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Newsletter # 13 # 17



COMMISSION on

VOLCANIC CAVES

INTERNATIONAL UNION OF SPELEOLOGY

Commission on Volcanic Caves

Newsletter # 13

Pre-Congress Issue

June 1, 1997

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INTERNATIONAL UNION OF SPELEOLOGY

Commission on Volcanic Caves

REPORT ON ACTIVITIES 1993-1997

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 19 nations. Members are expected to keep the Commission informed about progress and problems in vulcanospeleology and to disseminate vulcanospeleological information to other speleologists in their country or study area.

The Commission collects and disseminates information through its newsletter, through sponsorship of international symposia and conferences and exchange visits, 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 Ur -The newsletter appears approximately twice each year. it versity. contains reports and abstracts in addition to current information. It is archived in two U.S. Geological Survey librarieas, and is abstracted in Volcano Quarterly. Several Commission members presented papers at the 7th International Symposium on Vulcanospeleology in the Canary Islands in 1994; the Proceedings of this symposium Also the Proceedings of the 1º Encontro Inhave been published. ternacional de Vulcanoespeleologia das Ilhas Atlanticas (1992) is now in print. In 1996 Stephan Kempe and I presented papers at the Annual Meeting of the National Speleological Society in Colo-There, we also met with the IUS President and Secretary rado, USA. General. Later Dr. Kempe and I studied lava tube and other pseudokarstic and karstic caves in Colorado, Utah, Arizona, and New Mex-ico. In September 1996, I spent eight days with Yurii 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 the Hawaii Speleological Survey of the National Speleological Society in opposing plans for segmental co⁻⁻-apse of Kazumura and other important caves by a road project. Although still being monitored, this effort apparently was successful. The Commission also provided recommendations to the American Geological Institute for the new 4th Edition of Glossary of Geology and Related Sciences. More than 2000 lava tube caves in 40 nations now are included in the world data base.

Notable field investigations have occurred in Tenerife (extension of Cueva del Viento to 17.18 km), Réunion (systematic studies by P. Audra), Mauritius (systematic studies by G. Middleton), Pico (extension of Gruta da Torres to 5.2 km by ERS of Barcelona), Hawaii (extension of Kazumura Cave to 61 km + 0.6 km unmapped, by Kevin and Carlene Allred and others, with a vertical extent of 1.102 km, and also mapping of Na One Pit to a depth of 263 m (Allred and current mapping of Hue Hue Cave to about 10 km by S. Kempe and D. and H. Medville), and Mexico and Iceland. Important books have been published on the Undara cave system (Australia) and Cueva del Viento (Canary Islands), and caves of Iceland in general. Important current studies include Grand Comoro Island (G. Middleton) and Kilauea Crater (W. Halliday). The Commission meets during international congresses of speleology and during international and regional vulcanospeleological symposia. The Commission solicits and approves sites for these symposia. The next meeting will be in Switzerland in August 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 during the 9th Symposium.

Future activities will include expansion of all current projects, discussion of when pit craters should be considered speleological phenomena, discussion of whether vertical extents of lava tube caves should be included in deep cave lists, discussion and possible adoption of a Mission Statement for the Commission, further discussion of the present closure of Korean lava tube caves to vulcanospeleological studies, and increased liaison with the IUS' Commission on Glacier Caves and proposed Working Group or Commission on Pseudokarst. A replacement for the present Chairman is needed no later than March, 1998, and the next Chairman should develop a mechanism for funding Corresponding Members. (To date, all Commission expenses have been funded personally by the present Chairman, which has precluded mailings to more than the present membership.)

W.A. Hellidau William R. Halliday Chairman 31 March 1997

Vulcanospeleological meetings at 12th Int. Congress

The first scheduled session on vulcanospeleology and pseudokarst at any IUS Congress of Speleology will occur Saturday August 16. Approximately 12 papers are scheduled. The date and time of the business meeting of the Commission on Volcanic Caves will be announced at the Congress. Items to be discussed include:

- funding, including possible inclusion of corresponding members.
- 2) Commission mission statement.
- liaison with IUS Commission on Glaciospeleology and with IUS Working Group on Pseudokarst.
- are <u>vertical</u> <u>extents</u> of lava tube caves homologous to <u>depths</u> of limestone caves?
- 5) closure of Korean caves to vulcanospeleological study.
- 6) replacement of Chairman/President of Commission.
- 7) pit craters as vulcanospeleological features.

Newsletter Nº 13, June 1, 1997

PROPOSED MISSION STATEMENT

The Commission on Volcanic Caves is an integral unit of the International Union of Speleology and upholds the high standards of its parent organization. It meets during international congresses of speleology and during international and regional vulcanospeleological symposia. It solicits and approves sites for such symposia, held to date in the U.S.A., Italy, Japan, and Spain.

The basic mission of the Commission is to advance the scientific exploration, study, and preservation of lava tube caves and related features in volcanic rock, throughout the world. It seeks to bring together all persons, organizations, and agencies with legitimate concerns with volcanic caves, their features, and their environments. Its members are leading vulcanospeleologists from each country or area with especially important lava tube caves or related features. Commission members are expected to keep the Commission informed about progress and problems in vulcanospeleology and to disseminate vulcanospeleological information to other speleogists in their country or study area.

The Commission collects and disseminates information through its newsletter, through sponsorship of international symposia and conferences and through exchange visits, through meetings of its Chairman/President with individual Commission members and cooperators, and through data compilation in a world data base on lava tube caves at Arizona State University. Currently this world data base contains information on more than 2000 lava tube caves in 40 countries. Further, the Commission provides reports and recommendations to national and regional ornizations such as the American Geological Institute. Its newsletter is published two or three times each year. In addition to current information it contains reports and abstracts. It is archived at two U.S. Geological Survey libraries, and is abstracted in <u>Volcano Quarterly</u>.

The Commission intends to continue and expand all current projects. Especially it intends to expand its cooperation with other Commissions and Working Groups of the International Union of Speleology, and with national and regional speleological organizations working in the field of vulcanospeleology.

ATTACHMENT ABOUT LAVA RIVER CAVE, ARIZONA, U.S.A.

Attached to this issue is a green "Recreation Opportunities Guide" to Lava River Cave, state of Arizona, U.S.A., provided by the Coconino National Forest. It is hoped that this will clarify confusion between this cave and "Lava River Cave", state of Oregon, U.S.A., in the Deschutes National Forest. The cave described here commonly is called <u>Government Cave</u> in the American speleological and popular literature, but the U.S. Forest Service prefers to call both caves "Lava River Cave". Both are popular sites for recreational caving.

