava ridges containing Kazumura and other caves, according to Mr. Olesen. The caves themselves are to be "collapsed", unless declared "significant" by state archaeologists. Among those which would be crossed by this "emergency road" are Kazumura Cave, Keala Cave, the D Road Cave System, Pirates Cave and possibly Fern's Cave. Others are believed to be in its path also. Kazumura Cave is the longest lava tube cave in the world, with about 34 miles mapped and exploration continuing. With more than 5 miles of passages, Keala Cave also is world-class, and exploration and mapping are incomplete in the D Road Cave System. Depending on plans for Ainaloa Boulevard, Lower Uilani Cave also may be harmed; it has been nominated for inclusion in the Hawaii State Natural Area Reserve System. The others also contain notable geologic, biologic, cultural, and other resources and values.

The announcement was made at the monthly meeting of the Board of Directors of the Hawaiian Acres Community Association, a large subdivision containing much of the cave area and home to numerous cavers and speleologists. In answer to a question, Mr. Olesen said he would "try to save the caves" but didn't "know anything about speleologists," and relied on archaeologists for information on caves.

Mr. Olesen further stated that an Environmental Assessment must be done before the road is built. To obtain information on the Environmental Assessment and how to provide input, write to:

Mr. Norman Olesen, Deputy Director
Hawaii County Planning Department
25 Aupuni Street
Hilo, HI 96720

KAZUMURA CAVE LENGTH NOW ABOUT 34 MILES -- 54 KILOMETERS

Kazumura Cave has been connected to Olaa Cave. As of 28 September 1995, with mapping still incomplete, its unsegmented length was reported to be almost 34 miles.

A MAJOR MEXICAN LAVA TUBE

The June 1995 N.S.S. Bulletin (Volume 57, no. 1, p. 72-73) contains a lengthy abstract of a paper on EXPLORATION AND GEOLOGY OF LAVA TUBE CAVES OF THE SUCHIIOC VOLCANO, by Ramon Espinasa-Perena (address Instituto de Geografia, UNAM, Ingenieros no. 29, Col. Escandon, C.P. 11800, México, D.F. México). A total of 10 km of passages was mapped from 1992 to 1994 in a complex set of lava tubes on moderate slopes of Suchioci volcano in the Chichinautzin volcanic field. These are the longest and deepest lava tube caves in México. The longest and most complex are in a branch flow. A master tube is seen in the upper caves. The lower caves are less evolved and show a tridimensional distributary and anastomosing pattern. An erosional canyon is present in the master tube, with crusting of the downcutting lava responsible for levees, benches and complete crusts. The author considers this typical of published reports worldwide.

A 1989 REPORT ON A LAVA TUBE AT NYAMULAGIRA

Glaser, Stefan. 1989. Dachungel, Vulkane und - eine Höhle. Der Schlaz no. 58, June, p. 32-35.

The author describes a lava tube cave with about $\frac{1}{2}$ km of passages plus some uninvestigated, in Virunga National Park, Zaire. The cave is in sight of the road from Kakumeru to Nyamulagira volcano and appears quite sizeable. A sketch map and one photo are included.

LAVA TUBE CAVES OF ILE DE LA REUNION

Spelunca no. 59 (1995) will carry a note by Philippe Audra on lava tube caves of La Réunion (Indian Ocean). He has tabulated nine caves between 100 and 500 m développement, and five between $\frac{1}{2}$ and 1 km. Also there are two pit craters more than 200 m deep. Address: 104ter chemin de l'Eglise, La Bretagne, 97490 Saint-Denis, La Réunion, Indian Ocean.

An earlier issue of Spelunca (ca. 1985) includes maps of three caves (Caverne des Quatre Voies, Caverne des Fees, and Le Trou d'Eau, which is mostly underwater, and has been dived. It extends under a lagoon. Quatre Voies has about 140 m of passage, and is slightly braided. Fees has about 300 m and is part of an anastomosing labyrinth. Cratère Commerson is reported to be a pit crater 256 m deep and La Soufrière is an open vertical volcanic conduit about 200 m deep with some linear complexity.

Attached to this issue is a multicolor explication of speleoliferous Newberry National Volcanic Monument (Oregon, U.S.A.) provided by Northwest Interpretive Association, Deschutes National Forest, Bend, Oregon.

CHAIRMAN'S CURRENT ADDRESSES

Dr. William R. Halliday
6530 Cornwall Court
Nashville, TN USA 37205

January 15-March 15, 1996:
101 Aupuni Street, #911
Hilo, HI USA 96720

COMMISSION ON VOLCANIC CAVES
International Union of Speleology

Newsletter #9

December 1, 1995

UPDATE ON THE GLOBAL LAVA TUBE DATABASE AT ARIZONA STATE UNIV.

A.S.U. graduate student Scott Harris reports that the A.S.U. Global Lava Tube Database currently holds information on more than 2,000 lava caves in 40 nations and 10 states and commonwealths of the U.S.A. Information contained in an initial extensive collection of sources donated by Dr. William Halliday and the Hawaii Speleological Survey now has been compiled. A.S.U. now is incorporating new information from the files of other speleologists and volcanologists around the world to establish the Database as the primary international archive for lava tube data.

The A.S.U. effort to obtain new and up-to-date information has been greatly assisted by the Worldwide Web craze. The popular Volcano World information server, managed by Professor Chuck Wood at the University of North Dakota and Scott Rowland at the University of Hawaii provides recent reports and photographs from the world's major volcanic regions. The Icelandic Speleological Society and the Center for Etnean Speleology in Catania have also gone online. A.S.U. is collaborating with those organizations to continually expand the Database. Recent online reports allowed them to include Cutrona Cave, the 870 meter lava tube produced by the 1991-93 Mount Etna flows. A.S.U. encourages other vulcanospeleological organizations to establish Internet sites to facilitate the rapid exchange of resources.

