

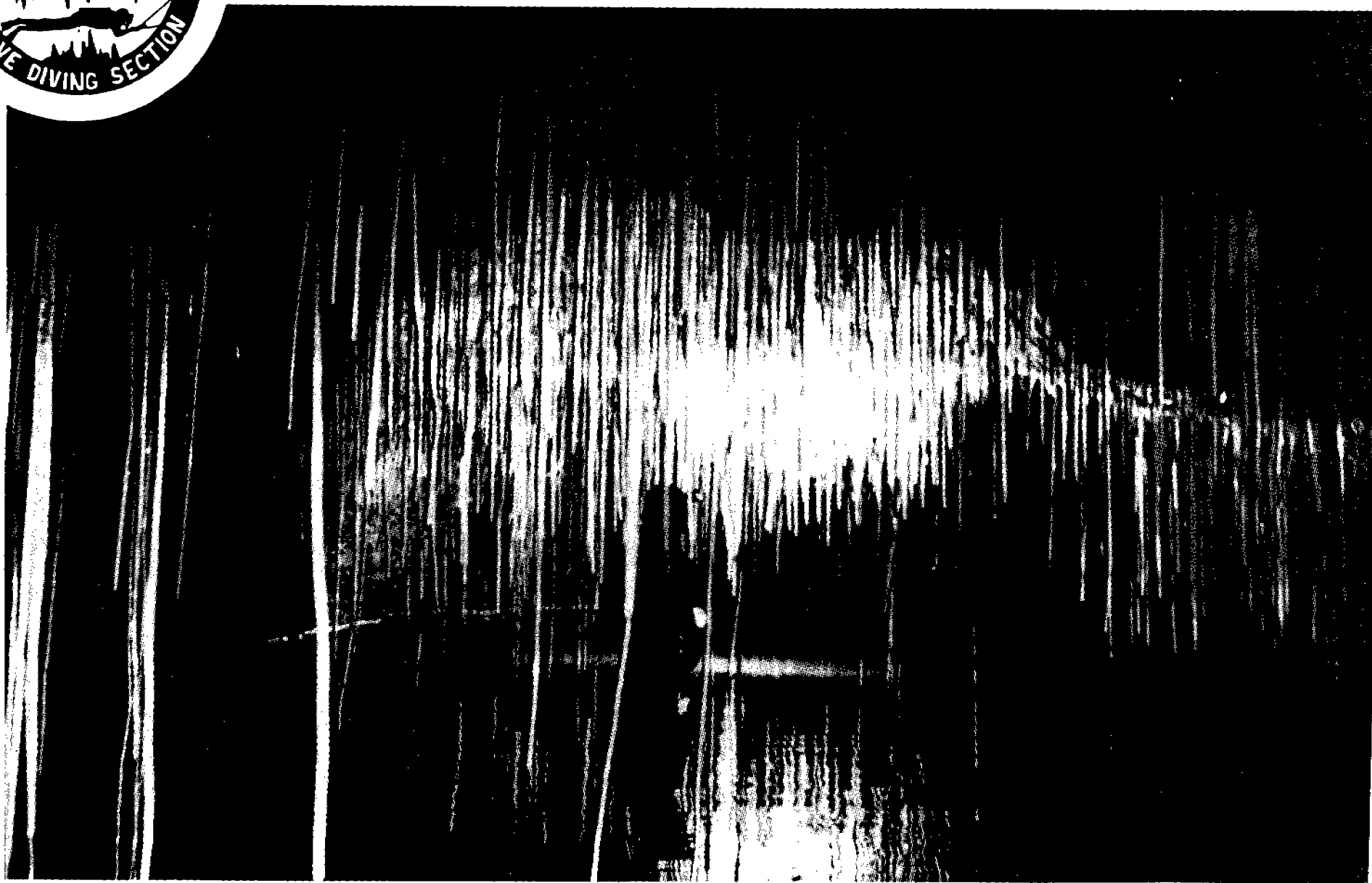


# UNDERWATER SPELEOLOGY

VOLUME THIRTEEN

NUMBER FOUR

June 25, 1986



Geoff Yeadon in the "China Shop" of Boreham Cave, West Yorkshire, Great Britain, one of the most fantastic sights in British caving. This room is accessible only to cave divers.  
Photo by Randy Bohrer. See article on page 15.

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All current news items, reports, articles,  
photographs, negatives, slides, cartoons,  
or other submissions for the newsletter  
should be sent directly to the Editor:

H. V. Grey, Editor, UWS  
P.O. Box 575  
Venice, FL 34284-0575

LETTER FROM DANNY BRASS, STUDENT OF  
VETERINARY MEDICINE, CONCERNING BAT RABIES

June 17, 1986

Mr. Donald H. Ash  
NSS Research and Advisory Committee  
557 Slate Hollow Road  
Powell, OH 43065

Dear Mr. Ash,

Since I began caving in 1971, I have  
been impressed by the general lack of  
information available to the caving commu-  
nity concerning the threat of rabies in  
bats. It is an unfortunate fact that such  
of the popular literature in this regard is  
written by persons with a marked bias  
towards either bat conservation or bat  
eradication. Thus, on the one hand are  
those extremists who would have us believe  
that hovering dark armies, angels of death  
on membranous wings, fly overhead each  
night spreading rabid death. At the oppo-  
site extreme are those who seek to convince  
us that bats carry no disease transmissible  
to men and are of no public health signifi-  
cance. Both views have a degree of vali-  
dity and a degree of irresponsibility.  
Hence, cavers have generally not been ade-  
quately informed of the true history of bat  
rabies and the potential public health  
implications of same.

In an attempt to come to some sort of  
understanding on this issue, I have engaged  
myself in a review of the world literaure  
on bat rabies. As the story unfolds, I  
find it to be both a fascinating and an  
epidemiologically significant one. The  
study has been undertaken for the express

(Cont'd on p. 21)

CALENDAR

- Jul. 12-13 - NACD Cave Diving Seminar, Branford High School, Branford, FL. Workshop Co-Chairmen: George Bortnyk (813) 391-9077, and Judd Sheets (813) 345-2720.
- Oct. 25-26 - NACD Cavern Workshop for Open-water Instructors, Manatee and Ginnie Springs. Workshop Chairman: Steve Gerrard (904) 877-8196.
- Oct. 30 - Nov. 2 - Annual International Diving Symposium, Florida State Univ. Conference Center, Tallahassee, FL. See announcement page
- Dec. 27-28 - NSS-CDS Winter Workshop, Branford High School, Branford, FL.

NSS FUND RAISING COMMITTEE

Dear NSS Member:

In 1984, by the generosity of NSS members, we paid for our enlarged office "home" in Hunstville. In the same year, also by member generosity, we bought another kind of "home"--one used by bats in large numbers. This is Trout Cave, near Franklin, West Virginia, one of four caves in the John Guilday Cave Preserve. The property was purchased to "preserve, protect and manage (these) significant caves with respect to their size, recreational opportunities, human historic value and paleontological value." It was soon rediscovered that Trout Cave had also been one of the most important ancestral hibernacula for the endangered Indiana Bat in West Virginia.

Between 1600 and 2400 Indiana Bats were counted "in one room alone" in 1941. The number now hibernating in Trout Cave is small, but a study of cave temperatures conducted during 1984-85 showed that conditions in Trout remain suitable for the reestablishment of a major hibernaculum. The NSS has therefore declared Trout closed from Labor Day to May Day, for a period of six years, in order to attempt the restoration of the use of the hibernaculum.

We are strongly supported by professional biologists. Among many others, Dr. Merlin Tuttle wrote, "I strongly support your efforts to protect the endangered bats of Trout Cave," and an endangered-species biologist, Dr. G. Andrew Moser, said, "Seasonal closure of Trout Cave would make an important contribution to the nationwide protection effort currently underway for this species."

I look upon this project as a superb embodiment of the conservation principles of our Society. We are sensitive to the rarity and fragility of the cave environment; we understand and appreciate bats more than do most people; we have worked closely with public agencies for the study and protection of caves in their care; and

we are challenged and stimulated by difficult tasks--of either exploration or conservation.

Effective closure is a problem. Indiana Bats are very sensitive to disturbance. This has been an important factor in their population losses, which has led to their being placed on the federal list of endangered species. Unfortunately, Trout Cave is well known and heavily visited. No one yet knows how to obtain effective and reliable closure by means other than a gate. The NSS Board has authorized obtaining gate designs and estimates, and has initiated a fund-raising effort with an article about this project by Dr. Virginia Tipton, published in the March 1986 NSS News.

