INTERNATIONAL UNION OF SPELEOLOGY
UNION INTERNATIONALE DE SPÉLÉOLOGIE

Commission on Volcanic Caves

Newsletter N° 25 January 2000

Honorary President Dr. W.R. Halliday

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The Commission Newsletter is send free to all commission members.
They are supposed to report al least once a year.
It also will be send to all interested as long as these readers also report occasionally.

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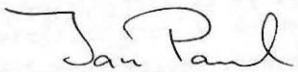
J.P. van der Pas

EDITORIAL

- First of course best wishes to all for 2000!
- Now the most important news:
  the **10th International Symposium on Vulcanospeleology will be held in Iceland - 2002.**

  the 11th International Symposium on Vulcanospeleology is proposed to be on the Azores - 2005.

  More news will follow in due time.
- As long (..) as the Newsletter will appear in printed form it might be in the current appearance. This makes it easier to send and kept.
- During the Commission Meeting in Catania (Sept. '99) the topic 'conservation' was discussed.
  As start contact was sought with the UIS Commission on Protection. No answer has been received yet.
  Dr. Chris Wood - participating in the Commission Meeting - sent a most friendly letter to see how he maybe can support our commission.
- Even not being on web-site or whatever, there is an interest for our Newsletter. I normally take a few to symposia and other speleological meetings. This results in a growing interest in both what lavacaves are, and what our commission does.
  A contact with Dr. J. Urban, Poland, resulted in a letter/request:
  .... I think at least one copy of this Newsletter should be available in Poland.....
  He included also already an article for our newsletter:
  "Practising Volcanospeleology in Poland - is it possible?",
  see in this issue.
- In October last year (1-3 October 1999) a "European Speleological Congress was held in Portugal. Announced way too late, many people got their invitation in June, participation was very low. A pre-congress excursion to the Azores had only 5 participants. Apparently nobody wanted to know that at virtually the same time a (years ago announced) vulcanospeleological symposium was held in Italy.....



Received publication (from: J. spelol. Soc. Japan, 23: 46-52, December 28, 1998) -
"Speleo-minerals in **Volcanic Caves of Kenya**, East African Rift Zone", by Naruhiko KASHIMA & Takanori OGAWA.
From the abstract: ... speleo-minerals from 4 volcanic caves are investigated. ... Three speleo-minerals are sulfates (gypsum and thenardite) and silicate (tetranatrolite). Tetranatrolite is reported as a new finding from the volcanic environment.

In Newsletter N° 18, page 3, Conny Spelbrink reported about research done on deposits in lavatube caves swept-in by tsunami's. Here a follow-up by Dutch speleologist Herman de Swart.

ABOUT SEDIMENTS from the Cueva de los Palmeros (Fuentecaliente, La Palma, Canary Islands, Spain)

Dr. Herman W. de Swart - dpklgw @ euronet.nl

Since some years we (Inge den Haan, Ton & Marjolijn Groenendijk, Dick de Swart and the author) are regular visitors of lavacaves, e.g. on the Canary Islands and recently Sicily.
Fall 1998 we visited the Cueva de Los Palmeros on La Palma.
This cave is a simple, slightly bended tube with a length of nearly 200 meters, entrance on 650 meter a.s.l., and the highest point - a dead end - some 55 meters higher. The cave is in a flow from prehistoric times. In several places loose sediment is found, black sand of volcanic origin.
During our visit we were told this sand was deposited in the cave by a tsunami, an enormous floodwave caused by an earthquake or volcanic eruption.
Due to the location of the entrance this looked acceptable, but wasn't there maybe an easier explanation?
At the highest point of the cave, with a roof thickness of only a few meters, were some clear cracks.
On the surface, not far from this location, is a doline-like depression. It seemed possible that sand from the surface via these cracks had seeped into the cave.
From three locations in the cave we took some sand-samples.
Back in the Netherlands these samples were analyzed by the 'GEA' Working Group 'Sand'.
It turned out it mainly existed of volcanic minerals as augite, magnetite and olivenite. It was not rounded, nor contained it marine elements. In case this material had come from the sea it should have contained some rest of sea-life, as shells or sea-urchins.
Of course it is difficult to prove it was NOT done by a tsunami, but we think it very unlikely.

Bibliography: Proceedings 7th International Symposium on Vulcanospeleology, Santa Cruz de La Palma, Canary Islands, November 1994.