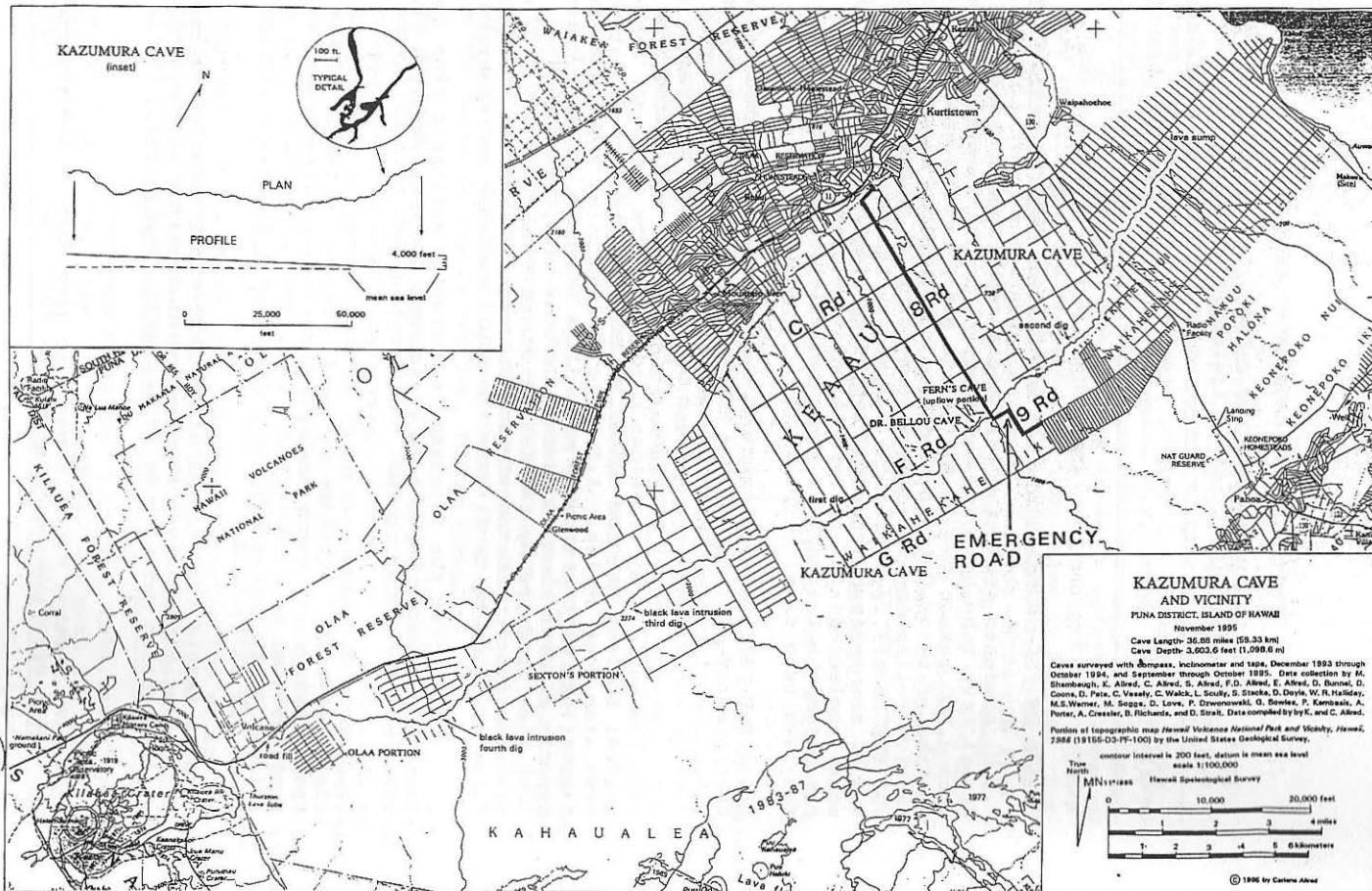
Information from the Database is currently available from the Space Photography Laboratory at Arizona State University. Researchers should write to:

Dr. Ronald Greeley
Global Lava Tube Database
Space Photography Laboratory
Department of Geology
Arizona State University
Tempe, AZ 85287-1404.

Letters should include the names of the lava tubes or volcanic regions of interest and the type of information needed. Specific question can also be addressed via e-mail to:

harris@asu.edu.

In coming months, A.S.U. expects to have most of the information, excluding cave locations, online.



THE PUNA (HAWAII) EMERGENCY ROAD EMERGENCY: CURRENT STATUS

Commission Newsletter #8 (October 15, 1995) described the plan of the Mayor of Hawaii County, HI (Hon. Stephen Yamashiro) to build a cut-rate substandard "emergency road" through the heart of the Puna cave area at the expense of Kazumura, Keala, and other important caves, if necessary. The Puna cave area contains the world's greatest concentration of lava tube caves, including Kazumura Cave (longest lava tube cave in the world). In August 1995 a spokesman for the Mayor, Mr. Norman Olesen, spoke publically of collapsing segments of the caves and of using cut-and-fill construction techniques which would cut into their roofs. To do this, an Environmental Assessment was required by law, but he spoke of it as being meaningless.

Protests came from all over the world. Some of those protesting were Prof. Dr. Paolo Forti, President of the International Union of Speleology, Dr. Ronald Greeley, noted professor and planetary geologist, Prof. Dr. Stephan Kempe and Jan Paul van der Pas of this Commission, Kevin Allred, chairman of the Kazumura Cave Project of the Hawaii Speleological Survey and others from North America and Europe. As chairman of the Hawaii Speleological Survey I pointed out alternatives to "collapsing" the cave segments, including reinforcement of the roadbed above the caves, and leaving the part of 8 Road above the caves (see map in this issue) in its present condition. The H.S.S. and several of those protesting indicated that they wished to provide input into the Environmental Assessment about resources and values of these caves and their environments.

It is now too late to provide data for the Draft Environmental Assessment. The County is about to sign a contract for this. Its preparation is expected to take about one month. AND MR. OLESEN HAS INFORMED A H.S.S. MEMBER THAT THE DRAFT EA WILL NOT INCLUDE CAVES. If you wish to protest this, your letter should be addressed to Mayor Stephen Yamashiro, 25 Aupuni Street, Hilo, HI USA 96720.

After the Draft EA is made public, everyone has 30 days to file comments on it. You will receive another newsletter when this occurs and your further comments should be sent to the Mayor IMMEDIATELY at that time.

The Mayor's Office is distributing false and misleading information about the proposed road and about its discussions with me personally. Such letters do not mention "collapsing" caves nor "cut-and-fill" road construction nor the new connector road. Instead they pretend that only asphaltting existing roads is to be done, together with reopening vegetated road shoulders. And despite two collapses under bulldozers in 1995, they insist that all roads over caves are safe now because they have not collapsed under bulldozers in the past. Also they try to divert attention from their plan to "collapse" caves to save time and money, when encountered incidentally during road reconstruction, by saying that they have no intention of deliberately destroying the caves. If you have received such a letter, please send me a copy and I will clarify the facts.

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These letters also mention that the project has been enlarged to include Ainaloa Boulevard, despite a known vehicular risk from a thin, cracked ceiling of Lower Uilani Cave. This cave has been nominated for the Hawaii State Natural Area Reserve System because of its exceptional geological features. H.S.S. Report #93-01 documents the features and significance of this cave and recommends methods of correcting the vehicular hazard while preserving the values and resources of the cave. Copies have been supplied to the County and are available in limited quantity to others.

As more information is received on when a fullscale Environmental Impact Assessment is needed, including caves (and not the present smallscale Environmental Assessment, excluding caves), it appears that the Mayor's office may be attempting to evade Federal and state laws on this subject. Mr. Olesen has told a H.S.S. member that, if the H.S.S. does not like what they are doing, it should go to court. No decision has been made on this. However, you may want to write the Mayor, pointing out that some people think that the data supplied to him already shows a need for the full-scale EIA instead of the EA. If you do this, do it immediately.

6th INTERNATIONAL SYMPOSIUM ON PSEUDOKARST TO FEATURE LAVA CAVES

Eszterhás István has announced that the 6th International Symposium on Pseudokarst will be held September 19-22 in Galyatető, in the Mátra Mountains of Hungary. Galyatető is 110 km NE of Budapest; buses run from Budapest to Gyöngyös which is about 30 km south of Galyatető, a holiday resort. Accomodation, meals and sessions will be in The Grand Hotel. The meeting begins with video and poster sessions on Thursday. All day Friday will be lectures and discussion programs. Saturday will be a field excursion and party. Sunday morning will be lectures and close of the events. 68 caves are known on Matrá Mountain; 2 or 3 will be visited on the field excursion: Csörgő-hale a 380 * 30 m cave in rhyodacite tuff, Nagy Cave, a 130 * 14 m "consequence cave" in rhyolite, and/or Gyula Cave, a 5 m gas bubble cave in andesite. The languages of the symposium will be English and German. Most of the participants are expected to come from Hungary, Slovakia, Czech Republic and Germany. Commission member Jan Paul van der Pas expects to attend also. For information:

Esterhás István
Isztimér
Köztársaság u 157
H-8045 Hungary

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An explanation of the term "consequence cave" would be welcome.