The only estimate for construction of a gate that has been obtained to date is \$20,000. Hopefully, a way will be found to build a less expensive gate, but for now \$20,000 must be our goal. If effective winter closure of Trout can be accomplished by other means, the money raised will be used to support that effort.

I would now like to personally ask every NSS member to participate in the effort to restore our "winter home for bats." Individual contributions are the basis for success, but there are many ways for NSS members, Grottos and other Internal Organizations to make this a community effort. Here are a few: "pass the hat"; hold a meeting at which a bat program will be presented, and request donations; sell bat T-shirts,...(if you have other ideas, carry them out--and tell us about them).

Please help the bats come home. Donations are tax deductible and should be sent to the NSS Trout Cave Gate Fund, Cave Avenue, Huntsville, AL 35810.

Sincerely,

Rane L. Curl (Past President 1970-4)  
Dept. of Chemical Engineering  
Univ. of Mich. - Dow Build.  
Ann Arbor, MI 48109

NSS Fund Raising Committee  
Kenrick L. Day, Chair.  
4414 East Burns St.  
Tucson, AZ 85711

GEAR FOR SALE

Scubapro Mark X regulator  
Sherwood octopus regulator  
Tekna 2870 Knife combo with SPG, Tekna Dive Timer and Tekna Depth Gauge with maximum depth indicator.

Scott/Alpha Pack B.C.  
Sherwood Aluminum 80 tank  
Package price \$700. All equipment in new condition, purchased less than a year ago with balance of Mfg. warranty.

CALL TAMPA (813)977-0892 after 6:30pm.

DOUBLE FATALITY IN NEW SOUTH WALES SEA CAVE

- by Peter Horne

(Reprinted from Guidelines, the Newsletter of the Cave Divers Association of Australia, Dec. 1985/Jan. 1986, No. 23.)

[The Editor apologizes for any textual inaccuracies. The photocopy which was sent to me was lacking a significant portion of the right margin, so the Editor could only guess at the missing words.]

Two scuba divers were killed and several others were injured in a sea-cave accident in North South Wales which was reported in the July-September issue of the South Pacific Underwater Medicine Society Journal, from the files of "Project Stick-beak[?]" (Provisional Report on diving-related fatalities in Australian waters.)

The dive party consisted of nine divers, split into a group of four and another of five. The victims, who led the group of four, had swum ahead of the other two divers of that group when an unexpected sea surge funnelled up the cave, throwing everyone around violently. The two divers near the cave's exit descended from the surface and attempted to leave, seeing the victims' torch still aglow in the darkness. A second heavy surge again forced them to the cave's surface, where one diver hit his head on the roof and the other lost her facemask. Despite the near panic, these two divers successfully exited the cave.

Outside the cave they came across other divers from the five-diver team who were supporting an unconscious member of their party and giving EAR; this proved to be a life-saving manoeuvre for this fortunate diver, who recovered successfully. Another diver in the group of five was also badly injured in another part of the cave, being unable to replace his regulator. By chance he found himself close to another diver, who saw his predicament and commenced buddy-breathing as they exited. However, another surge separated them and dislodged the buddy's mask, but nevertheless, he re-established contact and continued to buddy-breathe, holding the injured diver's weightbelt to prevent further separation during their final exit.

The two experienced divers who remained in the cave perished when they had been thrown about the cave's walls, after their first-stage attachments and had been damaged, venting their air supplies. It is noteworthy that although five of those involved had completed their training only 2 to 4 months previously, they acted in such a way that prevented at least two additional deaths, despite so many adversities.

This accident demonstrates once again that ALL caves, no matter where they are or how far they go, should be treated with the special consideration and respect they deserve.

DROWNING--AND SUCCESSFUL RESUSCITATION AT FISHROCK CAVE [Date unknown; published by the Univ. of Hawaii; submitted by Jeff Bozanic]

The patient: a female aged 31, married with an infant son. She is in excellent physical condition, with no history of epilepsy or chronic lung disorder. Name: Helen.

Helen, a certified diver of almost 10 months, had not dived for three months. Normally at home in the water, she was apprehensive about the dive.

1400: The dive party, consisting of the boatman, divemaster Neralyn Single, and seven others, arrived at the deep end of Fishrock Cave. Neralyn was taking special care of Helen as they were personal friends and this was Helen's first dive in the cave. The plan agreed upon was that when the group had gathered at the deep entrance (24 meters), Helen could call it off if she felt uneasy. Conditions were excellent: flat sea, good visibility, and no current.

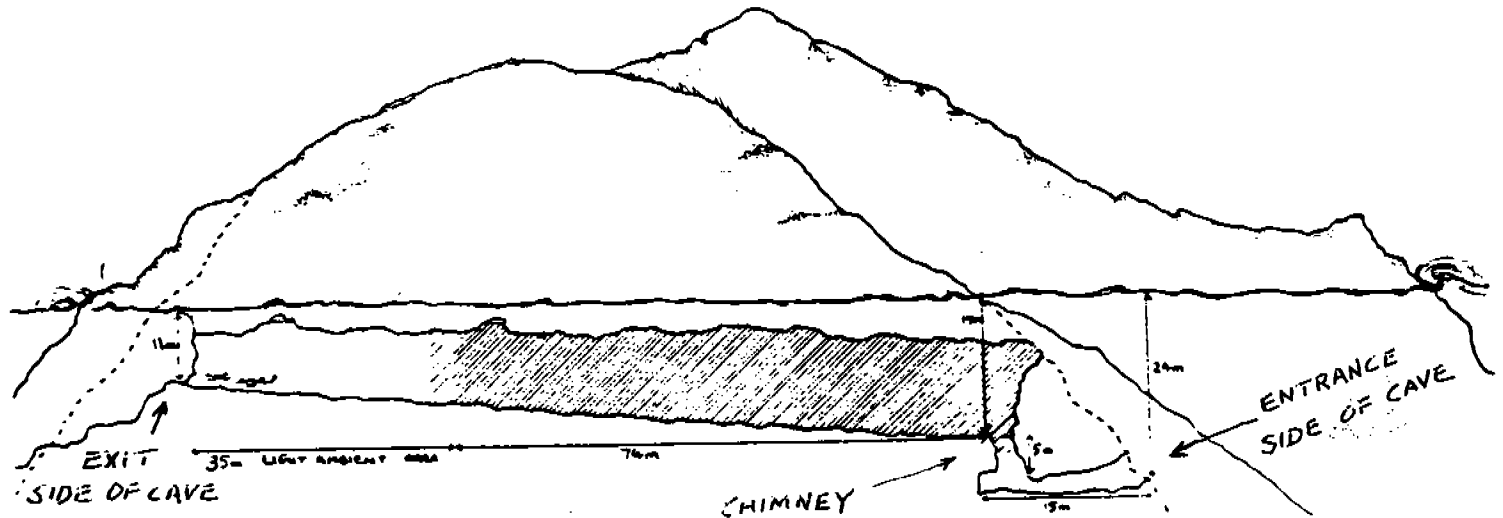
1406: The group assembled at the mouth of the cave. Helen signaled that she was OK. A check of Helen's eyes indicated no abnormal signs of stress. 15 meters into the cave, Helen was shown a very large Wobbygong shark and indicated its size by holding her arms out wide. OK signals were exchanged and Neralyn started up the chimney, a five-meter ascent in a narrow tube. At this point things went wrong for Helen. She felt that she was not moving at all, "sort of like being in a terrible dream."

1414: 8 minutes into the dive Helen ceased rational actions. Neralyn saw that she was severely stressed and tried holding her close, using eye contact to calm her. Helen was taking huge breaths and it could be seen that there was no longer a seal around her lips and the regulator. Her struggles dislodged Neralyn's regulator. Helen's mask floated off.

Her regulator fell from her mouth. Her eyes rolled up in her head and she arched her back. Neralyn, unable to breathe or dislodge Helen's grasp of her regulator hose, dropped down to her regulator, put it in her mouth and pried Helen's stiff fingers from the hose. Another diver, Bill, was now at the top of the chimney. The tunnel behind them was now blocked with divers.

1416: 10 minutes into the dive. Bill and Neralyn now swam Helen the 74 meters to the shallow entrance of the cave. During this time Neralyn noticed foam coming from the lips and nostrils of Helen. When in ambient light, Helen was seen to be blue in the face. It was estimated that it took between 4 and 6 minutes to swim Helen to the surface.