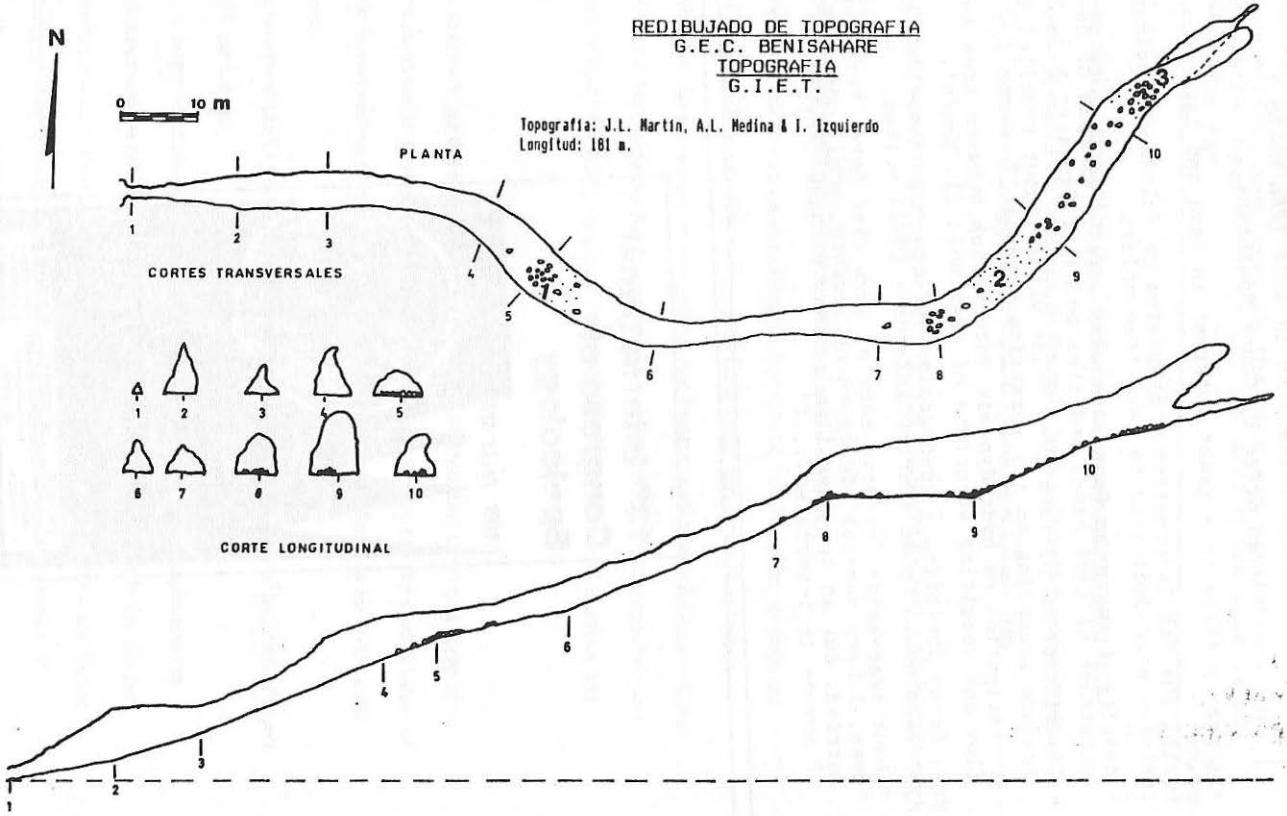
Special thanks to Arend Hagedoorn, Conny Spelbrink, Pedro Oromi, Leendert Krook and Jan Bol for advice, guidance and analyzing.

CUEVA DE LOS PALMEROS

FUENCALIENTE - LA PALMA

REDIBUJADO DE TOPOGRAFIA
G.E.C. BENISAHARE
TOPOGRAFIA
G.I.E.T.

Topografía: J.L. Martín, A.L. Medina & I. Izquierdo
Longitud: 181 m.



SOMEBODY INTERESTED IN LAVA TREE MOLDS ?

an offer by Conny Spelbrink

Apparently there is a great interest in lava and lava-cave tree molds.
During the 8th International Symposium on Vulcanospeleology three lectures were dedicated to lava tree molds:

- Results of survey on Ganno-Ana Cave System, example of co-existence of lava caves and tree molds (T.Ogawa et al),
- Classification of lava tree molds with/without remelted inner surface according to its formation process (T. Honda),
- Investigation on hydrodynamic interaction between tree and lava flow and resulting structure of tree mold (T. Honda).

Mrs. Conny Spelbrink - co-organizer of the vulcanospeleological symposium on La Palma (Canary Islands - 1994) writes:

"About tree-molds, we have many of them over here. Very nice ones even. I have several pieces on my terrace, small ones, self carried. But in the lava flow of 1949 we have lenghts of 3 meter. If anyone is interested....?"

Excuses by the editor.....
This motion, mentioned in the previous newsletter, was not shown. Here it (finally) is. Action has been taken some time ago.

The following motion - proposed by Greg Middleton -was unanimously accepted by the General Meeting of the U.I.S. Commission on Vulcanic Caves, held on 16 September 1999 during the IXth International Symposium on Vulcano Speleology at Catania, Italy.

THE COMMISSION ON VOLCANIC CAVES OF THE INTERNATIONAL UNION OF SPELEOLOGY,

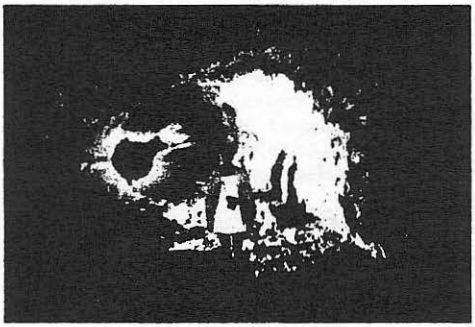
- **being aware** of the wealth of lave caves on the island of Mauritius,
- **informed** of the work undertaken by Greg Middleton and Jorg Hauchler, through the
- Caves of Mauritius Project 1998, to document these caves and assess their values,
- **and noting** the recommendations arising from that Project, particularly for a Lava Caves National Park in the Plaine des Roches area and for the creation of agreements between the owners of land containing significant caves and the Government of Mauritius, has resolved:

1. To acknowledge the efforts by the Government of Mauritius to protect some of its lava caves and to raise public awareness of their importance and the special values of their fauna (such as cave swiftlets and bats) which depend for their survival on the caves,
2. To commend the Government of Mauritius for having the Caves of Mauritius Project 1998 carried out,
3. To strongly recommend to the Government of Mauritius that it implement the recommendations of the Project dealing with lava caves, specifically that for the creation of a Lava Caves National Park in the Plaine des Roches area and for the setting up of agreements with landowners to ensure the future protection of significant caves within private lands.