"TUNNELS" AT DEPTH IN LAVA ON NORFOLK ISLAND

Gordon C. Duvall has sent information on "tunnels" and submarine springs of the northwest part of Norfolk Island. The island is entirely volcanic. It is of late Pliocene age (3.05 to 2.3 my BP) and is made up of basaltic lava, agglomerate, volcanic ash and dust, and their weathering products. There is evidence of a period of some 200,000 years of dormancy during the total eruptive period. Lateral marine erosion has reduced the land area above sea level to a small fraction of its original extent. The core of the island structure is made up of basaltic pillow lavas; on the flanks of the cone hyaloclastites were deposited. Above sea level subaerial lava flows interbedded with ash and tuff, nearly horizontal.

The only present-day caves known on the island are on the cliff face close to sea level. They are very recent and are being made by wave action during storms which hurl large basalt boulders against the cliff. However submarine freshwater springs exist on both sides of Point Howe and one of these is aligned with three water bores which recover recover good quantities of fresh water. A fourth is some 200 m off line. These conduits are approximately 40 to 50 m below the surface.

Tunnel 'A' is the best understood of these structures. It clearly conducts water from the high crater area to a submarine spring about 400 m west of Point Howe. It is at a depth of 49.4 m under a thick layer of unweathered basalt. As measured at all three bore holes, its average diameter is approximately 3.66 m. There is no record of any visit by divers to its submarine spring because strong currents make diving difficult and dangerous. However, muddy water can be clearly seen from the coast, at the outflow points after periods of heavy rain.

Bore 163 is between the projected line of Tunnel 'A' and the coastline of Duncombe Bay, about 200 m from the projected course and 400 m from the bay. At a depth of 39.6 m below the surface, the borehole penetrates a water-filled cavity from which the sound of running water is audible. Overlying the cavity is a basalt flow approximately 15 m in thickness. The size of the cavity was not stated.

The submarine freshwater spring in Duncombe Bay has been visited by divers. The outlet is irregular in shape and approximately 2 m in diameter.

The source from which these deep conduits derive the water is not known. There is no lake or other surface source in the crater at any time. Flow volume in Tunnel 'A' varies with rainfall but never disappears entirely. The basic reference on the geology of the island appears in the Journal of the Geologic Society of Australia, 1973, Volume 20 part 3, p. 239-257. The Commission thanks Dr. Duvall for the above information and a fine sketch map. Address: Box 85, Norfolk Island, South Pacific 2899, Via Australia.

KAZUMURA CAVE EXTENDED BUT DAMAGED

Kevin Allred has announced the connection of Olaa Cave to Kazumura Cave and the completion of mapping of the entire cave. Not including overland surveys or segmented upper levels, the total length is 36.4 miles (59.22 km). Straight-line (linear) end-to-end distance is just under 20 miles (32 km). Vertical extent is 3,603 feet (1098 m). The preliminary length figure was 60.1 km but Kevin's teams found that part of the Bifurcation Cave section of Kazumura Cave had been collapsed after a bulldozer fell through the ceiling. Allred is chairman of the Kazumura Cave Project of the Hawaii Speleological Survey.

POSSIBLE INTERNATIONAL MEETING IN CATANIA IN 1999

The Centro Speleologico Etneo of Catania is planning to convene the last vulcanospeleological event of the 20th Century, September 12-18, 1999, celebrating the 15th anniversary of CSE. English translation by earphones and publication of Proceedings within one year are planned. Mark your calendars now. Details later.

PROGRESS TOWARD 1998 SYMPOSIUM IN KENYA

Jim Simons reports that he is working with IUS President Paolo Forti to determine the optimum time for the 1998 symposium and field excursions.

A December 1995 U.S.A. travel agency magazine contains an advertisement of a round trip fare of US\$845 from New York to Nairobi, through Balkan Holidays, 317 Madison Avenue, NYC, 10017. FAX: 212 573-5538. Phone: 800 852-0944. The same magazine lists London-Nairobi round trips at US\$700-725 through Worldvision Travel (800 545-7118, USA) and International Travel Exchange (800 727-7830, USA). Surely London bucket shops have lower rates.

PRELIMINARY INVENTORY OF THE CAVES OF THE ISLAND OF REUNION

Philippe Audra has prepared an Inventaire préliminaire des cavernes de l'île de la Réunion, which will be published in Spelunca in 1996. Spelunca is a major publication of the French Federation of Speleology. Maps shown in a preprint indicate that both unitary and braided caves are present, and also an open vertical volcanic conduit as well as the well-known pit crater called Cratere Commerson, which has a depth of 256 m. His current address is: 108 allée des Mas de Larguit, 38330 Saint-Ismier France. Phone 76 52 05 00. Data in this preprint has been forwarded to the World Data Base on lava tube caves in Arizona.

ONE LAVA TUBE CAVE IN INDONESIA

Robby Ko writes that Gua Lawa is the only lava tube cave in Indonesia. He had sent maps of the cave, but apparently they were lost in transit. He will try again, by Registered Mail.

VULCANOSPELEOLOGICAL EXPEDITION IN TOLBACHIK AREA, KAMCHATKA

Yurii Slezin reports from Petropavlovsk-Kamchatsky that in September 1995, 9 Japanese cavers visited Kamchatka. Yurii accompanied them to the Tolbachik area. The group was led by Takanori Ogawa. They observed only a small part of the cave-bearing lava field of the 1740 eruption and had no time for the new lava field of the 1975-76 eruption and its caves. This was unfortunate, because that eruption was monitored from beginning to end.

The group remapped the best-known cave in the 1740 flow, and found other caves nearby. One of these also was mapped. He looks forward to further expeditions.

EXTRACT FROM:

S. A. Fedotov, Editor in Chief. 1984. Large Tolbachik Fissure Eruption. Kamchatka 1975-1976. Science Publications, Moscow.

Translated by Vladimir Kissiljev, edited by William R. Halliday.

p. 154. "...the development of these caves was observed during the eruption of the Southern Flow Lobe but we could not explore them in more detail because of high temperature and volcanic gases. We investigated the similar cave discovered by S. A. Fedotov in lava flows of the neighboring cone called Zvesda (Star), which flowed several hundred years ago (Fedotov et al, 1977a). The composition and morphology of lava in these flows are the same as in the Southern Flow Lobe of the Tolbachik eruption lavas.

The cave which we investigated is shown in fig. IV.5. The total length of passages is about 500 m; the straight-line distance between the farthest points is about 200 m. Two more caves were found near the first, but they were smaller in size. It appears that during the eruption, all these caves formed a single system more than 500 m long with more than 1 km of total passage length.

The width of the passages usually is 4-6 m but sometimes is as much as 10 m. The height is 1-2 m, sometimes as much as 4.5 m. In horizontal measurements in different directions, the largest chamber is 20 to 40 m wide, 4.5 m high, and has 500 m² as its area. The internal surface of the ceiling has the form of an arch; often the borders are deformed as a result of some flexibility of the firm core. The floor is flat and is of lava with traces of flow patterns, usually with a ropy surface. The direction of the curve of the ropes indicated the direction of the lava current.

Numerous stalactites up to 15 cm long hung from the ceiling. Their surface is smelted, probably under the impact of gases at high temperature. Traces of white evaporites are present on the caves' walls.

Caves located at the lower end of the lava field complex are different from lava tubes (which pass through all parts of the complex). Here there are thicker roofs (as much as 2 to 4 m). Their passages are wider, and there are more branches. These unusual caves formed when a stream of lava stopped and lava was deposited at one place through a lava tube. Probably, this complicated system of passages arose due to irregular uplifting and partial subsidence of different parts of the roof of the flow with changeable lava pressure through the lava tubes.