1422: Neralyn took care swimming Helen to the surface. Head held back. No bubbles were seen to come from Helen. It was



estimated that Helen had now been non-breathing for at least 6 minutes. Neralyn gave three quick breaths mouth to nose as Helen's jaw was firmly clenched. After these breaths Helen's jaw relaxed and further EAR was given mouth to mouth. Neralyn sent Bill to find the boat and continued EAR. Another diver arrived and took over for a few minutes to allow Neralyn to regain her breathing pattern and composure. It is estimated that 5 minutes of EAR was given at the surface.

1425: The boat arrived and Helen was dragged on board. Neralyn boarded to find the boatman giving cardiac compression. As the patient had a very slow pulse, Neralyn stopped the ECC's. Helen was seen to be breathing. Neralyn then placed Helen in a recovery position. The patient vomited copiously. After another two minutes Helen responded to the command to open her eyes. A regulator was connected to an oxygen cylinder via a Bendeex adapter. As the patient would not accept the regulator in her mouth, for 5 minutes she was given breathing commands: "Breathe in, breathe out." Oxygen was vented on her face during each inhalation.

Helen was badly cyanosed--a dark blue on the lips, cheeks, ears and nose.

With consciousness returning, she accepted the regulator and would breathe if the commands were given but would become apprehensive if the commands stopped.

1442: The boat radioed for assistance. The last two divers did not surface until their air was depleted, a wait of almost 20 minutes. The boat had no recall device on board.

Neralyn insisted that the boat travel slowly. Helen's pulse was so slow and weak that Neralyn had trouble finding it. Helen was still blue and was coughing large amounts of fluid as well as vomiting and retching.

Helen was given 25 minutes on pure oxygen via the Bendeex, with 5 minutes off. Then another 12 minutes of oxygen.

1524: The ambulance and the diveboat arrived at the beach. The first officer to board looked at Helen. "I thought we had a fatality because she was so cyanosed and was astonished when she answered the question I directed at the boatman."

Helen was carried to the ambulance after being given more O<sub>2</sub> from a Robert Shaw regulator. Her pulse was 88, skin color "pale," respiration rate 25 with an effort of 1, and a level of consciousness of 5 (on a scale of 1-5).

She was transported in a sitting position and given O<sub>2</sub> with a high concentration mask at 8 liters per minute for the duration of the journey.

1609: On arrival at the hospital, her pulse was now 75, respiration rate 20, and her color had improved. Helen was lucid during the journey.

**MEDICAL COMMENT:** The patient's remarkable survival depended on a number of factors.

The blood has an increased ability to carry oxygen under pressure (Dalton's Law). The P<sub>O<sub>2</sub></sub> at 24 meters (80 ft.) would have been high. Had the dive profile been reversed--starting at the shallow end of the cave and exiting from the deep--the outcome may well have been different.

The skill of the rescuer is to be commended. Despite the "dead" appearance of the victim, 5 minutes of EAR was given on the surface, an exhausting task which requires determination and fortitude. A splendid performance from Neralyn Single.

The fact that the boat was well equipped and the patient was given 100% oxygen for almost three hours during transport to the hospital avoided serious cerebral damage. On arrival Helen's P<sub>O<sub>2</sub></sub> was a low 46 (normal arterial P<sub>O<sub>2</sub></sub> is 100mm Hg) with pH level of 7.32 (normal pH 7.35-7.45).

After treatment consisting of IV fluid and a further 5 hours of 100% O<sub>2</sub>, her P<sub>O<sub>2</sub></sub> was a high 224 with a normal pH level. Recovery was uneventful.

MAUI LAVA TUBE FATALITY

- by Jeff Bozanic

[Jeff wrote the following in a letter to NSS-CDS Accident Files Coordinator John Crea.]

I also was informed of another drowning that took place in a lava tube off of Maui, in the Hawaiian Islands. All of the information I have on this death is second hand, so should be taken with a grain of salt.

The victim was male, aged late 40's to mid-50's. He was diving with either his son- or daughter-in-law in a series of shallow lava tubes near Kihei, Maui. His partner signalled low on air, and ascended to the surface. He elected to remain below, using his remaining air.

After failing to appear, his partner sent for help. Local divers recovered the body hours later, in the lava tube at a depth of 25 feet. There was no air left in the tank. All the equipment was apparently in place. No guideline and only a single light were used. No air rule was followed.

Unfortunately, another incident that should never have happened. It took place sometime in early 1986, probably January or February.

GEAR FOR SALE

Off Shore drysuit with Viking valve and heavy undergarment - \$550

2 - 106 cu. ft. Cressisub tanks with K valves - \$150 apiece

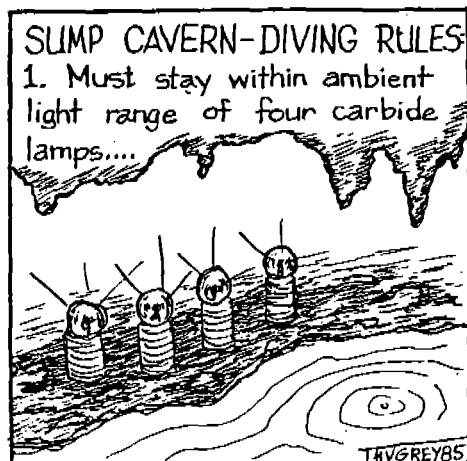
2 - Sherwood double manifold valves - \$80 apiece

Stainless steel harness for 106 cu. ft. tanks - \$50

Liquid nicad light, 6 cells, 50-watt - \$200

Scubapro Mark V regulator \$225

Contact Dr. John C. Lawyer, 1616 Grant St., Portsmouth, OH 45662



Courtesy of Wes Skiles

RESCUE/RECOVERY TEAM MEMBERS - A REMINDER!

Please be sure to notify the National Crime Information Center in Jacksonville, FL, of any change in your address or phone numbers within 24 hours. This is absolutely necessary if the Recovery Team is to maintain its credibility and efficacy.

NCIC phone: (904) 633-4159

THEFTS AT LITTLE RIVER SPRINGS--THOUGHTS, COMMENTS AND SUGGESTIONS - by Curtis E. Bemis (NSS# 25310)

We had arrived in the Branford area late the previous evening and were looking forward to 5-6 days of some serious, intensive cave diving and exploration (exploration of areas new to us). The day was Thursday, May 22, 1986 and our "excuse" for the trip from Tennessee to Florida was to attend the Spring NSS-CDS Workshop to be held on Saturday and Sunday over the forthcoming Memorial Day weekend. We drove into the Little River Park at about 9:00am to first make a "tune-up and familiarization" dive in a cave system known and loved by us, since some months had passed since our last cave dive.

As most of you know, Little River is popular with non-diving locals for sunbathing, swimming, etc. and Suwannee County attempts to maintain the park despite the obvious continuing vandalism to the property. As we drove into the park, we awakened a couple that had spent the night. We exchanged pleasantries with them and started to prepare our gear for our tune-up dive. No other vehicle except ours was in the parking area, but while we were preparing gear, a car drove up, stereo blaring, and the driver joined the couple who were now sitting on the beach area near the run.

We took pretty careful note of the car (I'm paranoid), then closed and locked our vehicle. I hid the keys outside the vehicle as do the majority of divers, cave divers included, that I have been familiar with. As we have learned, hiding the keys in a place known to other members of your dive team allows them 1) access to the vehicle in an emergency if some misfortune should occur to you and/or 2) prevents inadvertent loss of the keys during the dive.

We entered the water, checked gear and lights, performed a safety drill, and proceeded into Little River on our way to the Florida Room. Our dive lasted about 1 hour and 15 minutes, including decompression, and we leisurely emerged expressing awe, wonderment, etc. for the exhilarating experience of the dive. We climbed back up to the vehicle, recovered our keys, unlocked the vehicle, and proceeded to take off

gear. For some strange reason, my buddy checked his wallet and he informed me that his cash had disappeared. I also checked, and my cash had disappeared, too. Nothing else was touched; all dive gear was intact; no windows were broken--just \$350 between the two of us had disappeared. Great start for 5-6 days of diving!!

We drove with haste into Branford, contacted the Suwannee County Sheriff's Office, met with the deputy, and gave him a very good description of the car including make, model, color, dents, and state of registration, which was not Florida. We gave a good description of the people and the deputy said, "I know the car and have seen the people on other occasions." We were somewhat reassured and relieved, and felt that if they were still in the area, they would be picked up by some law-enforcement agency. We were not deterred and dove Peacock that afternoon. We figured that our dive trip would have to continue of "plastic" credit.