THE LONGEST LAVA TUBE CAVES

I. Lava tube caves more than 5 km long

- Kazumura Cave, Puna District, Hawaii. 61.42 km + unmapped lowermost level (about ¹/₄ km). Ref: letter from Kevin Allre 16 January 1997. Includes Sexton's and Olaa Caves.
- 2. Cueva del Viento, Tenerife, Canary Islands, Spain. 17.032 k Ref: Hernandez, J.J. et al. 1995. La Cueva del Viento. R Canarias de Espacios Protegidos. 98 p. + maps. Cave is seg mented only by cellar of house. This figure may not include length of Cueva de Filipe Reventon, listed variously in 1994 as 2,000 m (J.J. Hernandez, Subterranea no. 1, p. 36) and 3030 m (Fed. Canaria de Espeleol., Caves and Caving # 65), and believed to have been connected subsequently.
 - Bilemot Cave, Cheju Island, Korea. 11.749 km. Ref: Sameshima, Teruhiko, Takanori Ogawa and Naruhiko Kashima. 1988. 5th International Symposium on Vulcanospeleology Excursion Guidebook. p. 69, 79.
 - Leviathan Cave, Chyulu Hills, Kenya. 10.5 km. Verbal communication, Jim Simons, 1995. Published figure of 12.4 km includes separate continuation of system.
 - 5. Huehue Cave, North Kona District, Hawaii. 10.28 km; mapping still in progress in April 1997. Ref: two articles in Newsletter # 1, Hawaii Speleological Survey of the National Speleological Society. Length may exceed that of Leviathan Cave
- Manjang Cave, Cheju Island, Korea. 8.928 km. Ref: same as for #3. This 1988 figure supercedes previous figure of 13.4
- 7. Keala Cave, Puna District, Hawaii. 8.6 km. Ref: written communication from S. Kempe, 1995.
- 8 & 9. Pahoa Caves, Puna District, Hawaii. 16 km is incomplete pace-and-compass total length reported for two caves. No other details released. Ref: McEldowney, Holly and Fred Stone. 1991. Survey of lava tubes in the former Puna Forest Reserve and on adjacent State of Hawaii Lands. Prepared for: State Historic Preservation Division, Division of Water Resource Management, Department of Land and Natural Resource. State of Hawaii.
- Cueva de Don Justo, Hierro, Canary Islands, Spain. 6.315 km Ref: Hernandez, J.J. et al. 1992. Volcanic Caves in El Hierro Island, Canary Islands, Spain. In: Proceedings of tl the 6th International Symposium on Vulcanospeleology, Hilo, 1 August 1991, p. 190.
 - 11. Gruta das Torres, Pico, Azores, Portugal. 5.439 km, but may be segmented near one end. Ref: ERE del CEC Survey April 1996 (Barcelona); may be incomplete.

Notes: Claude Chabert (Jan. 1997) lists a "Freudian Complex Chimney Lava Tube System" in Siskiyou County, California but I have not seen the documentation; said to be 5.439 km. long.

Labyrinth Cave (Siskiyou County, California) has been listed at 6660 m and at 5661 m. The new figure (Larson, Charles, 1992 in Proceedings of the 6th International Symposium on Vulcanospeleology) is 1158 m.

John Martin Cave has been listed at 6.263 km. This figure included not only John Martin Cave but also Pukalani Cave, an unnamed natural bridge, and two short sinks. The current figure is 4.158 km and the cave is being remapped.

Various lengths in this range have been cited for "Ainahou Ranch Cave". Actually this is a group of caves in a segmented system with no individual cave in this range.

Cueva de Los Verdes, Lanzarote, Spain has been listed at 6.1 km. However, the original 1969 and 1974 studies of this cave system clearly show that the system is segmented, with the longest cave 2.565 km (Crawford, Rod. 1983. The World's Longest Lava Tube Caves: 3rd Revision. 1983 Speleodigest, p. 182).

II. Lava tube caves 3 to 5 km long

- Susan Gul, Cheju Island, Korea. 4.675 km. Ref: Sameshima, Ogawa and Kashima, 1988. op cit.
- Ubuvomo bwa Musanze, Rwanda. 4.560 km. Reference: Montserrat, Alfred. 1979. Expedicio vulcano-espeleologica, Rwanda-77. Espeleoleg ere, Centre excursionista de Catalunya no. 28, p. 40-42. Crawford (op. cit.) stated that this was a segmented system of two caves, however, and deleted it from his 1983 list. The question is unsettled.
- John Martin Cave, Puna District, Hawaii. 4.158 km. Tentative figure obtained by subtracting length of Pukalani Cave, natural bridge, and two sinks from old figure of 6.263 km. Remapping in progress (March 1997).
- Deadhorse Cave, Skamania County, Washington state, USA. 4.1 km. McTigue, Larry. 1996. Deadhorse surpasses Ape Cave in length. Cascade Caver, vol. 35, no. 6, June, p. 41. Mapping is incomplete and length may exceed 4.3 km.
- Ape Cave, Skamania County, Washington state, U.S.A. 3.904 km. Ref: Halliday, William R. 1983. Ape Cave and the Mount St. Hslens Apes. Vancouver, WA, ABC Printing, 24 p.
- Duck Creek Lava Tube, Kane County, Utah. 3.695 km. Ref: Green, Dale J. 1990. Duck Creek Lava Tube, Kane County, Utah. Technical Note #86, Salt Lake Grotto of the National Speleological Society, March 1990.

- 14-18 Series, Mt. Suswa, Kenya. Estimated 3.5 km. Written communication from Jim Simons, 1995.
- unspecified cave, El Malpais National Monument, New Mexico, US 3.4 km. Ref. Rogers, Bruce W. 1992. General geology and development of lava tubes in New Mexico's El Malpais National Monument. In: Proceedings, 6th International Symposium on Vulcanospeleology, p. 60.
- 9. Sochon Gul, Cheju Island, Korea. 3.074 km. Ref: Sameshima, Ogawa and Kashima, op. cit.
- Cueva del Cascajo, 3.010 km. Ref: Hernandez, J.J. et al. 199 Contribution to the Vulcanospeleology of the Galapagos Islands In: Proceedings of the 6th International Symposium on Vulcano speleology, op. cit. p. 206. (Santa Cruz Is., Galapagos, Equador.
- 11. Cueva de la Iglesia, San Juan Tlacotenco, Mexico. 3.0+ km. Ref: Espinasa-Pereña, Ramón. 1993. Lava tubes of the Suchiooc Volcano. AMCS Activities Newsletter, no. 20, p.56. Exact length not stated.
- Rainbow's End Cave, Mt. Silali, Kenya. 3.0+ km. Ref: Simons Jim. ca. 1994. List of Kenya's longest lava tube systems. Exact length not stated.
- Pango Ya Moshi (Cloud Cave). Chyulu Hills, Kenya. Estimated
 3.0 km. Simons, Jim. 1994. op. cit.