Lava tubes and lava caves are one of the main features of lava flows and sheets of Tolbachik valley. They have not been described before. Attention was attracted to them during the large eruption of Tolbachik and they were investigated after field study and discovery of the lava maze near the Southern Flow Lobe (see fig. iv.5). The first lava tubes in old lavas were discovered near Second Cone in July 1975 when the tiltmeter was emplaced. Later this tiltmeter station was installed in the big lava tunnel 4 km NW of the North Flow Lobe. According to S.A. Fedotov, in early August 1975 secondary lava hornitos were observed on the cooling surface of the northern vents of the First Cone.

A big lava tunnel extended west from the Northern Flow Lobe but its roof collapsed under the weight of the last liquid flows from Second Cone.

The largest lava tube explored to date is in the eruption area located between the Northern and Southern Flow Lobes, west of the inactive cones of Mountain 1004 and Vysokaja (High) Mountain where it can be followed on the surface for some km along a chain of collapses of its roof.

Bibliography

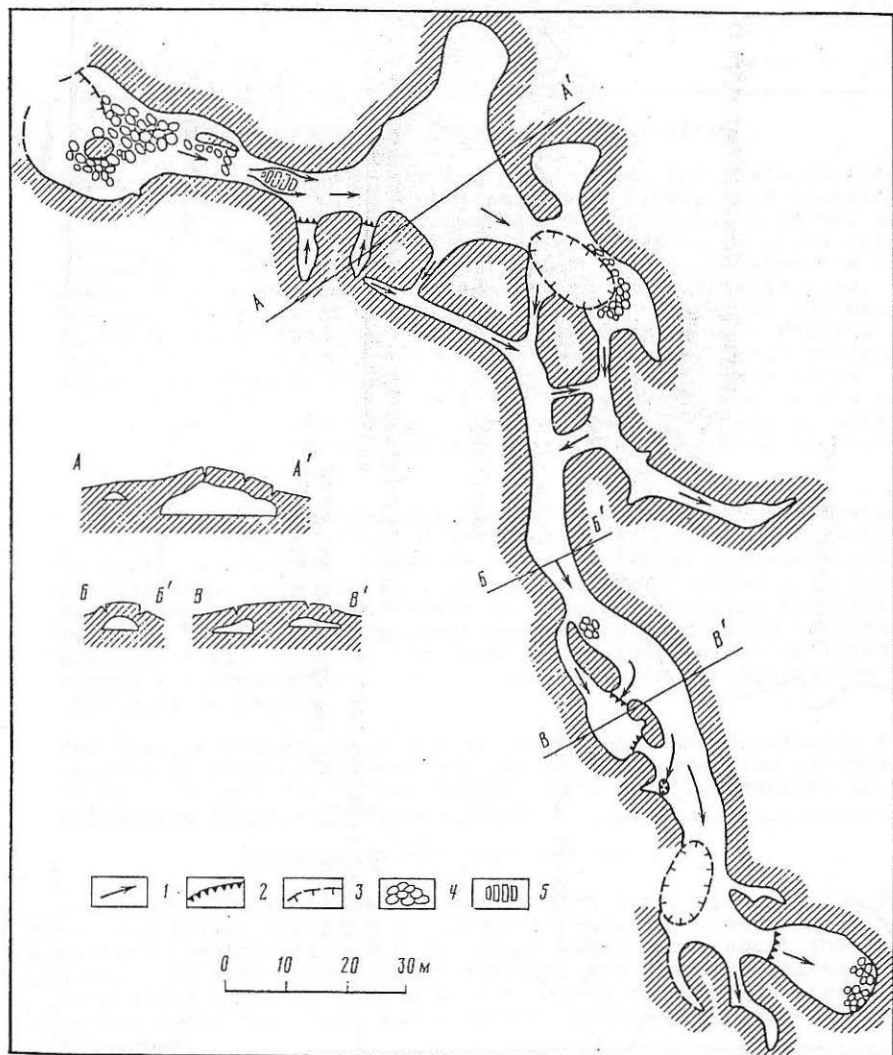
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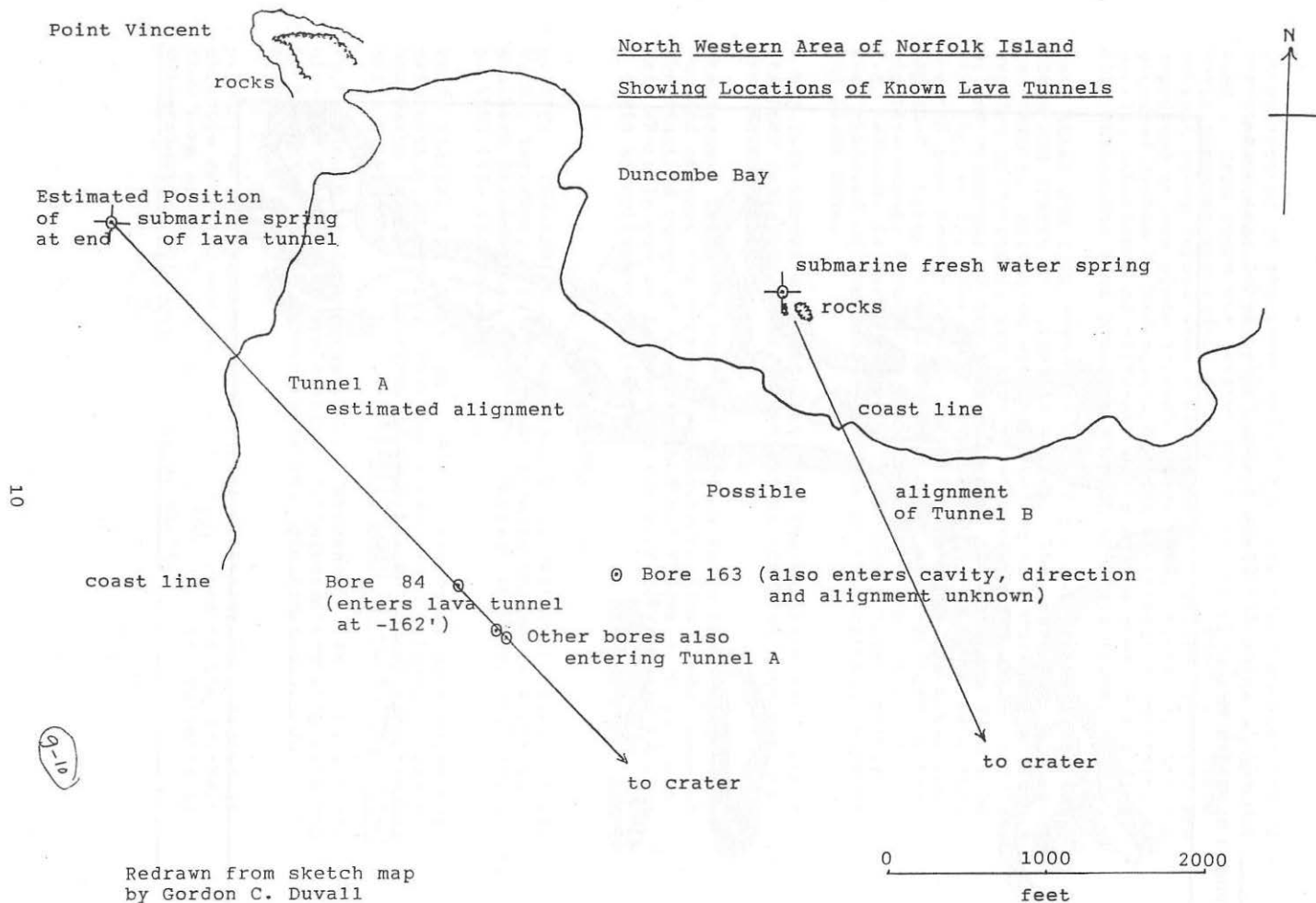
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для лавы. План двух крупных потоков южного прорыва с отмеченными ступенями приведен на рис. IV.4.