NEW FROM MADAGASCAR

info received via/from Bill Halliday & Greg Middleton

Greg Middleton reports success on his recent trip to northern Madagascar. Following up a 1923 report by Decary found by Bill Halliday, Greg and Jörg Hauchler located and surveyed two lava caves (part of the same tube) south of Andranofanjava and more further south near Bobakilandy. The teacher at Bobakilandy showed them two caves, both of which had captured streams. The bigger one is particularly interesting and the locals say the water rises 2 km away (unconfirmed). Certainly there is a significant stream going underground - where they had to stop the passage was perhaps 10m wide by 8m high with wall-to-wall water a couple of metres deep. Without a boat they couldn't go further. The locals believe crocodiles live in this cave. This seems unlikely, though they could be carried in during the wet season; there were certainly a number of large eels. A small expedition to explore further is under consideration. The roads are very bad; they were told there had not been a tourist in the area for at least ten years and only one of three hire car companies approached would allow its 4x4 vehicles into the area.



Small passage section in Grotte Andavakoera, south of Andranofanjava, northern Madagascar. The roof in many places reaches 8 m in height.

This is the report as Bill Halliday made from the Commission Meeting in Catania. Since it gives some other/additional information as the report by JP v.d. Pas in the previous newsletter it is published here in full.

The IUS Commission on Volcanic Caves met in Catania (Sicily) on September 16, 1999, during the 9h International Symposium on Vulcanospeleology.

Jim Simons (Kenya), Conny Spelbrink (cooperator, Spain) and Istvan Eszterhas (President of the IUS Comission on Pseudokarst) sent regrets One member of that commission did attend.

Commission President Jan Paul van der Pas discussed present membership problems. Some full members communicate nothing whereas several non-members supply important information and news. It was broadly agreed that he should use the authority of his office to make necessary personnel changes. Chris Wood has again taken on a leadership role in England, for example, and there is no current Commission member from that country.

The Commission is functioning much better than most IUS Commissions. The President sees no problems with the Commission newsletter. Costs are very modest and he can continue to fund them.

continue next page

He expects to have e-mail in 2000.. Also, the IUS may start funding Commissions with US$100 in 2000. He asked if the Commission should add other officers. No one had strong feelings pro or con. Its current mission statement was seen as appropriate.

Liaison with closely related IUS Commissions is excellent, with personal contacts by the leadership and newsletter exchanges with pseudokarst and glaciospeleology commissions.

Creation of a Commission library was discussed, with no firm conclusions. Public funding might be available in Catania for such a library; the Centro Speleologico Etneo is planning a world data base on vulcanospeleology there.

Paolo Forti proposed a book on volcanic caves similar to the forthcoming book on Speleogenesis. He and Stephen Kempe are to prepare a proposed outline. I announced my work toward a single-author book on volcanic pseudokarst and pseudokarstic caves. Either or both may be future subjects of requests for NSS funds.

Greg Middleton proposed a book to be published by IUCN similar to its recent book on karstic caves. This will be explored by Chris Wood.

For the l0th international symposium, bids were received from groups in Iceland and in the Azores. Siggi Jonsson withdrew the former. Os Montanheiros had proposed that it be in 200l; this would conflict with the International Congress of Speleology so they will be asked if they are willing to postpone it until 2002.

Based partly on papers presented during the symposium, the following three motions were passed by unanimous vote:

l) The IUS Commission on Volcanic Caves commends the Hawaii Chapter of the National Speleological Society for its concern about sewage and toxic and hazardous wastes placed in Hawaii lava tube caves. The Commission urges all relevant agencies and organizations to cooperate fully in recognizing, evaluating, and taking appropriate steps to terminate this alarming problem.

2) The IUS Commission on Volcanic Caves is alarmed at the damage to the Padierna lava tube system and the lack of protection that it should rightly be provided.The Commission requests that the cave system urgently receive "protected area" status with creation of a park in the Predio los Encinos, as recommended by local speleologists.

3) The IUS Commission on Volcanic Caves considers Mowich Cave, Oregon, USA to be of exceptional significance because of its unparalleled geologcal setting: beneath tens of meters of subsequent lava flows.

The Commission deplores the lack of due process and lack of cooperative planning in excluding geoscientists and other concerned persons from this cave.

The Commission urges:

l) immediate reopening of this cave to geoscientists;

2) removal of the disinformation sign now present in the entrance;

3) emplacement of an interpretive sign with accurate information, and

4) cooperative planning to protect both geological and biological resources and values of this exeptional cave.

William R. Halliday
Honorary President, IUS Commission on Volcanic Caves

Mentioned already in the previous newsletter and published in the proceedings of the 13th Australasian Conference on Cave and Karst Management here the complete story.

VOLCANIC CAVES AND RELATED FEATURES IN WESTERN VICTORIA.