Note: Gypsum Cave, Lincoln County, Idaho state, U.S.A. has been listed at about 3.22 km, but documentation has not been reviewed. An earlier published figure was 2.14 km.

A sharp break in quality of documentation is evident at $3\frac{1}{2}$ km, raising a question about maintaining lists of lava tube caves $3\frac{1}{2}$ km or less in length.

III. Lava tube caves 2 to 3 km long

- Pole 177 Cave (Lower Lava Lake Cave), North Kona District, Hawaii, U.S.A. 2.9 km.
- Falls Creek Cave, Skamania County, Washington state, U.S.A. 2.78 km.
- Gruta Dos Balcões, Azores, Portugal. 2.713 km. Part may have been destroyed since it was mapped.
- 4. Cueva de Los Verdes, Lanzarote, Spain. 2.565 km. (longest segment in system).

5, Mammoth Cave, Modoc County, California, U.S.A. 2.49 km.

- Pukalani Cave, Puna District, Hawaii, U.S.A. 2.48 km. Upper level not mapped; probably short.
- 7. Gaping Holes, Siskiyou County, California, U.S.A. 2.406 km.
- 8. Lava River Cave, Deschutes County, Oregor, U.S.A. 2.37 km.
- 8. Dynamited Cave, Skamania County, Washington state. 2.37 km.
- 10. Cueva de Gallardo, Galapagos, Equador. 2.25 km.
- 10. Pot o' Gold Cave, Idaho state, U.S.A. 2.25 km.
- 10. Cueva de los Naturalistas, Lanzarote, Spain. 2.25 km.
- 13. Mitsuiki Ana, Japan. 2.202 km.
- 14. Kaumana Cave, South Hilo District, Hawaii, U.S.A. 2.2 km. much remains to be mapped.
- 15. Gypsum Cave, Idaho state, U.S.A. 2.14 km.
- 16. Cueva de San Marcos, Tenerife, Spain. 2.136 km.
- Catacombs Cave, Siskiyou County, California, U.S.A. 2.103 km. Previously listed at 2.280 or 5.660 km; new figure 1992 by Charles Larson in Proceedings of 6th International Symposium on Vulcanospeleology (p. 41).
- 18. Wahol Gul, Cheju Island, Korea. 2.103 km.
- 19. Cueva del Ferrocarril, San Juan Tlacotenco, Mexico. 2.0+ km.

19. Cueva del Diablo. Same, 2.0+ km.

Notes: one or more caves in the Ainahou Ranch System (Kau District, Hawaii) and in the Umii Manu System (North Kona District, Hawaii) may belong in this group. Documentation is lacking.

Catwalk Cave, California, once listed at 2.434 km, is believed to be segmented, with no segment as much as 2 km in length.

The status of "Offal Cave", Maui Island, Hawaii, U.S.A., once listed at an estimated 2.113 km, is uncertain. If it is the same cave as "Field 38 Cave", its length is less than 1 km. PROCEEDINGS OF THE FIRST INTERNATIONAL CONFERENCE OF VULCANO-SPELEOLOGY OF THE ATLANTIC ISLANDS PUBLISHED IN THE AZORES

In 1992 The First International Conference on Vulcanospeleology of the Atlantic Islands was held in Angra do Heroismo. The proceedings volume arrived in April 1995 although dated variously 1993 and 1994. The volume includes 271 pages and 120 illustrations, several in color. Papers variously are in English, Portuguese, or Spanish; abstracts are in English and one other language. Production was by photocopier and there is considerable variatin in quality of pre-copy typing but this is of minor importance. The volume is of exceptional importance because some of the papers catalogue all the lava tube caves of "Macaronesia" the Azores and the Canary Islands, with many maps.

The volume is in four sections: vulcanospeleology of the Azores, vulcanospeleology in the world, biospeleology in Macaronesia, and biospeleology and speleology in mainland Portugal (the last is the proceedings of the Third National Congress of Speleology which was held in conjunction with the vulcanospeleological meetir A total of 19 papers is included.

Papers on subjects beyond Macaronesia include <u>Cave Minerals in</u> <u>Volcanic Caves</u> by Paolo Forti, <u>Mineral Encrustations in Icelandic</u> <u>Lava Caves</u>, by S. S. Jonsson, <u>Worldwide Progress and Problems in</u> <u>Vulcanospeleology</u>, by William R. Halliday, and the mainland Portugal papers.

Bibliographic citation and location for orders are:

Livro de Actas do III Congresso Nacional de Espeleologia e do I Encontro Internacional de Vulcanoespeleologia das Ilhas Atlanticas. Comissão Editorial do 3[°] Congresso Nacional de Espeleologia e o 1[°] Encontro Internacional de Vulcanoespeleologia das Ilhas Atlanticas, P.A.V. Borges & A. Silva ed.s. "Os Montanheiros", Rua da Rocha 6 e 8, 9700 Angra do Heroismo, Terceira, Acores, Portugal.

Doug Irwin of Cairns, Australia has sent the following reference to Hypapamee Crater, Queensland:

"The only diatreme in the whole area is the crater known as Hypapamee on the western side of the Atherton Province about ten miles south ofAtherton. Here explosive activity has blasted through granite a sheer-sided hole about 200 feet wide and 450 feet deep (now partly filled with water). Basalt lapilli and small fragments of Upper Paleozoic granite are scattered all around this vent; it is obviously very young and must have been formed by one violent eruption."

-- Best, J.G. 1960. SomeCainozoic basaltic volcanoes in North Queensland. Dept. of National Development, Bu. of Mineral Resources, Geology and Geophysics. Records. 1960/78, p. 15. (Note: the cited figures clearly are estimates, superceded by 1994 measurements by Irwin. Additional geologic reports are needed.) 9 (11.9)

PROCEEDINGS OF THE 7th INTERNATIONAL SYMPOSIUM ON VULCANOSPELEOLOGY

The Proceedings of the 7th Symposium on Vulcanospeleology have appeared and are already available at the price of 2,750 pts (Spanish currency). If you want to receive the Proceedings, please fill the order enclosed herein and send it together with a copy of the postgiro voucher (or a check).