We checked with the Sheriff's Office in Live Oak that evening and were quite pleased to learn that the people had been picked up, arrested that afternoon, and that one of the persons had fully confessed to the burglary.

The next afternoon (Friday, May 23), we got back about \$140 of the \$350 that was taken, the remainder, about \$200, having been spent before they could be arrested. The Sheriff's deputy related to us that during interrogation, the confessed burglar said, "Everybody knows that divers don't go diving with their car keys. All we had to do was search around the truck 'til we found them."

Our thanks to the competent people in the Suwannee County Sheriff's Office for prompt action and handling of our misfortune. Having had a little time now to think about what happened, I would like to offer a few hints and suggestions so that others might avoid similar unfortunate circumstances.

1. Take careful note of suspicious vehicles and people at remote dive sites. Even jot down license-plate numbers and let the people see you do it just as an added precaution.

2. Leave your ignition keys hidden inside your vehicle and go diving with your door key. Put it on a snap clasp and clip it to one of your D rings. If you want, make duplicate door keys for your dive-team members. If you end up without a key and you really have to have access to the vehicle, you can readily get in even if you have to break a vent window. A vent window is cheaper than \$350.

3. Any alarm system is better than nothing. A hidden ignition ground clamp will prevent loss of the entire vehicle and an audible alarm may even drive off and deter crooks.

4. Don't leave cash in the vehicle!!! Use travelers checks if you must have ready-money availability. Some dive shops, if they know you, may even take checks, but ask first. Don't leave a lot of unnecessary dive gear or other valuables in the vehicle either.

5. If you are driving around and see a parked divers' vehicle being eyed by suspicious people, note the license plate of the suspicious car. We can help each other out!!

6. Little River Park seems to have become a collection point for the undesirable elements of society. This observation is based on our subsequent visits to Little River that week. Perhaps more frequent visits by the Suwannee County Sheriff's Office would make the park more attractive.

7. Make a note of the local Sheriff's telephone number. For Suwannee County, it is (904) 362-2222. They sometimes monitor CB and you can reach REACT on CB channel 11--they can relay your message to the Sheriff's dispatcher.

#### ANNUAL INTERNATIONAL SCIENTIFIC DIVING SYMPOSIUM

Oct. 30 - Nov. 2, 1986

Florida State University Conference Center  
Tallahassee, Florida

The American Academy of Underwater Sciences (AAUS) is a self-regulating body dedicated to safe diving through the establishment and continual peer review of standards of practice for scientific diving. Organized in 1977, the Academy provides a national forum for the exchange of information on scientific diving. The AAUS is concerned with diving safety, state-of-the-art diving techniques and methodologies, and research diving and expeditions. Membership in AAUS is open to any individual or organization committed to the advancement and practice of scientific diving.

This multi-disciplinary Symposium has been organized to bring together scientists from different parts of the nation and to provide the opportunity for sharing information on many aspects of underwater science and research diving. Papers should be presented in a 15-minute format (with an additional 5 minutes for questions) and will be pre-published in a proceedings: Diving for Science...1986, to be available at the Symposium.

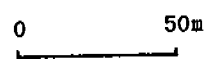
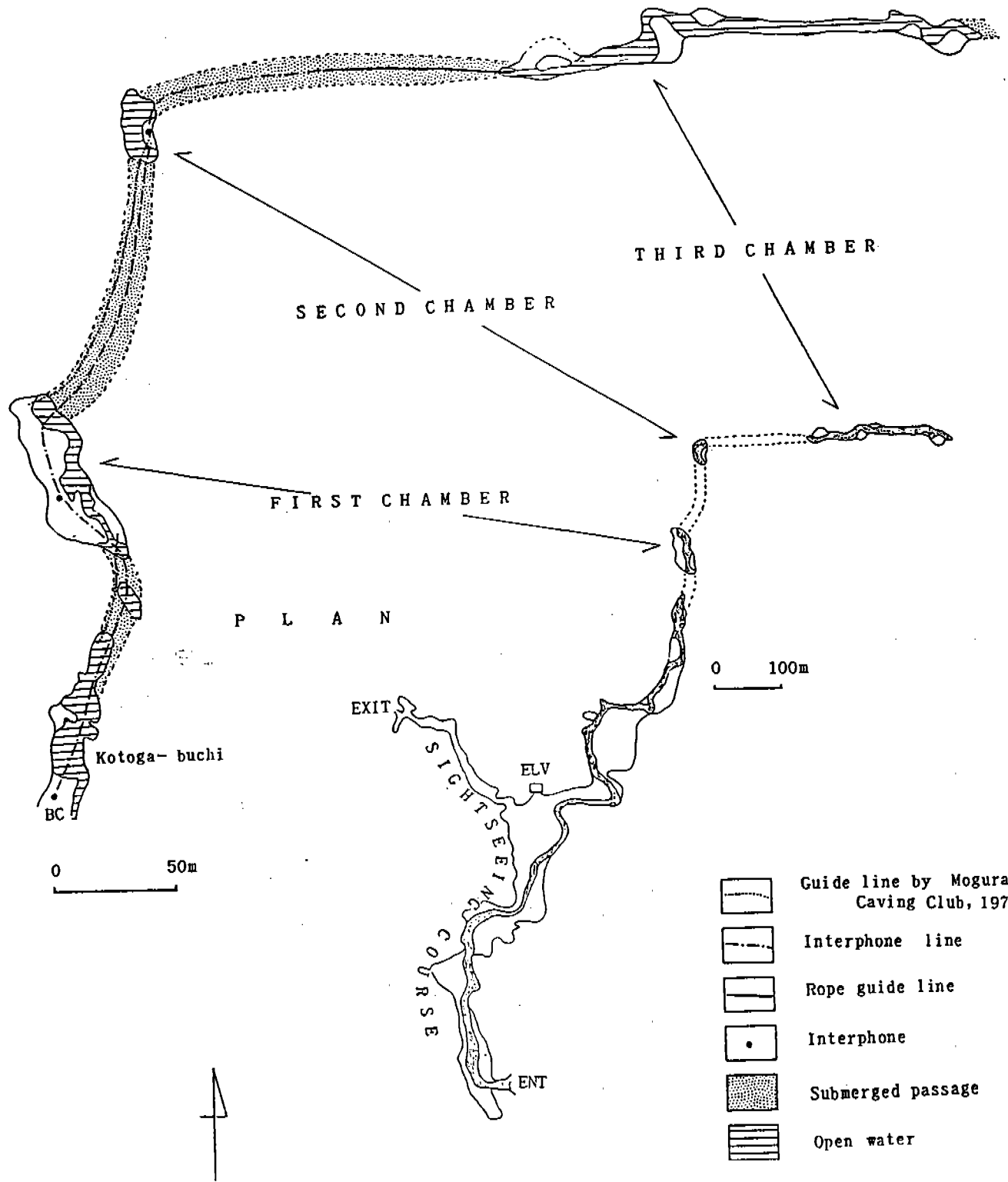
ANNOUNCEMENT AND CALL FOR PAPERS.







CONTACT: Greg Stanton

Academic Diving Program  
010 Montgomery Building  
FSU Marine Laboratory  
Tallahassee, FL 32306  
Telephone: (904) 644-3450



S E C T I O N



-  Guide line by Mogura Caving Club, 1972, 1974
-  Interphone line
-  Rope guide line
-  Interphone
-  Submerged passage
-  Open water



第1圖 調査概要図 Fig.1 Outline of the surveyed area

CAVE DIVING IN AKIYOSHI-DO CAVE, JAPAN

by Atsushi Fujii (NSS# 18104)

Akiyoshi-do Cave is the largest and most famous cave in Japan. It has been designated as a Special Natural Monument. It is located in the Yamaguchi Prefecture, on the most western part of the Honshu Island. The karst area is called Akiyoshi-dai (Plateau). It covers about 130 square kilometers and is about 200-350 meters above sea level.

Although almost all of the cave has already been opened for sightseeing, the deeper part of the main passage, some 400 meters, is preserved in a natural state even now. From the deepest terminal called Kotoga-buchi (Sump), a large underground river flows out. Underwater exploration was tried there in 1962 by M. Ota and A. Sugimura of the Akiyoshi-dai Museum of Natural History. This was the first cave diving in Japan.