COMMISSION ON VOLCANIC CAVES
International Union of Speleology

Newsletter # 10

March 5, 1996

KAZUMURA, OTHER PUNA CAVES APPARENTLY SAVED

After appeals from many parts of the world, the Draft Environmental Assessment for the Puna Emergency Access Road contains provisions for the protection of Kazumura, Keala, Pōle 46, and Lower Uilani Cave. Originally, the plan was to excavate into ridges believed to contain these caves and to collapse the segments of cave encountered during construction of this road. Now the plan is to add road fill to level ridges and hollows in the areas of these caves. Only one tiny cave -- Pirates Cave -- remains in danger of being damaged, and local vulcanospeleologists agree that this small subcrustal space is of little importance. The Hawaii Speleological Survey of the National Speleological Society has commended the Mayor of Hawaii County, his consultant, and his staff for protecting the major caves.

The "Draft Environmental Assessment" was formally promulgated 23 February 1996. A period of 30 days for comments is required by Hawaii state law. Sometime later, a "Final Document" and finding of no significant impact is expected unless a full-scale Environmental Impact Statement is required for some non-spelean reason. If the Final Document unexpectedly is found to lack the protection specified in the Draft EA, a lawsuit can be filed within a further 30 day period, but there is no expectation that this will be needed.

The Hawaii Speleological Survey has thanked the Commission for letters by many of its members urging the protection of these caves. Undoubtedly, these letters were very influential in protecting these world-class caves.

PROGRESS TOWARD 1998 SYMPOSIUM

Jim Simons reports that the 8th International Symposium on Vulcanospeleology definitely will be in February 1998. He is awaiting feedback from IUS President Paolo Forti about the best dates. He also reports that Mathioni and nearby caves have been added to an extension of the Chyulu national park and will be available for field excursions in addition to those already announced.

9TH INTERNATIONAL SYMPOSIUM -- 1999

The last vulcanospeleological event of the Millenium will be the 9th International Symposium on Vulcanospeleology, in Catania, at the foot of Italy's Monte Etna, September 12-18, 1999. Please provide this information to newsletters in your area. More info soon

CONSEQUENT CAVES: a paper by István Eszterhás, Isztimér, Hungary

(A paper on this subject was presented by Eszterhás at the 7th International Symposium in the Canary Islands, in German. Even German-speaking participants had difficulty understanding it. Now Commission member Jan Paul van der Pas has sent a translation of a similar paper in Jahresbericht der Höhlenforscherguppe Rhein-Main, 15, 1993, p. 43-44, 1993, Frankfurt a.M. Jan. 1994. The German language title is: Konsequenzhöhlen. The word 'consequent' is taken as from 'consequent rivers', a term explained in 'A Dictionary of Geography', by W.G. Moore, Penguin Books Ltd., 1974.)

As caves we consider all natural cavities accessible for humans. Mines, cellars, casemates and other cavities created by man are called 'artificial cavities.' But how should we classify caves which are formed by natural processes acting on old mines or other artificial cavities?

For these caves I propose the term 'consequent caves.'

What does this term imply? It relates to natural cavities, since they originated in a natural way by action of tension in the rock, and these caves primarily show characteristics of tectonic origin. The word consequent points to the fact that this type of cave originated because of the collapse of an earlier cavity and is related to it. Consequently these caves are located higher in the stratigraphic sequence than the original artificial cavity.

A similar phenomenon exists as a result of collapse of natural cavities. Such caves we call 'collapse caves' or 'jameos' (The word 'jameo' comes from the old Guanche language of the Canary Islands.) I propose that we differentiate these phenomena by using the phrase consequent cave only for those caves which owe their existence to pre-existing artificial cavities.

These considerations explain why such consequent caves are chiefly found in old mining areas. The best conditions for their development include brittle rock materials above the antecedent artificial cavities. Such materials can preserve the secondary consequent caves which originated by gravitation, for a long time.

--- Special thanks to Jan Paul van der Pas for this translation.

1996 INTERNATIONAL SYMPOSIUM ON PSEUDOKARST UNCERTAIN

Late in 1995, István Esterhás wrote that the International Symposium on Pseudokarst (scheduled for September 1996 in Hungary) might have to be cancelled. Persons interested in attending should remain in communication with Esterhás and/or Jan Paul van der Pas.

Commission on Volcanic Caves

Newsletter # 11

October 10, 1996

DATES OF 1998 AND 1999 SYMPOSIA FIXED

Jim Simons has announced tentative dates for the 8th International Symposium on Vulcanospeleology in Nairobi and nearby Kenya in 1998:

Friday January 31 and Saturday February 1: arrivals in Nairobi.

Sunday February 2: rest. (A day trip with goat roast at Gigg-
lers Caves may be possible Saturday or Sunday.)

Monday February 3-Thursdays February 6: preSymposium field excursion to Leviathan Cave.

Friday February 7: return to Nairobi; meet late arrivals.

Saturday and Sunday February 8 and 9: Symposium sessions.

Monday and Tuesday February 10 and 11: excursions to Mt. Suswa.

Wednesday to Friday February 12-14: optional excursions to either
Maasai Mara Game Preserve or the elephant cave of Mt. Elgon.

Persons interested in attending should contact Jim soon at P.O. Box 47363, Nairobi, Kenya to obtain the 2nd Circular with more information and prices. A second copy of all communications to him should be sent to P.O. Box 390, Kibwezi, Kenya (in the next few months he will be spending most of his time there). His FAX/phone in Nairobi is 520-883. The country code for Kenya is 254, and the city code for Nairobi is 2.

Please disseminate this information to everyone in your area who may be interested in attending.

Giuseppe Licitra has announced the dates for the 9th International Symposium on Vulcanospeleology in Catania, Italy in 1999:

September 12-18, 1999: Pre- and PostSymposium events and sessions.

Giuseppe's address is: Via Monfalcone 17, Catania 95127 Italia.
FAX: ++ 39/95/584983.

Please disseminate this information also.

NEW CHAIRMAN/PRESIDENT NEEDED FOR THIS COMMISSION

For reasons of age and health, I have informed the president of the I.U.S. that I would like to retire from this position at the 1997 International Congress of Speleology. Under no circumstances will I continue to serve after February 1998. Commission members willing to accept this position should contact IUS President Paolo Forti as soon as possible. Address: Istituto Italiano di Speleologia, Via Zamboni 67, I-40127 Bologna, Italy. While academic status is helpful, administrative skills are much more important in this position, and a funding source. I have personally funded all expenses of the Commission to date.

COMMISSION MEETING AND VULCANOSPELEOLOGY SESSION IN 1997

Roman Hapka has announced that a session on vulcanospeleology will be scheduled as part of the 12th International Congress of Speleology in Switzerland, 10-17 August 1997. Persons interested in attending should immediately request the 2nd Circular from the Congress Secretariat at P.O. Box 4093, CH-2304 La Chaux-de-Fonds 4, Switzerland. Summaries of proposed papers still are being considered but two camera-ready copies of papers (following strict announced guidelines) must be received by 22 December.

A regular meeting of the Commission on Volcanic Caves will be held during the Congress at a time when there is no conflict with this session, nor with the meeting of the Commission on Glacier Caves and Periglacial Karst.