PACKING AND MAILING (in spanish pesetas)

	Europe	Africa	America	Asia/Australia
Surface mail	300	300	300	300
Air mail	1,100	1,600	1,600	2,700

PAYMENT

 Preferably: using Post giro in pesetas. Send it to Pedro Oromí Depto. de Biología Animal Universidad de La Laguna 38205 La Laguna Canary Islands - Spain

 If you use a check, this must be an international check in pesetas, and you have to add 1,000 pesetas to the final price for bank expenses.

For further contacts, better do it by e-mail to **poromi@ull.es** or fax your message to

> Pedro Oromí Depto. Biología Animal Universidad de La Laguna Tenerife - Spain fax # 34 (22) 25 33 44

Note: attendees at this symposium do not automatically receive a copy. And it appears that copies lost in the mail cannot be replaced. -- WRH

Coconino National Forest Recreation Opportunities Guide



LAVA RIVER CAVE

This mile-long lava tube cave was formed roughly 700,000 years ago by molten rock that erupted from a volcanic vent in nearby Hart Prairie. The top, sides and bottom of the flow cooled and solidified first, after which the insides of the lava river continued to flow emptying out the present cave.

Ample evidence of how the tube was born is written in the rocks of which it is formed. Small wave-like undulations in the floor are the remains of ripples frozen in the last trickle of molten rock that flowed from the cave. Stone icicles hanging from the ceiling show where a final blast of volcanic heat caused the rock to partially re-liquefy and drip.

Dress appropriately when you come to visit, with warm clothes and sturdy shoes. The cave is as cool as 42° even in summer, and you may even find some ice inside. The rocks are always sharp and slippery, too. Bring two or three sources of light, in case one happens to fail, it can be very dark one mile from the nearest light source.

Portions of the cave which were defaced by graffiti, have been recently cleaned up. Today's more environmentally aware visitors take better care of such a unique resource and report vandals when they see them.

Location: About 14 miles north of Flagstaff on paved highways and graveled Forest Roads. Travel time is about 45 minutes.

Access: Drive 9 miles north of Flagstaff on US 180 and turn west (left) on FR 245. Continue 3 miles to FR 171 and turn south 1 mile to where FR 171A turns left a short distance to Lava River Cave.

Season: You can visit Lava River Cave the year-round though you may need to ski to it in winter. Temperatures inside the cave remain roughly the same summer and winter. (between 35° and 45° Fahrenheit)

Attractions:

Cool cave Lava flow Scenic drive Wildlife viewing

Facilities: Interpretive sign

Notes:

Wear warm clothes and sturdy shoes. Bring two or three light sources Please don't deface cave surfaces, but do report anyone who does. Call 526-0600.

For more information contact:

Peaks Ranger Station, 5079 N. Highway 89, Flagstaff, Arizona 86004, (602) 526-0866)

LAVA RIVER CAVE



INTERNATIONAL UNION OF SPELEOLOG Commission on Volcanic Cayes

Newsletter # 14

June 18, 1997

14-1



Poikahe cave and trench system, Hualalai Volcano, Hawaii, USA

CORRECTION OF ERRORS IN DATES OF 1998 SYMPOSIUM IN NAIROBI

IUS Commission Newsletter #13 AND the First and Second Planning Circulars of the 8th International Symposium on Vulcanospeleology contain errors about the dates for that meeting and field excursions. PLEASE DISTRIBUTE THE CORRECT INFORMATION BELOW TO EVERYONE INTERESTED, IN YOUR AREA!!!!

Sessions		Sat. & Sun. 7-8 February
Arrivals by		Sat. 31 Jan & Thurs. 5 Feb.
Receptions		Fri. 6 Feb. & Sun. 8 Feb.
Ndarugu 1/2 day exc.	FTI	(a) Sun. 1 Feb; (b) Fri. 6 Feb.
Chyulu Hills	FTII	MonFri. 2-6 Feb.
Suswa (1 day)	FTIII	Mon. 9 Feb.
Suswa (2 days)	FTIV	MonTu. 9-10 Feb.
Elgon (3 days)	FT V	WedFri. 11-13 Feb.
Suswa-Elgon (5 d)	FT VI	MonFri. 9-13 Feb.

The fax number for Jim Simons is 254-2-520883. No e-mail number.

My new e-mail number (WRH) is bnawrh@webtv.net. My Office Depot fax number is (615) 385-0491 but I am not notified when messages arrive there. I will be in Missouri 19-28 June, in Hawaii 2-31 July and in Europe 4-22 August 1997. Hawaii address: 101 Aupuni Street #911, Hilo, HI 96720 USA; phone (808) 969-7980. Yurii Slezin will be with me 19-30 July.

The cover illustration for this issue is an aerial view of the Poikahe cave and trench system on Hualalai Volcano, Hawaii, looking roughly north. The system is believed to end in the dark forested area at the bottom of the photo; only a little of it has been explored to date. It is included here because some students of lava tube caves have proposed including trench lengths as part of the lengths of the caves. Caves exist at both ends of this system, and in the middle. It would be an impossible task to apportion trench segments to its specific caves.

SOME IMPORTANT REFERENCES

Hon, Ken et al. 1994. Emplacement and inflation of pahoehoe sheet flows; observations and measurements of active lava flows on Kilauea Volcano, Hawaii. Geol. Soc. Amer. Bull. Vol. 106, p. 351-370. (Important sheet flow lobe caves now known on Kilauea).

Walker, George P.L. 1991. Structure, and origin by injection of lava under surface crust, of tumuli, "lava rises", "lava rise pits", and "lava-inflation clefts" in Hawaii. Bull. Volcanol. v. 53, p. 546-558. (Includes tumulus caves and lava rise boundary ridge caves).

Fornari, Daniel J. 1986. Submarine lava tubes and channels. Bull. Volcanol. v. 48, p. 291-298. (Lava tubes and presumably lava tube caves can and do form under water.)



INTERNATIONAL UNION OF SPELEOLOGY

Commission on Volcanic Caves

Newsletter # 15

September 20, 1997

For the first time, a full day's session at an International Congress of Speleology was devoted to vulcanospeleology and pseudokarst, on Saturday 16 August 1997. Six papers were presented in each, plus a poster presentation in each. In addition, a full hour was provided for free discussion (the topic chosen by the group was <u>definition of pseudokarst</u>). A summary of this discussion will be published in volume 6 of the Proceedings of the Congress and also in Newsletter # 16 if space permits. Several lastminute changes occurred in the pseudokarst group of papers.