Since those dives, some frontier cave dives have been made in various places, for example, Ryusen-do Cave explorations by K. Ochi and others. In 1972 and 1974, two underwater explorations were planned at the Kotoga-buchi by Mogura (Mole) Caving Club. They laid 300 meters of line and discovered two chambers beyond two siphons. Unfortunately, in the decade after 1974, Japanese cave diving did not advance much by reason of the extremely small population of cavers who were interested in diving.

Even in recent days, there are no more than 10 active cave divers and they are all beginners moreover. It is certain that the first Abe Davis Award in Japan will probably be 5 years hence.

For this reason, the standard underwater exploration into Kotoga-buchi was one of the greatest subjects in the Japanese caving world. Between Feb. 9-11, 1986, we challenged the cave there and succeeded. But we are only at the beginning of a future of long explorations.

At the Kotoga-buchi there is a surface pool 60 meters in length, 5-10 meters in width, and 2-4 meters in depth. It submerges into the First Siphon, which is 10 meters in width, 4-5 meters in depth, and 30 meters in length. It has good visibility but the silt is stirred up heavily soon after one dive.

The First Chamber is relatively large, being 200 meters wide, 70 meters long, and 5-10 meters high. It is fairly beautiful. The Second Siphon is 10-15 meters in width, 4-6 meters in depth and about 100 meters in length. Although slightly silty, we can experience a fantastic dive there.

The Second Chamber is a small one. The 1974 exploration stopped here. The Third Siphon is 140 meters long, 5-15 meters wide and 3-6 meters deep. This is rather silty but the penetration is not so difficult.

The Third Chamber is over 200 meters in length, 5-10 meters in width, and 2-20 meters in height. A large collapsed hall was found but has not yet been surveyed. The deepest point of the passage submerges again.

We tried to use an interphone line as a guideline for the first time in this exploration. A good result was achieved. We will try again next summer.

[Atsushi Fujii is a member of the Nishi-nihon (West Japan) Cave Diving Club.]

NEWS FROM THE YUCATAN AND BELIZE

- by James Coke

There's been quite a flurry of activity in Quintana Roo in the last 6 months. In the past, a few cave divers from Florida made their way to Mexico's Turquoise Coast to find our abundance of virgin caves. After a week's stay they were on their way back to Florida thinking of returning with more gear and staying longer.

Recently, however, around half a dozen semi-permanent, resident, CDS-trained cave divers living in Quintana Roo have been able to concentrate on the cenote and lagoon cave systems. Open-water instructors by day, cave divers by night!

One such system that has been getting a lot of attention has a total surveyed length of over 3000'; 2300' being the maximum penetration to date. It's a fairly large system with a lot of promise for further exploration. Another system being explored has an approximate length of 1500' penetration including several spots along the line where divers can surface in other small cenotes. This system is still being explored, with the survey just being started on the spring side. The siphon side has been surveyed in part 500' back, with 500' of side passage completed. These are some of the highlights of the area, with many other caves just starting to be explored.

During the month of April, a two-person expedition was sponsored by Excursionistas Akumal to explore and gather more information on the Caye Caulker cave system in Belize. First explored in 1978 by Paul Shannon [Paul and Shannon Heinerth??--Ed.] and later on in 1980(?) by an Italian group, very little attention has been given to this system due to logistical problems. Most of the problems in the past have been equipment availability and a reliable air station.

This cave has been considered by many knowledgeable people to be one of the largest underwater caves in the world. There is a North and South side of this system, separated by the entrance chimney. Ceiling depth averages 80' and floor depth 120' on both sides. The North side is reputed to be about 2000' by 2000', much of it still unexplored. The South side is of a differ-

rent character at the beginning, opening up at the termination of the permanent line (1000' penetration) and resembling a large airplane hanger.

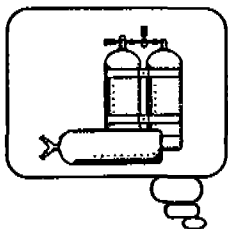
The cave is entirely in saltwater and is affected tidally, lending the entrance chimney (6' x 4') a siphon or spring character. Visibility is affected in the cave as well by the tidal flow. There is a large amount of permanent line in this cave--some of it near the ceiling and some towards the bottom of the cave. All of the line is encrusted by sea growth. Line arrows are difficult to find unless they are scrubbed clean of the growth.

Some new line was laid in this cave system and also in the cave system east of Caye Chapel. Caye Chapel is just south of Caye Caulker and both systems are thought to be connected.

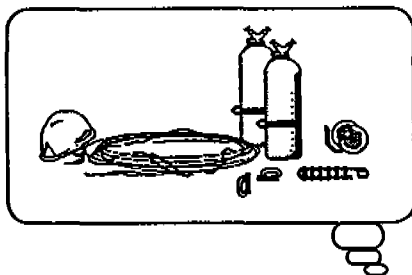
The (inland) Blue Hole near Belmopan was looked into as well. It consists of a 200' survey with 1/2" nylon line leading into a semi-dry phreatic tube (20' x 20'), with a knee-deep stream running along the bottom of the tube. The tube is quite lengthy, with 1000' of fixed 1/2" line and tape. The sump dive and dry caving came as quite a surprise to the dive team. It was a nice conclusion to a very successful exploratory expedition to Belize.

More information on the cave diving in Quintana Roo or Belize can be obtained by writing to myself, James Coke, or Johanna de Groot at the following address: Excursiones Akumal S.A., Postal 1345, Cancun, Q. Roo, Mexico.

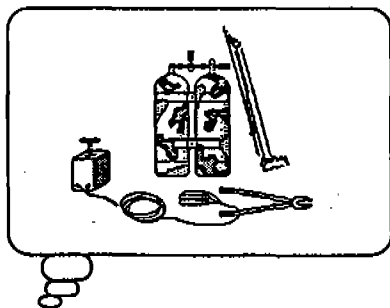
*Like I was saying, certain caves require some really specialized gear...*



*Entry into some of these systems is more than just a walk down the steps...*



*Yea, I guess I'll just have to see what modifications you made to your gear!*



## EXPLORATION OF THE MALHEUR SYSTEM

- by Karl D. Anderson (NAUI #7005)

"Isn't Oregon somewhat limited in potential diving activities?" people used to ask me. Since having made this my home base for the last two years, I have done little more than instruct diving classes, write on various diving subjects, and involve myself with everything from searching for a WWII Japanese sub off Oregon's temperamental coast, and producing a slide series on ICE DIVING for NAUI, to authoring The Diver's Guide to Underwater Hunting & Collecting, due for publication early next year. So it seemed only natural that when a close diving colleague of mine, Ken Clark, mentioned a little-known, and possibly unexplored cave system in central Oregon, I jumped at the possibility of "showing the diving community what all Oregon does have to offer!"

After a 400-mile drive to the area, near Burns, we proceeded onto a private ranch where he had been told the system existed. We had not traveled more than a mile when a small opening loomed up from out of nowhere across an otherwise flat and dry terrain. There are no trees in this part of the state; it reminds one more of the "Badlands" in New Mexico. The reality of its size, however, was somewhat different as we parked and approached on foot.

The opening was nearly 7 feet in height and 20 feet across. The temperature outside was approximately 10 degrees below 0. Steam was coming from the entrance. Knowing this to be a lava system, we pondered the possibility of subterranean volcanic activity while observing a steady flow of steam from the mouth. There was no water here, so we proceeded with lights only. This was to be a topside survey only; our dive gear was resting at home on the coast.

As we entered, Ken made mention of the fact that the Masons utilized this area for their annual get-together. The opening, or at least just inside it, was a spectacular sight indeed! Hundreds upon hundreds of icicles stretched upward from the cave floor, giving more effects of an alien planet than anything Lucas ever dreamed up.

Each formation rose 2-3 feet from the floor, and all were 4-6 inches thick, with rounded tops. The inner temperature was at least 70 degrees, a sharp contrast to the freezing air outside. We had gone no more than 100 feet when I turned to look at the mouth. The steam atmosphere, combined with the silhouetted shapes just within the opening, was far more than adequate fuel for any imagination! The cave ceiling opened up to a good 20 or 30 feet, and was nearly 100 feet in width.

Wooded chips blanketed the floor everywhere. Another 200 feet and an eerie, misplaced spectacle loomed ahead. Here were two sets of large yellow bleachers,

with a large platform and podium sitting in the center. This was the meeting place for the Fraternal gatherings, a rather bizarre sight in a cave, nevertheless!