REPORT ON 6TH INTERNATIONAL SYMPOSIUM ON PSEUDOKARST by Jan Paul van der Pas

This symposium, held in Galyatető, Hungary in September 1996 was organized by the Vulkánszpeleológiai Kollektíva led by István Eszterhás. At least 8 nationalities participated although it still was largely a mid/eastern European affair. Contrary to some previous ones, it was completely in the English language, at times with the help of international speleologist George Szentes. A wide range of papers was presented: sandstone caves in Nigeria, consequent caves in the Netherlands, historical research leading to the rediscovery of Aány Cave in Hungary, horizontal cavities in lava in Hungary formed as tree casts, brine-fonts (in a leaflet printed as bird-fonts!), a wall poster on eolian karstforms in Bolivia, to name just a few. Some of their investigations in volcanic rocks would fit within the Commission on Volcanic Caves.

Next year at the IUS Congress this group will ask for the status of an IUS working group. In my opinion, however, the work is so well done that even full commission status would be applicable.

During the final summation it was realized that the work of this study group is broader than the term "pseudokarst." This was the only remaining problem. The next symposium may be in Romania. The group was founded by people in what we called "Eastern Europe." They would love to hold one of their symposia outside this area, but because of the very bad financial situation in their countries, they are unable to do this. Their plan is for 3-day weekend symposia, which raises difficulties for participants from distant countries.

Of the excursions the most impressive was the visit to Csörgő-Lyuk which the organizers called "a tectonic cave in rhyodacite." I saw it as just a tortuous maze between blocks and rocks.

Followup comment by W.R.H.: with the development of this new IUS pseudokarst group, the I.U.S. will have three groups working in pseudokarst (the third being the Commission on Glacier Caves). Discussion of cooperation, of liaison, and of boundaries is needed.

Jan Paul also attended the 4th International Symposium on Glacier Caves and related topics, high in the Austrian Alps earlier in September. He commented that it was very highly professional. Some participants evidently had never been in caves and had no idea what the IUS is. He noted comments that there should be only very scientific lectures in the future and that, due to declining participation, the next one should be part of a larger glaciological meeting. There seemed to be uncertainty about continuing in a speleological direction rather than a glaciological direction. He thought the location was 'really splendid' despite weather so bad that several field trips had to be cancelled. My own impression was that the location made it almost impossible for 'auslanders' to attend, due to travel complexities. Despite extensive research in this field by North Americans in the last 30 years, this Commission is almost exclusively European. On the other hand, its Chairman evidently is looking toward a 5th Symposium in Iceland in 2000. A meeting of the leadership of these three groups certainly should be held in Switzerland next year. At present, the main overlap between our Commission and the Commission on Glacier Caves consists of geothermal firm or ice caves in or on volcanic craters.

LAVA TUBE CAVES OVER 5 KM (3 MILES) CURRENTLY IN IUS FILES

1. Kazumura Cave, Hawaii 59.33 km
2. Cueva del Viento, Tenerife 17.18 km
3. Manjang Cave, Chejudo 13.4 km
4. Bilemot Cave, Chejudo 11.7 km
5. Leviathan Cave, Kenya 10.5 km
6. Keala Cave, Hawaii 8.6 km
- 7 & 8. Pahoa Caves, Hawaii. Total 16 km by pace-and-compass.
More exact data not released.
9. Cueva de Don Justo, Hierro 6.31 km

The following have been reported to be more than 5 km long but now are known or believed to be groups of caves with no individual cave of that length. Further information would be welcome.

Umii Manu System, Hawaii (unmapped)
Ainahu Ranch System, Hawaii ("7.11 km")
Labyrinth System, California ("6.66 km")
John Martin-Pukalani System, Hawaii ("6.25 km")
Cueva de Los Verdes System, Lanzarote ("5.66 km")

The length of "Offal Cave", Hawaii (possibly the same as Field 38 Cave) at "3.4 km" also appears to have been overestimated.

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Some recent articles:

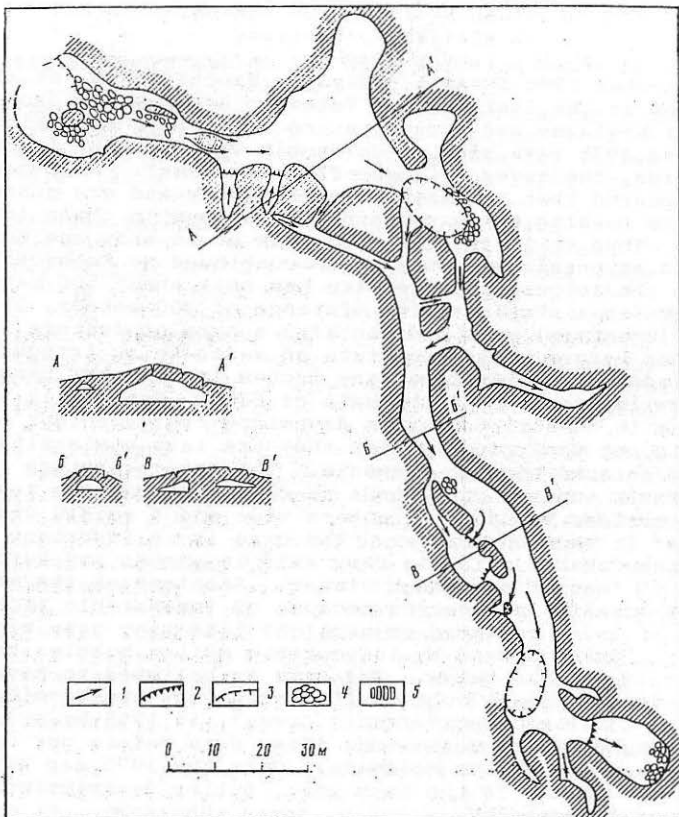
Chowdhury, Bernie. 1996. Iceland's Caves. Immersed, the International Diving Magazine. 1:16, Spring 1996. (underwater caves)

Gilbert, Alain. 1995. Recherches speleologiques françaises aux Antilles. Bol. Soc. Venez. Espel. 29:58. Reaffirms Mouret's 1978 classification of volcanic caves in Spelunca.

SPELEOLOGICAL POTENTIAL OF KAMCHATKA OBLAST
-- William R. Halliday

In September 1996 I spent 8 days in Kamchatka Oblast of Siberia, speaking at the Institute of Volcanic Geology and Geochemistry in Petropavlovsk and participating in a field excursion to the 1740 and 1975 lava beds of Tolbachik volcano. By international standards, the caves of these flows are small. But recently it has appeared that variations in chemistry and gas content of pahoehoe basalts makes profound variations in their lava tube caves. Thus it is important to look at as many speleoliferous regions as possible. This trend continued at Tolbachik. Although the longest cave to date has only about 500 meters of passages in a straight line distance of 200 meters, it is unusual in several ways and contains a type of feature I have not seen before. This consists of wafer-thin, irregularly rounded blades of grainy lava many inches in diameter hanging down in parallel rows along the axis of flow. Especially they are present in constricted areas downslope from spacious sections. I could not determine whether they are lava stalactites or eroded/ablated bedrock remnants. The cave's pattern is braided, with small tubular cutarounds at floor and ceiling level. The main corridor is up to 20 meters wide and 4 meters high, although most of it is much smaller. The cave is an important water source in a pseudokarst which is very arid in summer and autumn despite up to 20 feet of snow each winter. Sections of its arched ceiling are especially interesting because of innumerable little flattened tubes of lava, recurved or straight like tiny grey cigarettes evidently blasted upward by innumerable molten bubbles bursting in molten lava close below. The cave is believed to have been mapped three times: in 1975 by Yurii Slezin (now the Russian member of the IUS Commission on Volcanic Caves), in 1993 by a Japanese team headed by Takanori Ogawa, and a few days before our coming by a Swiss team led by Yvo Weidmann. Only the 1975 map has been published to date. In the next year, fuller descriptions will appear in several countries.