Ken G. Grimes.
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ABSTRACT

The basaltic volcanic plains of western Victoria range in age from over five million years ago up to quite recent times. They host a variety of volcanic caves including large lava tubes formed by the roofing of surface lava channels, smaller but more complex lava tubes formed by draining from beneath the crust of lava lobes, and one example of a still-open volcanic vent or hornito. Management problems involve a conflict with quarrying of scoria cones, the demands of a growing tourism industry, and the karst-like problems of the underground drainage of the younger "stony rise" lava flows.

The Newer Volcanics Province

The Newer Volcanic Province of western Victoria is one of the world's larger volcanic plains, and has formed by a succession of eruptions and lava flows over the last five million years. The isolated volcanoes at Mount Gambier are a western outlier of the Province (Figure 1). Eruptions have continued up to quite recent times (as little as 5,000 years ago) and further eruptions could occur in the geological future. Current isotope dating suggests that the youngest volcano may be Mount Schank, south of Mount Gambier, which erupted 5,000 years ago; followed by Mount Napier, south of Hamilton, which probably erupted about 8000 years ago. The flows associated with these younger eruptions show better preserved caves and surface features than those of the older volcanics. None-the-less, several of the caves are in flows several million years old.

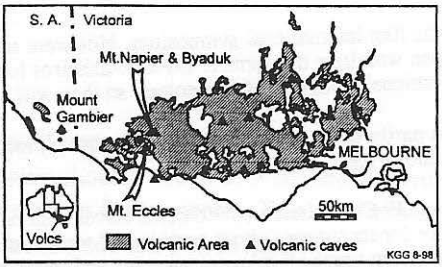

Figure 1: The Newer Volcanics Province and caves.

Lava tubes and other volcanic caves are scattered across the province, but the majority of them are in the western area where they are associated with two of the younger eruptions in the region (Webb & others, 1982, Grimes, 1995, Grimes & Watson, 1995, Grimes & others, 1999).

Surface landforms

The volcanics are dominantly built up from lava flows, but there are numerous small volcanic cones built by explosive activity, as well as larger maar lakes formed by major explosions.

The older volcanoes of the region have degraded features, and thick lateritised soils, which make their recognition difficult. By contrast, the flows from the younger eruptions have only minimal soil development and rough undulating surfaces known as *stony rises*; isotope dating suggests that these are

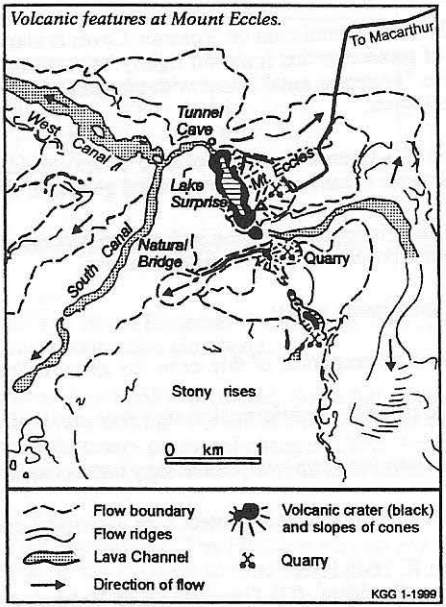

Figure 2: Mount Eccles area, showing lava channels and other features

all less than 500,000 years old.

The best modern model for the nature of vulcanism in this region is provided by the Hawaiian volcanoes. There we see broad lava shields built up by successive flows of very fluid basaltic lava spreading out from a central crater or fissure. In the crater area we see lava pools with fountains jetting into the sky and building local small cones of welded spatter or loose scoria. The long lava flows are seen to be fed either by surface channels, or underground via lava tubes.

Local examples of lava shields are the lower slopes of Mount Napier and the lava fields surrounding Mount Eccles. However, in Victoria we also have slightly more explosive eruptions which build larger scoria cones; and the maar lakes, which are large but shallow craters formed by major steam driven explosions (Orth & King, 1990). At Mount Eccles a line of scoria cones running southeast from the main crater could have formed along a fissure eruption (Figure 2).

Lava flows:

Basaltic lava is a hot (1100°C) liquid that can flow readily. There are two main forms of basaltic lava flow, which grade into each other. *Pahoehoe* lava is the most liquid form - characterised by the formation of thin smooth skins that become wrinkled (hence its alternative name of 'ropy lava'). Pahoehoe lavas advance as a succession of lobes, each of which develops a skin, is inflated by the liquid pressure within, then ruptures at one or more points to release liquid lava to form new lobes (Figure 4).

As pahoehoe loses gas and cools it becomes frothy and more viscous. The surface tends to crack, twist and break into angular, often spiny, blocks to form what is called *aa* or 'blocky' lava.

Behind the advancing lava front solidification of stagnant areas restricts lava movement either to narrow surface *channels*, or internally in *lava tubes* beneath a surface crust. Overflow from the surface channel builds up a *levee* bank of thin sheets or spatter. Larger flows across the levee can feed lateral lava lobes with small internal lava tubes. A major breach of a levee may result in a large side flow, fed by its own channel, and the original channel may be abandoned. Good examples of lava channels (locally referred to as 'canals') occur at Mount Eccles (Figure 2). A number of shallow lava tubes are known in flows that have run off to the sides from these channels (Grimes, 1995, Figure 6).