Approximately 50 feet beyond the "arcna," we found water. Crystal clear and at least 70 degrees, the fluid arms turned into a waterway of undetermined size.

There was neither siphon nor outflow, just stillness. From where we stood, the only light came from our artificial sources. Unequipped for a dive on this venture, we immediately began naming off the goods required for the next trek. In addition to caving gear and numerous back-up systems, an inflatable would be essential for traveling as far on the surface as we could,

prior to laying line on SCUBA below the surface. One of the few cave divers who frequent our facility stated that he had explored the system below the surface to a sump, where he discovered Indian arrowheads and fragments of pottery on a small sandbar. His penetration was terminated at this point.

We're planning to make a penetration in the coming two weeks, and will keep our findings updated in one of the coming issues. While several known caves and caverns exist off the Oregon coast, being negotiable on limited days throughout the year, this may prove to be a sensation to cave divers across the country, myself included!

#### UPDATE ON HERNANDO SINK HOLE



Tim Holden of Spring Hill, FL sent in a copy of an article on the sink hole near his house and wrote May 5:

I do regret to add that I drove by this past weekend and they've finished their work--there is nothing there except a pile of fill dirt directly over the center of the former hole. The house has been completely leveled and the lot graded (with the exception of the fill dirt I just mentioned). How depressing!

I think the most shocking thing I learned from this episode is the fact that the lot can be legally sold without restriction. Incredible, huh?

I can see next time I'll have to move more swiftly. I plan to ask around and try to make some contacts with local law enforcement, and the Swiftmud [water-management authority] people (as it seems they're always the first notified). Perhaps next time they'll allow some "exploration" before it's backfilled.

Photo from Hernando Times - Olie Stonebrook

The article from the St. Pete Times by Bill Blanning describing the demolition of the house stated:

"...After the house's beams are pulled apart and the walls dismantled, workers will use bucket loaders to break up the concrete slab.

"The concrete chunks will be pushed into the gaping hole, which opened under the house's master bedroom on Feb. 19, three months after the couple had moved into the just-built house.

"Before Mandes and his workers can put anything into the hole, however, they must get approval from the Southwest Florida Water Management District.

"The water-management agency, commonly known as Swiftmud, doesn't want materials in the hole that could harm the underlying aquifer, Mrs. Mandes said.

"...And according to Hernando County

building official George Rodriguez, the Semanskys can sell their lot to another home builder.

"There is no state law or local ordinance that prohibits building on a lot that is over a former sinkhole, Rodriguez said. 'It's up to the individual' landowner to decide whether to mention that fact to a potential buyer, he said.

"But the sinkhole apparently has lost its appetite for the single-story house and swimming pool.

"Contractor Mandes said that the hole has not expanded at all during the demolition work. 'No popping. No cracking. Nothing.'"

#### CONNECTICUT QUARRY ACCIDENTS

- by Joe Prosser

[Joe Prosser wrote the following in a letter to NSS-CDS Accident Files Coordinator John Crea.]

Earlier this week I talked with John McAniff of the University of Rhode Island. These are the people keeping track of the SCUBA diving accidents. In a brief report issued under his name earlier this year, John was quoted as stating that there are cave-diving fatalities recorded in Connecticut. In an unrelated conversation, I asked for details on these accidents. Here are my summaries of same.

STRICKLAND QUARRY, CN, APRIL 30, 1983:  
Dennis Sousa, 29, of Comberland, RI, failed to surface after what was supposed to be a brief scuba dive. Friends indicated that Sousa had planned to explore the "cave" supplying water to the quarry. The victim was equipped with only a single diving cylinder and had had no previous formal cave-diving training. His body was recovered thirteen and one-half months later by surface-air supplied divers. The body was located 136 feet into a "cave" in 130 feet of water. The quarry has been closed to diving since two other divers were drowned attempting to explore the underwater cave in 1960.

STRICKLAND QUARRY, CN, OCT. 22, 1960:

The bodies of two scuba divers, Robert Quinn (20) and David Church (16), were recovered with the assistance of a nearby U.S. Navy operations crew. The Navy crew located the bodies of the two divers, missing since October 10th, in a "cave" some 130 feet below the surface. The "cave" was uncovered when pumps were employed to drain the quarry.

#### NEWS FROM INDIA FULLER

Past CDS Chairman India Fuller wrote to Joe Prosser:

...I haven't dived in two years, but if you see anyone I know/knew, tell them hello, and that I'm alive and well. I have

taken up the sport of white-water canoeing, and now kayaking. In fact, in June I am paddling the Colorado River through the Grand Canyon--225 miles of canyon, 14 days on the river. I am certain that I will feel as if I have died and gone to heaven!

...I have a file-cabinet drawer full of Section material--old stuff and tons of correspondence. If there is a historian, get us in touch (either forward my address to them, or send me their's) and I'll do something constructive with all of it. There is some stuff from 1974-75 (which only substantiates my theory that we evolved from pack rats, not apes).

Thanks again, Joe. If you see anyone whom I know, tell them hello for me. Keep up the good work for the Section; it is a great group, but don't let bureaucracy and paperwork and "you-got-to-do-it-this-way" mentality kill the good work ya'll are doing. Take care.

[India's new address is 6 E. Bellefonte Ave., Alexandria, VA 22301.]

#### MINUTES OF THE BOARD OF DIRECTORS MEETING

- by Joe Prosser, Secretary/Treasurer

The meeting was called to order by Chairman Steve Ormeroid at 7:15pm, Saturday, May 24, 1986, at the Suwannee River Cove Restaurant in Branford, FL. In attendance were H.V. Grey, Wayne Marshall, Steve Ormeroid, Joe Prosser, and Wes Skiles. Jeff Bozanic had left his proxy vote with Steve Ormeroid verbally through Joe Prosser earlier in the week.

The minutes of the last meeting were read by J. Prosser and approved without comment. An earlier written report on the finances by J. Prosser was accepted without comment. A proposal by S. Ormeroid to table old business was seconded by W. Skiles and approved without comment.

#### NEW BUSINESS:

1) S. Ormeroid proposed (seconded by W. Marshall) that future Section Workshops be set up as follows: Spring Workshops will be run by the Section's certified instructors and include more "on-site" diving. Winter Workshops will be conducted by the B.O.D. and follow the more traditional workshop format. This was approved by those present.

2) S. Ormeroid proposed (seconded by W. Skiles) that a nominating committee be formed to suggest new prospects for the B.O.D. elections coming due in December. Present B.O.D. members due for reelection include J. Bozanic, W. Marshall, and J. Prosser. This was approved with Steve to approach Mark Leonard and Milledge Murphey, current active instructors. W. Skiles volunteered to be the third member of this committee. They are to report back to Steve by mid-August.

3) W. Skiles proposed (seconded by W. Marshall) that special letters of thanks be drafted to Mary Daniels (Principal of Bran-

ford High School) and to Frank Strankaunas (Superintendent of Suwannee County Schools) for their ceaseless cooperation in allowing the Section to use their facilities for the Section's meetings. This was approved with S. Ormeroid to draft the letter and send it on to those involved.

4) Joe Prosser proposed (seconded by H.V. Grey) that the Section's current account practice be changed to reflect the addition of inventory. Joe pointed out that during the first few months of the year nearly every item the Section has for resale has been repurchased and as such we should now treat this as inventory since the quantity of dollars involved go beyond routine expenses. This was approved. Joe added that such a change will grossly affect this month's income statement.

No further business was brought to the floor and the meeting was closed at 8:00pm by S. Ormeroid, seconded by W. Marshall, and passed.

#### CAVE DIVING WITH "MURPHY"

- by Jose E. Calzada

Everyone has heard about Murphy, that legendary character whose basic law is invariably quoted when something goes wrong for no apparent reason. What is little known is that Murphy is a cave diver. As a matter of fact, he is often credited with having invented cave diving as a testing ground for his theories. I've had the pleasure of diving with him. On one more memorable occasion he was the third man in our team. Here is what happened.

My seventh cave dive was at Manatee Springs. While getting our equipment ready, one of the park rangers related to us how two divers had drowned there the previous weekend. Classic example. No training, inadequate equipment, etc. Murphy chuckled. He was there. Those divers didn't stand a chance. One more statistic was added to Murphy's growing list of empirical data.