Several other caves are known in the 1740 and 1975 flows. The longest is about 60 meters long but some of these are of interest because they resemble boundary ridge caves on Kilauea volcano. Most of these flows have not been investigated for caves. The 1975 flow was studied very thoroughly during its emplacement and caves found there will be of special interest. The Swiss found several caves but they were only a few meters long. The lava is platy pahoehoe and aa and does not appear especially promising for long caves. A pit cave with an 8 m overhanging entrance located a few km farther north, near Gora Vysokaja (High Mountain) may be tectonic rather than rheogenic. It consists of a single chamber with extensive snow and ice accumulations. On the ridge south of Zvesda vent of the 1740 flows is a hornito with a possible side window. On Hualalai volcano, HI similar hornitos are atop open vertical volcanic conduits up to 50 meters deep. Older flows farther east contain at least one pit emitting warm air when the ambient temperature was about -25 C and a line of sinks is present in a 1975 flow farther north. Much remains to be done in this wonderful volcanic area.



Slezin's 1975 map of the main Tolbachik cave

CURRENT STATUS OF THE PUNA EMERGENCY ACCESS ROAD EMERGENCY

The Final Environmental Assessment (Negative Declaration), Puna Emergency Access Road was issued in May 1996. While it contains many inaccuracies and misstatements about lava tubes and lava tube caves, which reflect lack of knowledge by the preparers, these do not affect the provisions for protection of the major caves originally threatened with segmental collapse. The Hawaii County Council has voted unanimously to proceed with the road project, but the Hawaiian Acres Community Association voted out its officers who were the primary advocates of the road. HACA now is proposing major modifications of the proposal. The Hawaii Speleological Survey is continuing to monitor the situation.

Commission on Volcanic Caves

Newsletter # 12

April 20, 1997

1998 SYMPOSIUM FIRST CIRCULAR AND INFORMATION

The following pages include the First Circular of the 8th International Symposium on Vulcanospeleology, to be held in Kenya in February 1997, together with basic information. PLEASE DISTRIBUTE THIS TO EVERYONE IN YOUR AREA AS SOON AS POSSIBLE. As a result of preliminary input to Jim Simons, significant changes have been made.

Another Commission Newsletter will appear soon, probably in May. It will contain the 4-year report of the Commission, and the latest information on long lava tube caves and deep volcanic pits. Also it will contain information for members of the Commission to consider before the meeting in Switzerland in August 1997. (The date and time of this meeting have not been determined yet.)

Two new members of the Commission are:

Yvo Weidmann
EAWAG Environmental Physics
Ueberlandstr. 134
CH-8600 Duebendorf
Switzerland

Gregory Middleton
PO Box 269
Sandy Bay, Tasmania
Australia 7006
(member for the Indian Ocean)

Two new addresses:

H.-J. Schumacher
Vogtlandstr. 13
D-95497 Goldkronach
Germany

K.G. Grimes
PO Box 362
Hamilton 3300, Australia

Peter Roe (England) led a recent trip to the Cape Verde Islands. They found one small lava tube cave on Sal, and 4 or 5 "good lava tube caves" with several additional leads unchecked because of lack of time on Fogo.

In the mainland, in Washington state, Deadhorse Cave now is longer than Ape Cave (4.1 km+ vs. 3.904 km), according to a report in Cascade Caver, Vol. 35, no. 6, June 1996.

In Hawaii County, Hawaii, connection of several short lava tube caves in North Puna District by Stephan Kempe and Doug and Hazel Medville teams led to a new lava tube cave over 10 km long. Details are expected at the session in Switzerland in August.

Former U.S.G.S. vulcanologist Ken Hon has been working with Kilauea Crater teams of the Hawaii Speleological Survey. This cooperation has revealed the existence of caves formed as hollow flow lobe complexes. Details in Switzerland in August. And the length of Kazumura Cave continues to increase.

8TH. INTERNATIONAL SYMPOSIUM ON VULCANOSPELEOLOGY
NAIROBI, KENYA, 8-9 FEBRUARY, 1997

(Hosted by THE CAVE EXPLORATION GROUP OF EAST AFRICA, c/o P.O.Box 47363,
Nairobi, Kenya. Hon.Chairman : Jim W.Simons, Tel.& Fax 254-2-520883)

1ST. INFORMATION CIRCULAR (REVISED FEB.1997)

The 8th.International Symposium on Vulcanospeleology is being held in
Nairobi, Kenya, in February, 1998.

Two days of formal sessions will take place on Saturday and Sunday,
8-9 February, 1998, at the 4 star Panafric Hotel, Nairobi. Depending upon
the papers received, sessions are expected to include : Vulcanospeleology
of East Africa, World Vulcanospeleology, Geological, Biospeleological,
Conservation, Theoretical and Miscellaneous topics.

Overseas Registration fees will be : USD 60 (to 31/7/97; USD 80 (to
31/10/97) and USD 100 (from 1/11/97). There will be no fees for
accompaniers not attending sessions. Daily Session registration will be
open only to East African residents. Registration fees include use of room
and equipment, coffee and tea breaks, poolside lunches and UIS Tax.

The official language of the symposium is English. The acceptance of in
absentia papers cannot be guaranteed. Proceedings will eventually be
printed in English and efforts are being made to find a publisher.

A selected list of Nairobi Hotels at B+B rates is enclosed, but it is
expected that most delegates will opt for the venue hotel.

Receptions will include a Welcome Cocktail Party (\$25 pp) at the Panafric
Hotel, and a Closing Party (\$30 pp) at a venue to be announced.

There will be both Pre-symposium caving field trips of 1/2 and 4.5 days
duration, and Post-symposium trips of 1, 2, 3 and 5 days in duration.
These will largely be undertaken in 4x4 vehicles (6-8 Pax) requiring a
minimum of 6 passengers to guarantee trip operation. Prices will be
inclusive of transport, overnight hotel or tented camp accommodation (as
applicable), and all meals (See enclosed programmes for details & rates).

A guide book on the caves to be visited (price to be announced), special
symposium T-Shirts (\$15 p.piece) and CEGEA standard T-Shirts (\$10p.pc.)
can be reserved in advance and will be available for collection in
Nairobi. Purchase is also open to non-attending corresponding registrants.

Various 1/2-1 day excursions to places of interest around Nairobi (Nairobi
National Park) and into the Great Rift Valley (Mt.Longonot Volcano ascent)
will also be available for both delegates and accompaniers throughout
their stay. An advance indication of interest will be valuable, but
otherwise excursions can be booked and paid-up at the hotel courtesy desk.

A wide variety of Mini-Bus safaris to the famous wildlife parks and lodges
are available from local tour operators (see example list & prices) with
departures normally guaranteed if there is a minimum of 4 full-paying
passengers (Quotations for smaller or larger numbers on request). The
organisers will forward any applications for such trips to the appropriate
agent/s with whom all future transactions will be conducted direct.

Please complete and return the Non-Binding Statement of Interest if you
wish to be kept further informed.

Many thanks JIM W.SIMONS

(12-2)

CAVING FIELD TRIPS

(All departures will be from the Panafric Hotel, Nairobi)

PRE-SYMPOSIUM

FT IA+B NDARUGU RIVER CAVES 1/2 DAY (2 FEB. & 7 FEB. Alternatives)

A 1/2 hour drive of about 30 km. to the north of Nairobi will take us to Benvar Estate where some of Kenya's famous coffee will be viewed. In the welded volcanic tuffs forming the cliffs of the nearby Ndarugu River Gorge, lie a number of small, multi-level, water-formed passage systems which have not been fully explored or mapped. The complexity of crawlways will provide both sport and an opportunity to test one's surveying skills!

Depart 1300. Return 1800. Mini-Bus transport (Min.4-Max.8 Pax)
Cost USD 30 per person.