Among the vulcanospeleology papers, Greg Middleton and William R. Halliday's paper on caves of Mauritius demonstrated the need for field investigation of volcanic areas previously said to be of no speleological interest; that republic has more than 50 significant caves including lava tube caves more than 600 m long. Stephan Kempe (with his graduate students) presented three papers on Hawail topics. First he demonstrated backcutting by lavafalls, and canyon formation by multiple lavafalls, plus the importance of secondary ceilings. His second paper gave an example of interacting lava flows yielding complex lava tube morphologies. The third showed how mapping lava tube caves increases the accuracy of geological maps of complex lava flow fields. Doug and Hazel Medville described the new 10+ km Huehue Cave, and other recent explorations in Kona and on Mauna Loa, Hawaii. William Halliday discussed unusual volcanic caves of Hawaii Island, including hol-low tumuli, boundary ridge and other caves of lava rises, interconnected hollow flow lobe cavities, sotano-like pit craters and complexes, rift tube caves, and unusual open vertical volcanic conduits at the head of the Kaupulehu xenolith nodule beds. Yvo Weidmann provided a poster presentation on the 1996 Swiss expedition to lava cave areas of Kamchatka; they plan to return soon.

Among the presentations in the pseudokarst portion, several dealt with volcanic rocks or volcanism. The puzzling doline of Soulages (France) was shown to be an obscured maar. In Slovakia, four types of caves were shown to exist where basalt is underlain by sandstone and clay. The local term <u>sherlopa</u> for "gravity caves" in Siberia was proposed for international use; some of these caves are in basalt. Consequence caves in Hungary are in volcanic rock. Dissolution occurs in andesite in Romania.

Preprints of some of the papers (especially those of Hawaii) in the Congress Proceedings already are obsolete because of the speed of progress in these subsciences.

The Commission met on 14 August. The formal report of the meeting follows, less the attendance record and the faxes from Nairobi. I presented an oral summary at the 2nd General Assembly on Sunday August 17. The delegates voted to create a new Commission on Pseudokarst. Among its assignments are volcanic caves other than lava tube caves, open vertical volcanic conduits and other syngenetic caves. Elsewhere in this newsletter is preliminary information about this new commission.

IMPORTANT INFORMATION

The President-elect of the Commission is Jan Paul van der Pas. He will take office in February 1998, during the International Symposium on Vulcanospeleology in Nairobi. A Commission meeting will occur at that time.

His address is: Vauwerhofweg, 3 6333CB Schimmert Nederland.

Telephone +31(0)45 - 40 41 600

<u>Present Commission members who wish to continue</u> as members should contact Mr. van der Pas before 1 January 1998. Please see the report of the August Commission meeting elsewhere in this issue. <u>Members who do not contact him probably will be dropped from the</u> Commission.

Members who do not wish to continue on the Commission are urged to nominate other vulcanospeleologists as potential replacements.

PROCEEDINGS OF THE 7th INTERNATIONAL SYMPOSIUM ON VULCANOSPELEOLOGY

A few copies remain of the published Proceedings of the 7th Symposium. It is a superb volume, containing much information not available anywhere else. I have apologized to its editor, Dr. Pedro Oromi, for misinformation in a recent issue of this news-letter. To avoid further misunderstandings, I suggest e-mail contact with Dr. Oromi at poromi@ull.es.

The following excerpt from the Congress newsletter (published before formal creation of the new pseudokarst commission) explains its background and plans:

New U.I.S. Commission

Cavers and scientists from several countries have explored and studied more than 2000 caves developed in non-karstic rocks. Since 1982 six international pseudokarst symposia were organized and a great deal of information about the results has been published.

Friday morning all interested national caving clubs, associations and federal delegates agreed to ask U.I.S. for the foundation of a new commission called "Pseudokarst". The following program was set up:

- 1997 sept. : Pseudokarst scientific session for cavers in Clujnapoca City (Romania)
- 1998 april : pseudokarst workshop, eastern Austria
- 1998 sept.:working meeting in Bromow (Czech) and nothern Bavaria (Germany)
- 1999 : the 7th international pseudokarst symposium, Moneasa (Romania)

The proposed targets are the following:

- Pseudokarst inventory,
- Relationship with others U.I.S. commissions (vulcanospeleology and library),
- Working groups specialized on main directions (biology, climatology, mineralogy, geomorphology),
- Publishing activity in U.I.S. Bullettin and in other national and international scientific revues,
- Creating a specialized bibliography
- Pseudokarst protection
 Pseudokarst proposed commission
 Honored-president: Jiri Kopechy (CZ)
 President: Esterhas Istvan (H)
 Vice-president: Tilo Schöne (D)
 Secretary: Tulucan Tiberiu (RO)

INTERNATIONAL UNION OF SPELEOLOGY Commission on Volcanic Cayes

REPORT ON THE COMMISSION MEETING 14 AUGUST 1997

1) Discussion of separate commission or commissions.

A consensus supported UIS creation of a separate commission on general pseudokarst if the current unaffiliated middle European pseudokarst group complies with UIS requirements for working group or commission status. This would limit the role of the present Commission on Volcanic Caves to primary volcanic caves. It was agreed that a clearcut division exists between these roles. Only a few small remnants of lava tubes exist as caves in central Europe where the unaffiliated group functions, and the longest is only about 200 meters long. It also was agreed that there is no consensus on Whether glacier caves are karstic or pseudokarstic.

2) Mission statement.

The attached mission statement was approved unanimously as proposed. It was published in the Commission Newsletter #13 (June 1, 1997).

3) 8th International Symposium on Vulcanospeleology.

The President reported that progress had been good until a report of recent murder of British Museum staff persons near Nairobi. This caused much concern among potential attendees. The President was attempting to contact Jim Simons in Nairobi during the Congress to determine the actual situation. Stephan Kempe will be in Nairobi in December 1997 and will obtain further information. If the 1998 meeting must be cancelled, the 1999 Catania meeting will become the 8th Symposium. Adolfo Eraso reported that a joint symposium with the Commission on Glacier aves, in Iceland, in 2000 remains a possibility.

ADDENDUM --- between the Commission meeting and the 2nd General Assembly of the UIS, the President talked with Jim Simons and received the attached fax. As reported in the Congress newsletter, the report of murders of British Museum staff persons was incorrect and at this time, there is no reason to cancel the symposium.

4) Corresponding members.

By consensus, it was agreed that provisions should be made for Corresponding Members beginning in 1998.

5) Inactive full members.

With a new Commission President expected in 1998, it was agreed that the present President should ask all present members if they wish to continue, with termination of membership expected for those who do not respond.