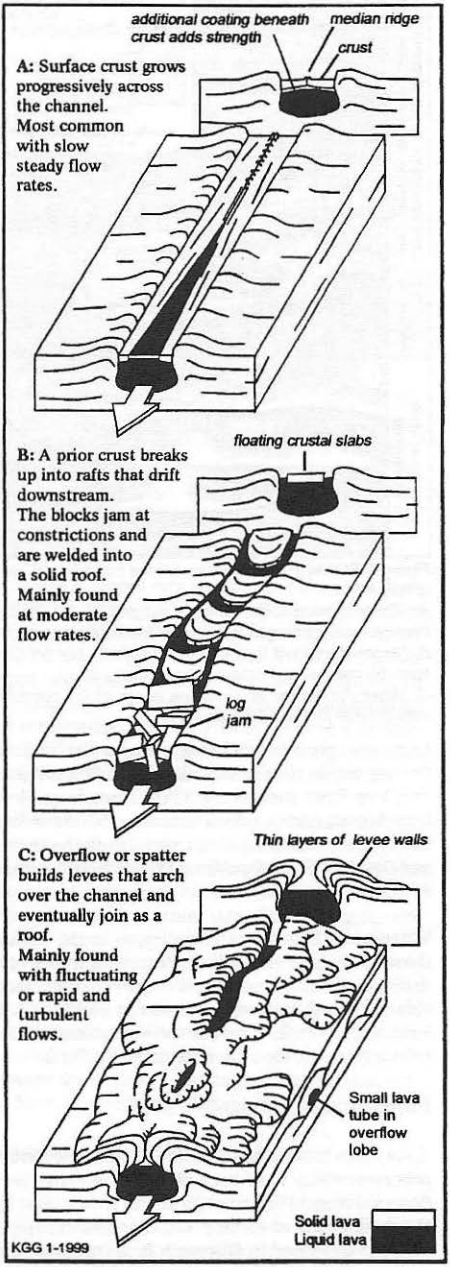

Figure 3: Three ways to make a lava tube by roofing a lava channel. Based on descriptions in Peterson & others, 1994.

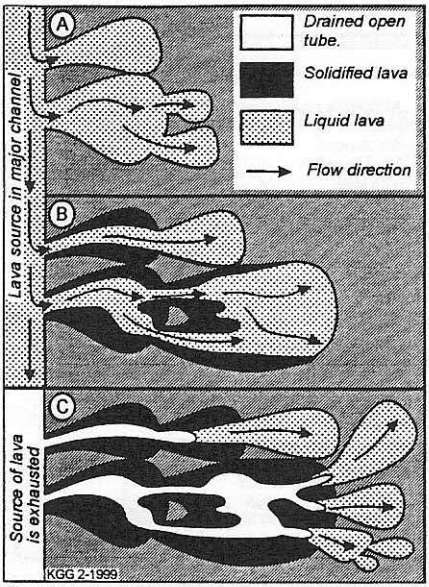

Figure 4: Stages in the formation of lava tubes by draining of lava lobes.
A: Thinly crusted lobes of lava expand by breakouts through ruptures and budding of further lobes.
B: Stagnant areas of the older lobes solidify, but hot flow from the source keeps the feeder conduits liquid.
C: When the source flow ceases some of the conduits may drain to form air-filled cavities.

Lava tubes provide good insulation for the hot lava flowing within them. This allows the formation of very long flows such as the 50km Tyrendarra Flow from Mount Eccles, which extends offshore across the continental shelf (which was dry at the time), and the older 60km flow from Mount Rouse, which may also extend offshore.

When a lava flow follows a valley, as in the Tyrendarra flow from Mount Eccles, it disrupts the drainage. Twin *lateral streams* may run down each side of the original valley. *Swamps or lakes* will form where the flow enters the valley, and where tributary valleys have been dammed by the flow.

Formation of Volcanic Caves

Lava tubes form in basaltic lava flows by two main processes which have been observed in active lava flows in Hawaii (Peterson & others, 1994): first by the roofing over of surface lava channels in several ways (as described in Figures 3 & 5); and second by the draining of still molten material from beneath the solidified crust of a flow (Figures 4 & 6).

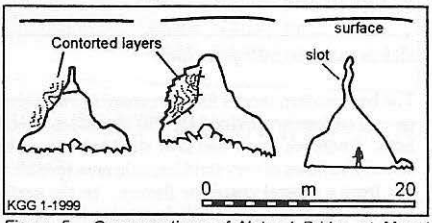

Figure 5: Cross-sections of Natural Bridge at Mount Eccles show the "Gothic" roof and contorted layers associated with roofing of a channel by levee overgrowth (c.f. Fig 3c).

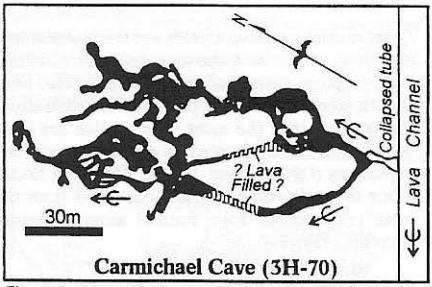

Figure 6: Example of a complex cave formed by draining of lava lobes that overflowed from a lava channel at Mount Eccles. Arrows indicate flow directions.