FT II CHYULU HILLS & CAVES 4.5 DAYS (3-7 FEB.)

This pre-symposium field trip will visit MATHAIONI & KIMAKIA (ITHUNDU) CAVES in the N.Chyulu and LEVIATHAN CAVE (Kenya's longest and deepest lava tube system) and PANGO YA MOSHI in the Main Chyulus. All are located in the beautiful range of cinder cones and lava fields making up the Chyulu Hills National Park, between 130-230km. SE of Nairobi. Park entry fees have been specially waived. Luxurious tented accommodation is provided at a discounted rate at the UMANI SPRINGS CAMP, situated in the adjoining Kibwezi Forest Reserve. Daily caving trips will be made from this camp and opportunities exist for companions to also make side excursions (e.g. Tsavo N. Park). A traditional dance at a nearby village by the Wakamba tribe is also included. Some wildlife may be viewed and the trip will be of interest to all volcano-speleologists, geologists and bio-speleologists. The trip returns to Nairobi by lunch-time to enable attendance of FT 1B.

D1-Depart 0800. D5-Return by 1200. 4x4 vehicle (Min.6-Max.8 Pax)
Cost USD 610 pp sharing twin/triple. Single Rooms-no guarantee & subject to availability. All inclusive of transport, x 4 nights F/B accommodation, meals and traditional dance.

POST-SYMPOSIUM

FT III MT. SUSWA CALDERA & CAVES 1 DAY (10 FEB.)

Drive into the centre of the Great Rift Valley, ascend the eastern slopes of the mountain to enter and drive across the 8km. caldera to view the fascinating central collapse graben which forms a deep moat around an island block. Return to the eastern flanks, where a pahoehoe lava flowed through a breach in the caldera, to visit examples of a braided and multi-level system of lava tunnels. The complex has an estimated 12 km. of passages in 40 different caves in a km. square area. Return to your Nairobi hotel by early evening. The unique caldera is of particular importance to volcanologists and certain bat caves contain interesting invertebrates. Some wildlife and Maasai inhabitants may also be seen.

Departure 0730 Return 1830 4x4 Vehicle (Min.6-Max.8 Pax)
USD 80 pp (Including Picnic Lunch).

(12-3)

8TH. INTERNATIONAL SYMPOSIUM ON VULCANOSPELEOLOGY - PROVISIONAL PROGRAMME

DATE

SCHEDULE

PRE-SYMPOSIUM EVENTS

- JAN 31 (Frid.) Arrivals and early Registration ? Optional 1/2-1 day excursions ?
- FEB. 1 (Sat.) Arrivals/Registration. Optional 1/2-1 day excursions. Evening get-together (time & venue to be announced).
- FEB. 2 (Sun.) Registration. Optional 1/2 day excursions.
1300-1800 FT IA) NDARUGU RIVER CAVES
1900-2000 Evening get-together/Chyulu Trip briefing.
- FEB. 3-7 (Mon-Frid) 0730- FT II) CHYULU HILLS & CAVES. 4.5 days, with 4 nights Umani Springs Camp, arriving back in Nairobi by lunch-time on Frid.7th. to attend alternative FT IB) ?
- FEB. 5 & 6 (Wed. & Thurs.) Arrivals and early Registration. Optional 1/2-1 day excursions ?.
- FEB. 7 (Frid.) Registration. Optional 1/2 day excursions.
1330-1800 FT IB) NDARUGU RIVER CAVES
1900- WELCOME COCKTAIL PARTY (PANAFRIC HOTEL)
(Opening Ceremony & Welcome Speeches)
- FEB. 8 (Sat.) 8TH.SYMPOSIUM (PANAFRIC HOTEL)

0900-1230 Sessions (Keynote paper ?) + coffee break
1230-1330 Poolside Lunch with guest speaker ?
1330-1830 Sessions + tea break
1930- Possible evening out at a Nairobi restaurant
- FEB. 9 (Sun.) 8TH.SYMPOSIUM (PANAFRIC HOTEL)

0830-1800 Sessions with coffe, lunch and tea breaks
1900- FAREWELL DINNER (Panafric Hotel or alternative)

Optional 1/2 - 1 day excursions for accompaniers will be available during both days of sessions

POST-SYMPOSIUM EVENTS

- FEB. 10 (Mon.) 0730- FT III) MT.SUSWA CALDERA & CAVES. 1 day trip with picnic lunch.
- FEB 10-11 (Mon.-Tues.) 0730- FT IV) MT.SUSWA CALDERA & CAVES. 2 day trip with picnic lunches, an overnight at a Lake Naivasha Hotel, returning to the mountain and caves for a 2nd.day before return to Nairobi;
- FEB. 12-14 (Wed.-Frid.) 0730- FT V) MT.ELGON & CAVES. 3 day trip with over-nights at a nearby hotel or farm 'home-stay'.
- FEB 10-14 (Mon.-Frid.) 0730- FT VI) MT.SUSWA & MT.ELGON CAVES. 5 day trip combining FT IV & V with an extra night at a Lake Baringo Hotel on Tues.11 Feb.

INTERNATIONAL UNION OF SPELEOLOGY

Commission on Volcanic Caves

1996 REPORT TO THE IUS/UIS

15 October 1996

The IUS Working Group on Volcanic Caves became its Commission on Volcanic Caves in 1993. Its purpose is to advance the scientific exploration, study, and preservation of lava tube caves and other caves in volcanic rock. Currently it has one member each from 17 nations: Australia, Bulgaria, France, Germany, Iceland, Indonesia, Italy, Japan, Kenya, Korea, Mexico, Netherlands, New Zealand, Portugal, Russia, Spain and the U.S.A.

The Commission collects and disseminates information through its newsletter (two in 1996 to date), through sponsorship of international symposia and conferences, through meetings of its chairman with individual Commission members, and through data compilation on lava tube caves in a NASA-sponsored world data base at Arizona State University (att. Dr. Ron Greeley, Geology Dept., A.S.U., PO Box 87-1404, Tempe, AZ, USA 85287-1404). The newsletter contains reports and abstracts in addition to current information. It is archived in two U.S. Geological Survey libraries and is abstracted in Volcano Quarterly. In 1996 Stephan Kempe and I presented papers at the annual meeting of the National Speleological Society and met with the IUS President and Secretary-General. Later he and I studied lava tube and other pseudokarstic and karstic caves in Colorado, Utah, Arizona, and New Mexico. In September I spent eight days with Yuri Slezin in Kamchatka, visiting the Tolbachik cave area and speaking at the Institute on Volcanic Geology and Geochemistry. In late 1995 and 1996 the Commission joined with the Hawaii Speleological Survey of the National Speleological Society in opposing plans for segmental collapse of Kazumura and other important caves by a road project. Although still being monitored, this effort apparently was very successful. The Commission also provided recommendations to the American Geological Institute for the forthcoming 4th edition of Glossary of Geology and Related Sciences, which may appear later this year. More than 2000 lava tube caves in 40 nations now are included in the world data base.

The Commission meets during international congresses of speleology and during international vulcanospeleological symposia and symposia. The Commission solicits and approves sites for these symposia. The next meeting will be in Switzerland in 1997 during the 12th International Congress of Speleology. Also it will meet in Nairobi in February 1998 during the 8th International Symposium on Vulcanospeleology and in Catania, Italy in September 1999 during the 9th such symposium. The Commission solicits and approves sites for these symposia.

Future activities will include expansion of all current projects, determination of when pit craters should be considered speleological phenomena, and increased liaison with the IUS' Commission on Glacier Caves and proposed Working Group or Commission on Pseudokarst. Jan Paul van der Pas attended 1996 meetings of both groups.

William R. Halliday
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Chairman/President