6) Vertical extents of lava tube caves.

By consensus, it was agreed that definition of the depth or vertical extent of lava tube caves was not the concern of this Commission and should be left to the Commission on Longest and Deepest Caves (Grand Cavities).

7) Standard nomenclature of lava tube caves.

By consensus, it was agreed that this Commimssion should develop specific standard nomenclature for features of lava tube caves, in cooperation with the Commission on Cave Mineralogy and outside agencies such as the U.S. Geological Survey. It is to be developed from the "Illustrated Glossary of Vulcanospeleology", by Charles Larson. The present President is to contact Mr. Larson to begin this.

8) Nominations and election.

Jan Paul van der Pas was nominated for President beginning February 1998. There being no other nominations, the present President declared Mr. van der Pas unanimously elected.

Mr. van der Pas stated that he expected to continue the present practice of funding the Commission Newsletter by the President's personal funds.

9) Adjournment.

The President thanked the members for their service during his term of office. The membership thanked the President for his service and the meeting was adjourned. The next meeting is expected to be in Nairobi in February 1998.

William R. Halliday

William R. Halliday President, Commission on Volcanic Caves 14 August 1997

2nd Addendum

After the Commission meeting, it was learned from members of the Portugal delegation that Commission member Manuel Aguiar Silva had died since the last Commission meeting. A particularly active member of the Commission until his final illness, he will be greatly missed.

Newsletter Nº 15, Sept. 20, 1997

MISSION STATEMENT

The Commission on Volcanic Caves is an integral unit of the International Union of Speleology and upholds the high standards of its parent organization. It meets during international congresses of speleology and during international and regional vulcanospeleological symposia. It solicits and approves sites for such symposia, held to date in the U,S.A., italy, Japan, and Spain.

The basic mission of the Commission is to advance the scientific exploration, study, and preservation of lava tube caves and related features in volcanic rock, throughout the world. It seeks to bring together all persons, organizations, and agencies with legitimate concerns with volcanic caves, their features, and their environments. Its members are leading vulcanospeleologists from each country or area with especially important lava tube caves or related features. Commission members are expected to keep the Commission informed about progress and problems in vulcanospeleology and to disseminate vulcanospeleological information to other speleogists in their country or study area.

The Commission collects and disseminates information through its newsletter, through sponsorship of international symposia and conferences and through exchange visits, through meetings of its Chairman/President with individual Commission members and cooperators, and through data compilation in a world data base on lava tube caves at Arizona State University. Currently this world data base contains information on more than 2000 lava tube caves in 40 countries. Further, the Commission provides reports and recommendations to national and regional ornizations such as the American Geological Institute. Its newsletter is published two or three times each year. In addition to current information it contains reports and abstracts. It is archived at two U.S. Geological Survey libraries, and is abstracted in Volcano Quarterly.

The Commission intends to continue and expand all current projects. Especially it intends to expand its cooperation with other Commissions and Working Groups of the International Union of Speleology, and with national and regional speleological organizations working in the field of vulcanospeleology.

IN MEMORIAM

MANUEL DE AGUIAR SILVA

5

International Leader in Vulcanospeleology Enthusiastic Caver A Good Friend The sympathy of the Commission goes out to his devoted wife.



TWO REPORTS ON CAVERNOUS VERTICAL VOLCANIC STRUCTURES

In this decade, two important reports on open volcanic shafts or conduits have appeared in publications not commonly reviewed by vulcanospeleologists:

Sowers, Janet M. 1993. Survey and Inventory of Fleener's Chimney Cave. Cave Research Foundation 1993 Annual Report, p. 10-13.

Sessiano, Jean. 1996. Le Creux-de-Soucy (Auvergne, France)/ Der Creux-de Soucy (Auvergne, Frankreich). Stalactite, Vol. 6, no. 1, p. 7-14.

The Sowers report was to and for Lava Beds National Monument, California, USA. The three Fleener's Chimneys are within 165 feet of one another. Two are plugged with cinders and debris and do not lead to cave passages. The central OVVC was dug open and found to lead to a notable cave. Through the courtesy of Chris Roundtree, Cave Management Technician at Lava Beds National Monument, a map by MikeSims, Dan Weinberg and Bill Devereaux is included in this issue. The article includes the history of the cave and the digging project, the physical characteristics of the cave, the geology and secondary mineralogy, and visitor management. The entrance now is gated. A cinder layer exposed in the lower part of the entrance shaft continues to collapse. The cave is a vertical slot funnelling upward into a single sloping, vertical tube with a portion of the tube widened by collapse. The slot is 0.3 to 1 m wide and 30 m long. It is in two levels, within a vertical extent The vertical tube begins at a depth of 22 m but is of 11 m. not vertical below a depth of 16 m. The tube is lined with a thin coating of smooth lava breached near its base, revealing a paleosol at the top of a thick layer of cinders. Gypsum is the only secondary mineral identified to date.

The bilingual Sessiano report is the most recent paper on a speleological enigma in a region of volcanism active as recently as 8000 years and as ancient as 20 million years. The vertical section of the cave is that of an hour-glass. The article reproduces Martel's old sketch showing its location in basalt overlying clay ("argile"). The main room is 60 x 40 m with a descent of 22 m from the entrance narrows to water. High levels of CO2 are present intermittently. Divers have found a second layer of basalt with a "galerie" which was not investigated because of danger. Sessiano speculates on the origin of the feature, but concludes that there is no "solution claire et definitive". Vulcanospeleologists are needed. (WRH)

Proceedings ("Atti") of the 2nd Regional Congress of Speleology, Catania (Sicily) 8-11 Dec. 1994 have been mpublished as Boll. dell'Accad. Gioenia di Sc. Nat. Vol. 27, no. 348, 694 p. + index. Included are 10 papers constituting the Terza Sezzione: Speleologia in araa vulcaniche: a notable contribution.

SOME ADDITIONAL REFERENCES TO MINERALS IN LAVA TUBE CAVES

The following references to minerals in lava tube caves do not appear in the 1997 2nd Edition of Cave Minerals of the World:

1849. James D. Dana. Volume X (Geology) of United States Exploring Expedition during the Years 1838, 1839, 1840, 1841, and 1842, under the Command of Charles Wilkes, U.S. Navy. Philaldelphia, Printed by C. Sherman. p. 201:

"They ('lava stalactites') were collected by the writer from the roof of a cavern in the bottom of (Kilauea) crater, where they occurred in great numbers. The examination of Prof. Silliman, Jr. shows that they are essentially an anhydrous silicate of the protoxyd of iron."