Tubes formed by draining of crusted lava lobes and flows are generally smaller than those formed by the roofing of a channel, but tend to have more complex forms (Figure 6). Lava lobes can be stacked vertically as well as advance forwards so that a complex three-dimensional pattern of branching tubes can form. The long lava flows in the region would all have been fed by large cylindrical lava tubes; but

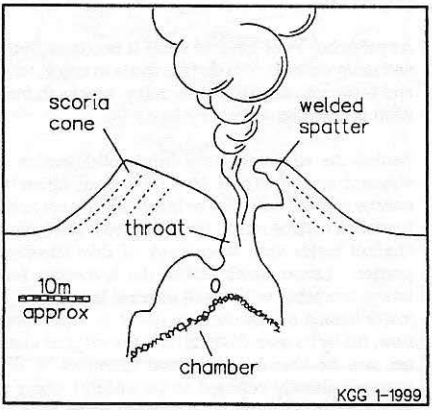

Figure 7: The Shaft is the still-open throat of a volcanic vent or hornito.

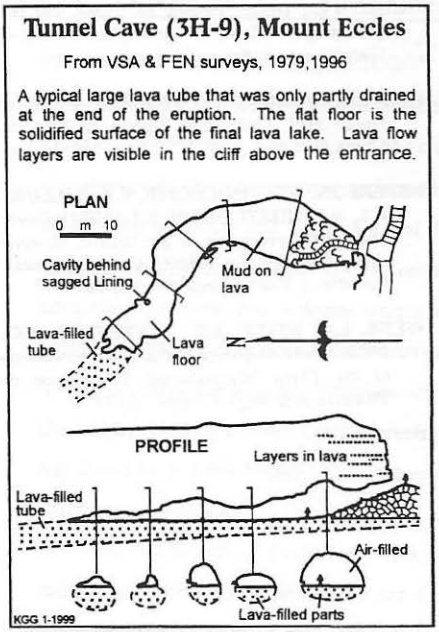

Figure 8: Tunnel Cave at Mount Eccles illustrates a roofed-channel type of tube that was incompletely drained at the end of the eruption.

only a small percentage of the active lava tubes will be drained at the end of the eruption and become accessible to cavers. Tunnel Cave at Mount Eccles illustrates a partly drained tube (Figure 8).

Lava tubes are not the only type of cave that can form in volcanic rocks. **The Shaft** at Mount Eccles is the only Australian example of an explosive cavity and throat within a spatter cone that remained open after the volcanism ceased (Figure 7).

Features found in Volcanic Caves

The lava caves contain a distinctive suite of lava structures or "decorations", some of which are illustrated in Figure 9.

The level of lava within the tubes tends to fluctuate during the course of the eruption, and so we find thin linings plastered onto the walls and roofs, and 'tide-marks' are indicated by solidified benches or shelves on the sides of the tubes. Some shelves can reach right across a passage to form a false floor.

The thin wall linings can rupture, peel back and curve over to form draperies and scrolls. Some

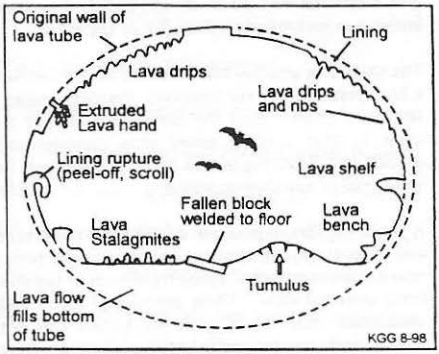

Figure 9: Features found in lava tubes.

linings are smooth, but others have a sharp hackly surface which may be due to the bursting of many small gas bubbles. Rafted slabs floating on a flow surface may leave grooves and striations on the semi-solid wall linings. Lava "hands" of semi-solid lava can be squeezed out through cracks or holes in the lining.

Small round-tipped lava stalactites, (lavacicles, lava drips) form where molten lava has dripped from the roof. Lava ribs form where lava dribbled down the walls of the cave, or where the whole lining has sagged and wrinkled. If the floor was already solid (unusual) drips of lava from the ceiling can build up lava stalagmites. Stalagmites often have a knobby form in which the original drips can still be seen welded together as a lumpy mass.

The floor of the tube is often flat or slightly arched; being the surface of the last flow of lava through it. If a lava flow within a tube forms a solid crust, and then drains away from beneath it, we get a tube-in-tube effect with a thin false-floor bridging the tunnel. Small lava mounds, or tumuli, may be heaved up by pressure from below. In some caves the crusted floor has buckled and broken into a jumble of heaved up plates, or cracked into a mosaic of jostling plates with rounded or upturned edges. Material falling from the roof may be rafted some distance downstream and may end up welded into the floor, or piled up in 'log jams'.

Management of Volcanic caves

Volcanic caves share many of the problems of limestone caves. The formations found in lava tubes are even less renewable than those in limestone caves. At least a broken calcite stalactite ***might*** regrow in a few thousand years, but a broken

lava formation will ***never*** do so; unless someone builds one heck-of-a hot campfire in the cave!

The stony rise country of the recent lava flows has a high permeability via fractures, vesicular zones, and open tubes. Thus the drainage is similar to karst in that surface water goes underground quickly and, if moving in lava tubes, it is unlikely to be filtered of any contaminants.

A major conflict in land use comes from the scenic and geologically interesting volcanic cones being also a source of scoria. Many have been or are still being quarried away. There are several active and abandoned quarries at both Mt Eccles and Mt Napier, and some interesting volcanic features have been destroyed while others are threatened (Guerin, 1992).