Even after the dive started, I couldn't help remembering the conversation with the park ranger. The realization that cave diving is extremely unforgiving of human error and neglect kept haunting me. We were about 20 minutes into our dive when I noticed that my left fin was loose. Murphy's Law and one of its corollaries were rearing their ugly heads. Even though I had rigged and re-rigged those fin straps time and time again and would swear that they could not work themselves loose, one of them did.

Nothing to be concerned about (or so I thought). But tying a fin strap in a high-flow tunnel is easier said than done. Nowhere could I wedge myself in to avoid being swept by the flow. Eventually that problem was taken care of, but in the struggle to do it, my spare regulator was knocked loose and was now dangling down. My dive buddy swam over and helped me

secure it. Murphy was having fun; I wasn't. I didn't like it. I called the dive.

As we exchanged OK signals in preparation for our exit, I became painfully aware that I had lost sight of the guideline. Moreover, by the way my buddy was shining his light around, I realized that he had also lost visual contact with that precious nylon string that would show us the way out. The cave had lost its beauty. In a short period of time its personality changed from that of an alluring mistress to that of an unforgiving wench. And all because of a fin strap. I remembered seeing the guideline after fixing my fin. Now, a moment later, it was gone. Murphy was ecstatic. He could see me sweat inside my wetsuit and he loved it. I could have killed him.

As I could figure it, several things were working for us: first, we were diving in a high-flow spring. Therefore the current would carry us out (wishful thinking). Second, on the way in I hadn't noticed any side passages of the same magnitude as the main tunnel we were in. Or had I? Third, silt was not a factor. And the ace up my sleeve was the fact that my buddy that day was an experienced NSS-CDS cave-diving instructor whom I was sure was familiar with this system and could get me out. Could he?

Our course of action was to stay near the floor of the cave, where we knew the guideline was, and proceed downstream. After about 30 feet, that felt like an eternity, and thousands of heartbeats later, we reacquired the guideline and followed it out. The cave god allowed me to exit with just a warning and a realization that next time the tribute could be higher.

My buddy and I later talked about what had happened and he mentioned that he was getting ready to start the lost-line procedure when the guideline was again sighted. Gulp! It had never crossed by my mind that my NSS-CDS Cave Diving Instructor dive buddy was as disoriented as I was. And in cave diving the line between being disoriented and being lost is so thin its almost non-existent. Time is not on your side.

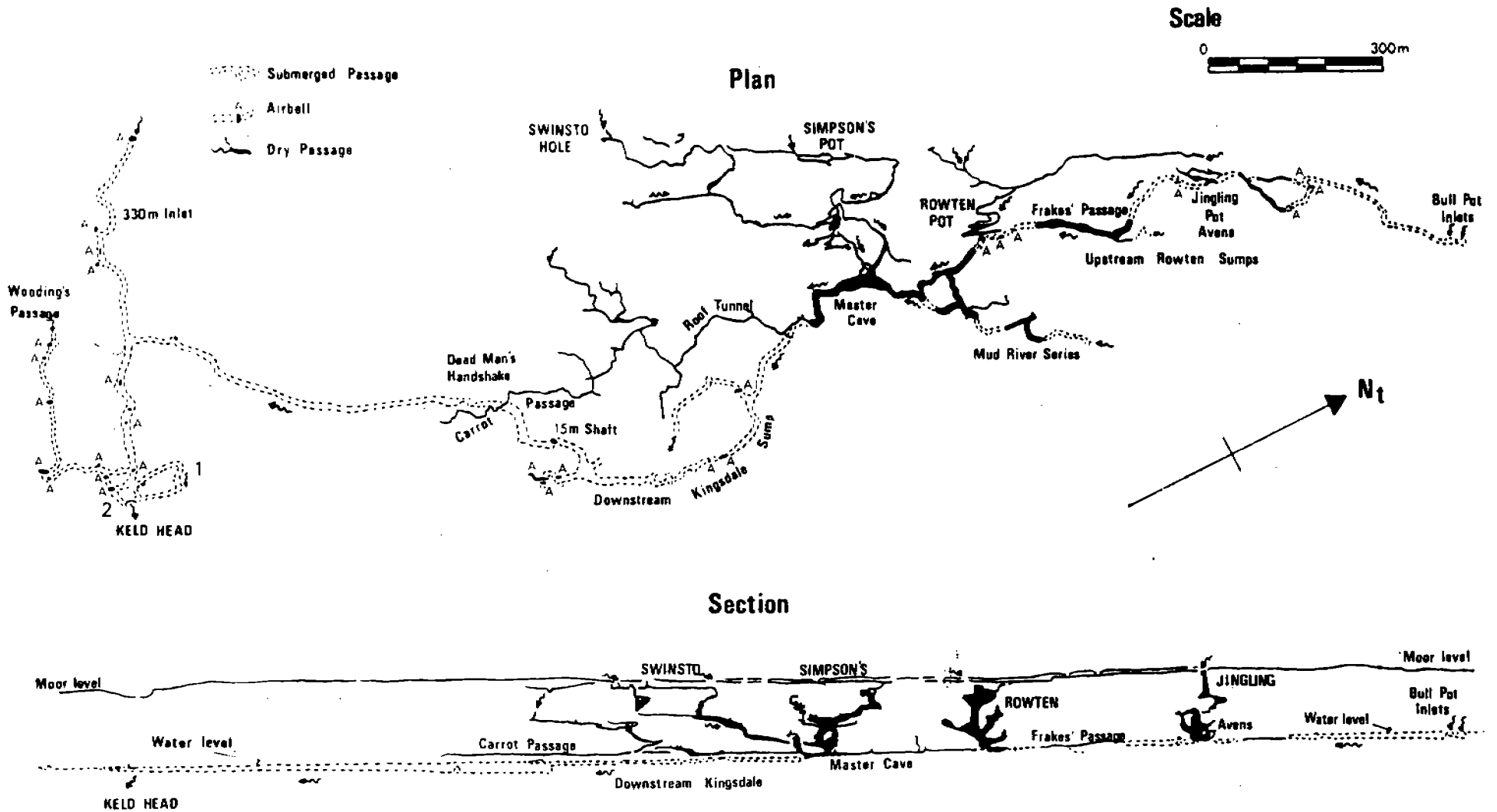
This episode illustrates that Murphy is alive and well. Safety rules are meant to keep his head down, but regardless of how well you plan your dive, it is virtually impossible to anticipate all contingencies. Particularly in situations where the experience level is low or in situations where technology has outrun experience.

Cave divers beware, Murphy is immortal. Last time I saw him, he was looking for dive buddies interested in scooter dives.

[AUTHOR'S NOTE: 1. Murphy's Law: Anything which can go wrong probably will. 2. Murphy's Law Corollary: Murphy's Law-induced problems normally strike at the most inopportune times.]

# WEST KINGSDALE SYSTEM

Fig. 9



**BRITISH CAVE DIVING AND THE 1985 KELD HEAD PROBES** - by C. Randall Bohrer

At the base of a hill in the midst of northern England's Yorkshire Dales, water spews from a crack in the earth's surface. The water is sometimes clear as gin, sometimes dark as coffee; sometimes it rushes out with the force of a powerful river, and sometimes it is as placid as a backyard pond. This one dark underwater opening has fascinated explorers from all parts of the world since it was first discovered to lead to a labyrinth of seemingly endless underwater caves.



Randy Bohrer in the "China Shop" of Boreham Cave. This room is accessible only to cave divers. Photo by Geoff Yeadon.

Keld Head, the major resurgence for several of the caves in northern England's Three Counties Cave System, has been the subject of systematic exploration since the early 1970's. Even before then, local explorers wondered what lay beyond the flooded entrance. In the 1940's, attempts were made to drain the cave in the hopes of creating a large enough air space for men to pass. Later, short dives were made with the oxygen rebreathers commonly in use by British cave divers at the time.

But it was not until 1975, when the cave became Geoff Yeadon's "second home," that real progress was made. His dives culminated in the connection of the cave to the dry Kingsdale Master Cave and a world-record traverse of over 6000 feet.