1985. A.K. Baird et al. Vapor deposition in basaltic stalactites, Kilauea, Hawaii. Lithos, Vol. 18, p. 151-160:

"...these stalactites are not exclusively basaltic glass, and include totally enclosed vesicles which contain a profusion of euhedral oxide and silicate crystals which must have been vapordeposited...The walls of the vesicles and the exterior surfaces of stalactites are Fe and Ti enriched and Si depleted compared to common basalt..."

1990. J.P. Toutain et al. Vapor deposition of trace elements from degassed basaltic lava, Piton de la Fournaise volcano, Reunion Island. Jour. Volcanol. and Geotherm. Research Vol. 40, p. 257-268:

"..mainly halides (Na, K and Cu chlorides, Si and K fluorides)... Rb, Cs, Se, Pb and Tl are associated with low-temperature deposits ...R.E.E., alkaline earth, Sc, Ta, Hf,Th and Zr are not detected. ..mineral assemblages are characterized by the lack of sulfides, sulfates, native sulfur and oxides..numerous transition and semimetallic elements are lacking. This is interpreted as the result of..transport in surface lava tunnels..."

1995. Alain Caubel. Note sur la Mineralogie des Tubes de Lave aux Açores. Le Regne Minéral No. 3, Mai-Juin, p. 4-10.

(Diopside and Nepheline are reported from Furna do Tanquinho, with a photo of the former as a secondary deposit on a lava stalagmite, and diopside also from another cave on Pico Island. The name of Furna do Enxofre [Graciosa Island] is attributed to the presence of yellow kalinite; no sulfur was found. [This also may be the case of Sulfur Crystal Cave, Mauna Loa Volcano, HI - WRH.] Malachite and commoner lava tube cave minerals also were reported. The article is beautifully illustrated, including floor plan and vertical section of Furna do Enxofre.)

Please send similar references to me at 6530 Cornwall Court, Nashville, TN USA 37205 or bnawrh@webtv.net.

SOME VULCANOSPELEOLOGICAL ABSTRACTS

Jim Kauakihaua, Tari Moulds and Ken Hon. 1990. Observations of lava tube formation in Kalapana, Hawaii. Eos, Vol. 71, p. 1711.

Nothing about caves, but a very important short communication (poster presentation). By surface electrical conductivity measurements of flow rates plus direct surface observations, these HVO staff persons studied two tube systems between May and August 1990. Narrow, thin pahoehoe flows were injected by pressurized magma, producing "elongated tumuli-like ridges with prominent axial cracks". 2-4 day interruptions of flow caused deflation with drainage, followed by reflation, "and the lava flow surface rose, causing numerous lava breakouts from weak spots." 1996 and 1997 H.S.S. studies have shown that at least two major caves on the floor of Kilauea Caldera are within and beneath ridges which meet this description. (WRH)

Hopkins, D.M. 1963. Geology of the Imuruk Lake area, Seward Peninsula, Alaska. U.S. Geological Survey Bull. 1141-C, p. 68.

The Lost Jim lava tube is "a great lava tube of complex history", with a collapse sink 60 feet deep, about 1 mile west of Lost Jim vent. The Lost Jim Lava Flow is more than 12 miles long, extending from about 1 mile south of Imuruk Lake to Lava Lake. Apparently the author is implying that the "great lava tube" is a lava tube cave, but the point is never clarified. Field investigation is needed. (WRH)

Godwin, M. and Pearson, L.M. 1991. The Muronga Lava Flow. Cape Leewin 1991: Proceedings of the 18th Biennial Speleological Conference, Australian Speleological Federation. Steven Brooks, ed. p. 34-54.

This report is unfortunately obscure. It describes the Spring Creek lava tube system with 9 accessible cavernous segments up to 370 m long, plus part of the Emu Creek lava tube system, with two caves found in the first 2 km investigated. The flow is one of three (like the Undara System) in recent flows of the McBride Plateau. (WRH)

Camp, Victor E. et al. 1987. The Madinah eruption, Saudi Arabia: magma mixing and simultaneous extrusion of three basaltic chemical types. Bull. Volcanol. Vol. 49, p. 489.

Besides its titular study, this article is notable for Fig. 1, a map showing distribution of alkali basalts from Aden to Turkey. Included is Jabal Druse, the known location of a lava tube cave for which no information is on file. (WRH)



MORE VULCANOSPELEOLOGICAL ABSTRACTS

Mouret, Claude. 1994. Formation of underground streams in volcanic rocks: Tahiti, French Polynesia, and Bali, Indonesia: Abstract. Supplement, Proc. XI Intern. Congr. of Speleol., 1993, Beijing. p. 42-43.

The Hitiaa Cave System, in Tahiti, has "an upstream cave with branches" 488 m long and "two large tunnels" 141 and 128 m long, up to 15 m in diameter and a natural bridge. It is attributed to piping in "former lava tubes in basaltic lava". (This should be further investigated.) In Bali, Goa Apetaungan is a piping cave in breccia

Marinakis, Harry. 1997. The lava tube systems of New Mexico's El Malpais. NSS News, Vol. 55, no. 6, June. p. 161.

An authoritative status report on a fascinating area with lava tube caves as much as 3163 feet long. The unidentified cave in this are previously listed at 3.5 km now can be deleted from lists of longes and deepest caves. Driblet columns are especially notable. (WRH)

Ballard, Robert D. 1979. The Galapagos Rift at 86^OW: 1. Sheet flows, collapse pits, and lava lakes of the Rift Valley. Jour. Geophys. Research Vol. 84, no. B10, Sept. 10, p. 5407.

Sheet flows are an important component of submarine midocean ridges. Collapse pits are common; "they appear to result from subsidence of the lava as a consequence of distalspreading of the flow and/or headward drainback into the subsurface plumbing system...sheet flows can be considered a submarine analog of surface-fed pahoehoe, while the pillow basalts are analogous to subaerial tube-fed pahoehoe." Robin Holcomb was a co-author. (WRH)

Stephenson, P.J. et al. 1980. Cainozoic volcanism in northeastern Australia. in: The geology and geophysics of northeastern Australia, R.A. Henderson and P.J. Stephenson, ed.s, Queensland Div., Geological Society of Australia, July. p. 349.

"The diatreme in the Atherton province is Hypipamee Crater, 12 km southwest of Heberton. It has exceptional features and must have been formed by a violent explosive incident. There is no cone and the 60 m wide crater has impressive vertical walls of granite 55 m high above a crater lake which is 87 m deep. Although no basalt can be found in the walls, granite blocks and basalt bombs with granite inclusions litter the surface for some distance, and inconspicuous lapilli occur in the rainforest soil." As previously noted in this newsletter, the depth of the lake is not well established (WRH).