The push for tourism development in the region is putting increasing pressure on the lava caves, with the development of access steps and viewing platforms and consequent increases in visitation levels in the better-known caves. There are no show caves in the volcanic region at present, but several lava caves at Mount Eccles are signposted and open to the general public and public access is planned to at least one at Byaduk. The landowner of a lava tube near Skipton, further east, allows school and other groups to enter for a small fee. An attempt to provide a solar-powered visitor-sensing light in the self-guided Tunnel Cave at Mount Eccles was terminated by vandalism and then theft of the components.

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Gothic roof form in Natural Bridge, Mt. Eccles. 5m staff.

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PRACTISING VOLCANOSPELEOLOGY IN POLAND – IS IT POSSIBLE?

Polish territory is less abundant in volcanic rocks outcrops than the countries in Southern Europe, even Slovakia. The vast area of Polish Lowlands (Northern and partly Central Poland) are covered by thick Quaternary sedimentary (glacial, fluvial, glacifluvial) rocks. Within the uplands of Southern and partly Central Poland outcrops of the Permian volcanic rocks (porphyre, melaphyre, diabase) are concentrated west to the Cracow, but even there they cover altogether not more than a dozen square kilometers. In these rocks one primary cave was registered fifty years ago and then destroyed (artificially enlarged) soon. It was originally formed probably due to steam extension above the spring covered by lava (after opinion of R. Gradziński, 1951) and most likely represented relic - naturally reconstructed - form (when it was found by people), because their preservation as empty underground space for 200 milion years was not possible.

The Polish part of Carpathians (Southern Poland) representing Alpine orogen belongs mainly to Outer Carpathians which are formed of flysch sediments and almost devoid of volcanic rocks. The almost only signs of volcanic activity represent a few outcrops of Tertiary andesite situated near the Inner Carpathians margin.

The most prospective for volcanospeleology are Sudety Mts and their foredeep situated in South-Western Poland. These mountains with some intrusions of Permian volcanic rocks are – in some places - covered with basalt lavas of late Tertiary and even Pleistocene age. Some crevice type caves (crevices widened due to gravitational mass movements on the slopes) have been registered in these rocks recently. But no truly lava caves have been found there so far.

Fig. 1. Occurrence of volcanic rocks in Poland. Explanations: 1 - margins of geographic regions: A - Polish (Mid-European) Lowlands, B - uplands of Central and Southern Poland, C - Sudety Mts and their foredeep, D - Carpathians and their foredeep; 2 - Permian and older volcanic rocks; 3 - Cainozoic volcanic rocks.

THE CAVE EXPLORATION GROUP OF EAST AFRICA

P.O. BOX 47583 NAIROBI, KENYA.

Recently, 21 Nov. '99, Jim Simons sent a letter to his friends. Here some lines out of it - mainly the cave-related ones. Interesting: the highest altitude tubes of the world, and the latest (last?) news about Leviathan.

from: Jim Simons
P.O. Box 710
Village Market
Nairobi - **KENYA**

.... It is hard to believe that more than 18 months has passed since the Nairobi meeting.
.... After the symposium I went to Australia, but my departure was delayed due to a bad 10-day double Malaria.
.... I saw my first wild rat-like 'Roos, but unfortunately went down again with another, but milder, bout of Malaria and became a bit of a curiosity during hospital visits for tests. But they became somewhat distressed when I got a bit cantankerous after many hours waiting for test results and said that I could cope very well at home and discharged myself from their care, actually leaving with a syringe-cup in my arm.
.... Over here, Caving is still very much in the doldrums and there has only been a couple of trips **to the top choke of Leviathan.** After years of effort and but 20 meters gained, the dig has been abandoned as too dangerous (this is coming from Clive Ward, we have to believe it!).
.... A recent trip into **Mathaioni Cave** regretably revealed that all the timber staircases I installed more than 25 years ago have now been removed, and this since getting the N. Chyulu and the caves included in the National Park and our visit last year! all rather disappointing.
.... **Clive (Ward)** found even more tubes below **Mawenzi on Kilimanjaro, all parts of what may have been a greater braided system.** A recent find gave him a 90 meter segment. I also have **an old mention of caves on the Shira Plateau,** so there would seem to be other possibilities on the mountain. As these are possible the **highest altitude tubes in the world,** perhaps we should consider an International Mt. Kilimanjaro Vulcanospeleolological Expedition? Any ideas on possible sponsors are welcomed.
.... **Declan Kennedy** is currently working on another issue of our **Speleophant** (= CEGEA's Newsletter) which will contain articles written many years ago - such as the Group's 25th Birthday Celebration and the first **end-to-end traverse of Leviathan** - but never were published. We will circulate everyone when this appears.

Due to unknown reasons this abstract of Ron Greeley's lecture at the 8th Int. Symp. on Vulcanospeleology in Kenya (1998) was omitted in the proceedings. Here it is.....

GIANT CRATER LAVA TUBE SYSTEM, CALIFORNIA

Ronald Greeley, Department of Geology
Arizona State University, Tempe Arizona 85287-1404

The Giant Crater lava tube system is within the Medicine Lake Highlands volcanic province of northern California. The system is 29.9 km long and developed in Holocene (?) basaltic flows erupted from Giant Crater, a pit crater some 180 m across. Flows from this eruptive center and other vents in the immediate vicinity can be traced more than 31 km to the south and were partly bounded by a series of north-south trending normal faults. Most of the flows in the complex contain lava tubes. The principal units from Giant Crater flowed down the west side of the field and contain the best developed lava tubes. However, the connection between the main lava tube system and Giant Crater is established only by inference and photogeological mapping. Extensive field work around the crater walls and the trench leading toward the tube, at the upper end of the tube system, and in the intervening 1.5 km failed to reveal connecting tubes. In addition, seismic profiling did not indicate the presence of subsurface cavities, although the attenuation of seismic waves in the fractured, vescicular basalt might not have enabled the detection of a tube system.