Matthews, W.H. 1955. Permafrost and its occurrence in the Southern Coast Mountains of British Columbia. Canadian Alpine J., Vo. 38, p. 94.

A natural tunnel 385 feet long extending through a cinder ridge, presumably a piping cave. 1970 studies by B.C. Mainland Cavers found it being closed by slumping cinders. (WRH)

INTERNATIONAL UNION OF SPELEOLOGY

Commission on Volcanic Caves

Newsletter # 16

EMERGENCY ISSUE

5 October 1997

A financial crisis has overtaken the 8th International Symposium and Jim Simons needs your feedback IMMEDIATELY. Events beyond its sponsors have caused dismaying uncertainty among numerous persons responding to the First Circular (as among many Kenya tourists in general). Based on the encouraging response to the First Circular, the sponsors budgeted for 25 participants, which originally seemed very likely. But as of 21 September, only 5 had sent deposits and the sponsors must confirm and pay for excursion vehicle rentals and for meeting rooms and lodging by the end of October 1997. They plan a decisive strategy meeting in mid-October, and YOUR input is needed at that time.

The problem arose from political instability on the Kenya coast (more than 500 km from Nairobi and more than 250 km from the closest field excursion (Leviathan Cave). Political riots and killings of Kenyans (no tourists) occurred on the coast. In Nairobi, all has been normal, and even euphoric, due to recent agreements on reforms by parliament. It is expected that coming elections (the cause of the riots) now will be "relatively peaceful although localized upsets are always possible", Jim wrote. HOWEVER, uncertainty about the election date (probably during year-end holidays) and of possible election violence has reduced tourism for ALL Kenya by more than 50%, with predictions of a disasterous winter high season and possible collapse of the entire tourism industry. Jim is faced with severe personal financial problems keeping the Umani Springs camp operational under these circumstances and may be hardput for personal financial survival if the worst predictions prove correct.

A big problem is that there are no good alternatives. Under consideration are:

a) postponement to another date in 1998, probably mid-year.

b) cancellation of the symposium and providing the excursions for those who desire them.

c) switching dates with the sponsors of the 1999 symposium in Catania (evidently not discussed with them yet).

Apparently no consideration has been given to postponement to 2000. And it is not clear whether less costly arrangements are possible in Nairobi which might obviate the need for large deposits at this time (perhaps the Methodist Conference Center).

Personally, I probably could not attend in midyear 1998 but it might be the best alternative for those with flexible schedules. It would avoid the election unrest and give the local team more time to work on details. However it would wreak havoc on persons like myself travelling long distances with short windows in tight schedules. When the sponsors of the 5th symposium

16-1

had to change the announced dates, only 3 persons outside Japan (the venue) were able to attend and the Proceedings volume has not yet been published.

As for running only field excursions with no sessions, this would be an almost insuperable problem for academicians and others whose attendance is dependent on participation in a formal meeting. For some, this probably would be no problem, but others like myself could not justify the expense.

As for switching dates (1998 and 1999) with Catania, I presume this will have been explored by the time you receive this. but I doubt that it will be possible. The Catania meeting already involves such high level academicians and dignitaries that changing its date seems unlikely.

Because Jim did not list postponement until 2000 or later, I presume that there are valid local reasons for not considering this.

Presently there also is a worrisome shortage of commitments for papers. My belief is that this can be corrected much more easily than the financial problem; 8 to 10 papers have been promised as of 21 September plus one <u>in absentia</u> paper. I see no problem with publishing a thinner Proceedings volume than those of recent years.

Jim Simons therefore requests counsel on the following:

1) viability of any/all of the three alternatives.

2) minimum number of attendees and of papers needed for an acceptible symposium of international stature.

Please respond to him IMMEDIATELY, preferably by e-mail through the Belgian Embassy: belgianemb.ke@form-net.com Begin the message with: Private message for Françoise Simons. If possible, send a copy to me at bnawrh@webtv.net

Jim's telephone and fax in Nairobi is: 254-2-520883. His telephone is switched to fax mode at night (Nairobi time).

YOur message shuld include:

 if you are not yet fully registered, when you will be sending a deposit, and how much;
 your feelings about the minimum number of participants/papers;
 your feelings about various alternatives.

Please do this IMMEDIATELY for the mid-October meeting. My own vote is for a small symposium as scheduled, if necessary, and perhaps a change of venue in Nairobi if this would be helpful. The final decision necessarily will be made by its Nairobi sponsors.

-- WRH

INTERNATIONAL UNION OF SPELEOLOGY

Commission on Volcanic Caves

Newsletter # 17

20 October 1997

CORRECTION FOR LAST NEWSLETTER

The last newsletter dated 5 October 1997 incorrectly was numbered #15. The correct number was #16. Please correct your copy today.

8th INTERNATIONAL SYMPOSIUM ON VULCANOSPELEOLOGY TO BE ON SCHEDULE

After receiving emergency responses from potential attendees, the Cave Exploration Group of East Africa decided on October 15 to proceed with the 8th International Symposium in February 1998 as scheduled. The U.S. State Department has no warning in effect for the parts of Kenya where the sessions and the field excursions will be held. There has been no change since 12 Sept. 1997. For latest information, use the net:

http://travel.state.gov/travel warnings.html For information on antimalarial drugs and vaccinations, use: http://www.cdc.gov/

Please disseminate this information to everyone in your area who may be interested. Late registrations now will be accepted, with deposits, and space remains for a few more papers.

LAVA TUBE CAVES ON GRAND COMORO ISLAND

In September Greg Middleton wrote from Grand Comoro Island that he had found significant lava tube caves on the slopes of Mt. Karthala, especially near the airport. At least one skylight requires rigging and a team for safe descent. Presumably there will be a report at the 8th International Symposium.



HALLIDAY AND KEMPE AT THE CONGRESS IN SWITZERLAND

ADDRESS CORRECTION:

Street address for Alfred Montserrat is Av. America 15, bxo 1.

NEW COMMISSION MEMBER:

Paulo Borges, c/o Os Montanheiros, Rua da Rocha 6 e 8, Angra do Heroismo, Terceira, Portugal.

Webcome, Paulo!



FURNA DE ENXOFRE

ILE DE GRACIOSA X , 415,6 Y , 4319,9 Z , 137 TOPO DEG 4 AOUT 1994 CAUBEL FOSSEMALE HALGAND