The Giant Crater lava tube system is particularly interesting because it is one of the few that show definitive evidence of erosion into pre-flow country rock. Such erosion is revealed in interior passages where the lava tube lining has collapsed, showing downcutting into older, weathered basalts and soil horizons. The downcutting and "stacking" of the tube system might have occurred along the western bounding fault. Other features of interest include surface domes, or "blisters" located above the main lava tube and "stacked" lava tube passages.

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This address list might contain errors.

Please notify the editor in case you spot one.

Most addresses on this list are from Commission Members, but it lists also several readers of the Newsletter who supply interesting material or information.

During the U.I.S. Congress in 1997 the Comittee asked the three 'non-limestone' Commissions (lava caves, glacier caves and pseudo karst) to cooperate. Here some data about the other Commissions.

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Prof. Dr. Adolfo ERASO
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INTERNATIONAL COMMISSION "GLACIER CAVES AND KARST IN POLAR REGIONS"

Started as working group in Aug. '89.
Commission since 1993.
Publishes an occasional circular.
Held symposia in '90, '92, '94 and '96.
Next symposium 14-18 April 2000 (Italy).
Publications: Proceedings symposia & Manual 'Glacier Caves', in Spanish (242 p).

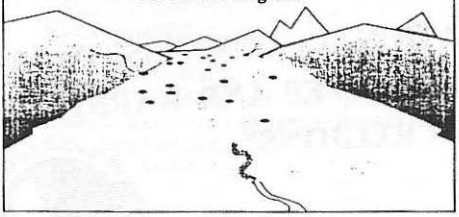
COMMISSION FOR PSEUDOKARST at the International Union of Speleology

Chairman: István Eszterhás Köztársaság u. 157
H-8045 Isztimér
HUNGARY

Started as 'Vulkánszpeleólogiai Kollektíva Magyarországról'
Commission since 1997.
Publishes occasional newsletter (in German).
Group symposia held in '82, '85, '88, '90, '94 and '96.
UIS Symposium in 1999.
Publications: Proceedings symposia & Lexicon non-karst expressions (in Hungarian - 80 p.).

Just came in !

UIS - International Commission
"Glacier Caves and Cryokarst in Polar and High Mountain Regions"



5th International Symposium on

Glacier Caves and Cryokarst in Polar and High Mountain Regions

Courmayeur, Mont Blanc - Italy

14/18 April 2000 (first circular)

Organised by:
The International Commission on "Glacier Caves and Cryokarst in Polar and High Mountains Regions" of the International Union of Speleology.
President: Dr. Adolfo Eraso, Madrid, Spain
Secretary: Dr. Jacques Schroeder, Montreal, Canada

Organization:
Giovanni Badino, Dipartimento di Fisica Generale dell'Università di Torino
Luca Mercalli, Società Meteorologica Subalpina

Location:
Courmayeur is located immediately South-East of Mont Blanc, in the extreme Italian North West.
The nearest airports are Torino and Milano. Please, note that the Mont Blanc tunnel will be closed.

ADRESSES FOR REGISTRATION FORMS AND INFORMATIONS

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FIELD EXCURSIONS

The number and sequence of field excursions will largely depend on the weather conditions.
The excursions will bring us to an elevation of 3,500 m a.s.l. Therefore participants are obviously requested to be prepared for varying weather conditions, even fresh snow fall.
Adequate alpine clothing is necessary (good mountain boots, warm clothing, raincoat, gloves and a hat). No crampons and ice-axes are necessary.

FEE

The costs per person will be 250 Euro's. This includes registration fees, acta, lunch and dinner 14 and 15, lodging in 2 bed rooms and excursions. For the excursions lunch and dinner costs are not included.

MISSION STATEMENT

of the UIS Commission on Volcanic Caves

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, during international and regional symposia and all appropriate occasions. It solicits and approves sites for such symposia, held to date in the USA (2x), USA-Hawaii, Italy (3x), Japan, Spain (Canary Islands and Kenya.

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 vulcano-speleologists from each country or area with especially important lava tube caves or related figures. Members are expected to keep the Commission informed about progress and problems in vulcano-speleology and to disseminate vulcano-speleological information to other speleologists in their country or study area.

The Commission collects and disseminates information through its Newsletter, through sponsorship of internal symposia and conferences and through exchange visits, through meetings of its Chairman/President with individual Commision members and cooperators, and through data compilation in a world data base on lava tube caves at Arizona State University (USA). 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 organizations as the American Geological Institute. Its Newsletter is published at least 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, in the UIS library (Switzerland and is abstracted in Volcano Quarterly.

The Commission intends to continue and expand all current projects. Especially it intends to expand its cooperation (as requested by the UIS Committee during the XII-th International Congress of Speleology in Switzerland - 1997) with other Commissions and Working Groups of the International Union of Speleology and with national and regional speleological organizations working in the field of vulcano-speleology.

from: The Penny Magazine
No 421 - London

CAVERNS AND BANDITTI IN ICELAND.

[Cave of Surtshellir, or the Cavern of the Robbers, near the Bald Yökul, Iceland.]