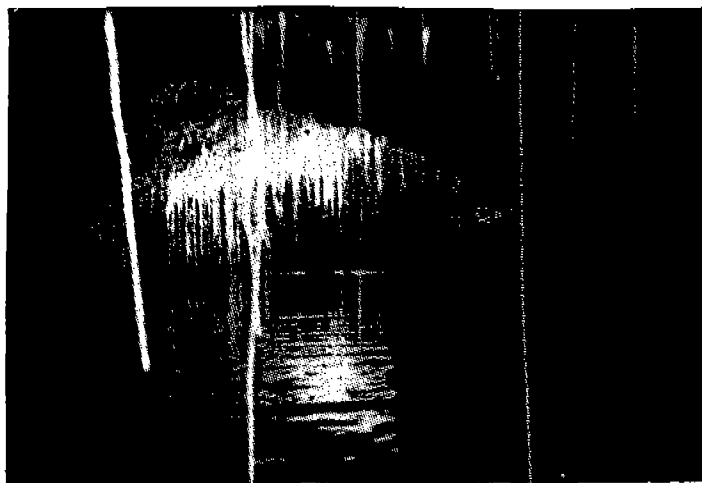
Now, the numerous side passages, unexplored walls and ceilings, and positive dye-tracing experiments loom in the minds of Geoff and this author. The cave shows all signs of connecting to King Pot, whose terminal sump is over 8000 feet away.

The British cave divers are unique explorers, with totally different attitudes and goals from their American counterparts. Most are dry cavers who have taken up cave diving to add another technique to their repertoires. Their objective is to pass water-filled cave passages and emerge into dry sections and continue exploration. The underwater cave, called a sump, is considered to be an obstacle. There are, of course, some who cave dive for the diving itself; however, there are few sites in the British Isles whose conditions make this desirable.

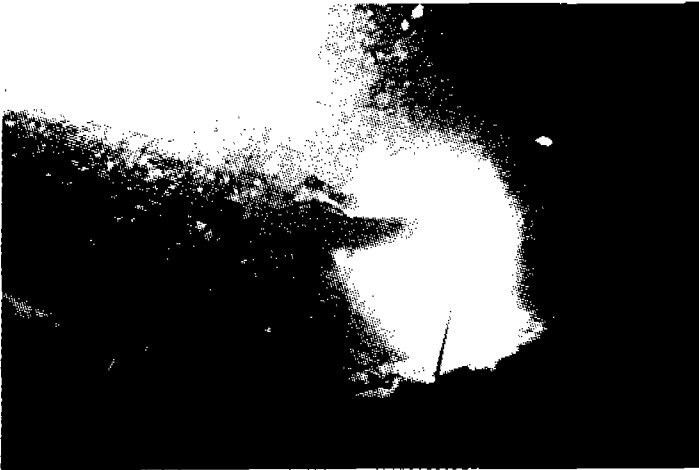
The most noticeable difference between the American and the British cave divers is their equipment. The back-mounted double hundreds so commonly in use in Florida are discarded in favor of smaller, 5-inch diameter, 50-cubic-foot cylinders mounted on the sides. The side-mount system allows a diver to pass horizontal restrictions that would turn back even the most persistent diver using back-mounted cylinders. A separate regulator and pressure gauge is used on each cylinder, with short second-stage hoses. Long hoses for sharing air not used because the British cave divers prefer to remain independent from their dive partners.

Lighting systems typically include three or more helmet-mounted lights, all about as bright as a Mini-C or Tekna 8-cell light. 3/16" or thicker guideline is used for strength and so that the diver can feel the line while wearing wetsuit gloves.

Perhaps the most shocking aspect of British cave-diving techniques is the practice of independent or even solo diving. Because the conditions in the British sumps are so typically atrocious, dive partners can provide little help in the case of emergency, and can even be a threat to safety. When the visibility drops from 10 feet to zero, and the passage is barely large enough to move, the last thing that is needed is another diver blocking the



Randy Bohrer in the "China Shop" of Boreham Cave. This room is accessible only to cave divers. Photo by Geoff Yeadon.



Typical low visibility of British cave diving is clearly indicated in this photo taken in Keld Held, Yorkshire. Photo by Randy Bohrer.

favored over drysuits, since they are more versatile from a dry-caving standpoint, and still provide adequate insulation when damaged. Drysuits are used on a limited basis where long and/or decompression dives are being done.

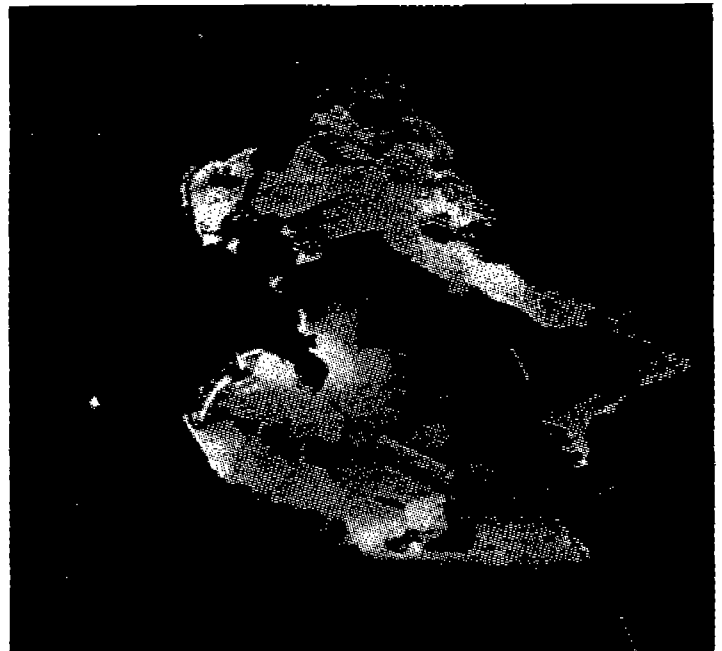
Helmet-mounted lights are preferred, to free the hands and provide an easy access point for a number of lights. Super-powerful lights have not yet been introduced on a wide scale here, although the few divers who have used movie lights for filming expressed a favorable opinion of their usefulness in exploration.

My first dive in Keld Head was with Geoff Yeadon. Our plan was to penetrate to the "1100-foot corner," near the "Marble Steps Inlet." There, Geoff would install a new piece of guideline in mid-passage to replace the one that had pulled into the

return route. Also, in such conditions it would be very difficult for two divers to share air, even with 5-foot second-stage hoses.

Two independent side-mounted cylinders provide a reasonable amount of safety for solo diving since (1) both valves can be reached by the diver, (2) the regulator first stages and valves are protected from damage or accidental movement since they are positioned under the arms, and (3) even if a failure occurs where all the air is suddenly dumped, as in a burst-disc failure, blown O-ring, etc., one system will remain usable.

Cave-diving techniques are also somewhat different. Silt techniques are non-existent. Since it is almost impossible to avoid silt, the British divers have practically given up. Buoyancy compensators are used only when absolutely necessary, as is the case in stage diving, decompression diving, or deep diving with equipment that has greatly varying buoyancy. Wetsuits are



Geoff Yeadon in the 1000-foot sump series of Boreham Cave, West Yorkshire. Photo by Randy Bohrer.



Geoff Yeadon.

Photo by  
Randy Bohrer.

low edge of the lens-shaped passage. Off we went, Geoff with his rusty side-mounted steel 80's, and me wearing side-mounted steel 100's. I also carried a number of clothes pins to mark the homeward side of the numerous line junctions. We reached the 1100-foot point in scant 5-foot visibility and Geoff tied a blue line to the existing red one. After the bad section was passed, he wrote on his slate, "Shall we go to 1500?" I nodded my head affirmative, the beams from my helmet lights tracing three verticle lines on the walls. After passing the 1500-foot point and reaching the 1/3 air point, we returned and retired to the pub.

Later, Geoff and I discussed Keld Head's potential for a connection with King



Geoff Yeadon in the 1000-foot sump series of Boreham Cave, West Yorkshire. Photo by Randy Bohrer.

Pot and Marble Steps Cave, and a different route to Kingsdale Master Cave. He pointed out that such long exploratory dives are best done solo. If we worked together on these dives, we would have to dive independently, and even be separated by intervals of one half hour or more, if we even dove on the same day. This was a chilling prospect for me, so I decided to gain some solo experience in a friendlier and more familiar place--Wookey Hole.

The weekend of the 15th anniversary of cave diving was chosen. All the cave-diving greats were to be there: Graham Balcombe, Bob Davies, Jack Shepherd, Oliver Wells, and some of the other "old timers." Also, a cave-diving course was to be conducted in Wookey, providing lots of support in case I became stranded on the far side of one of the sumps and needed rescuing.

After transporting my gear to Chamber 9 through the tour portion of the cave, I suited up and submerged. A feeling of incredible loneliness and isolation almost overcame me as I progressed with the small

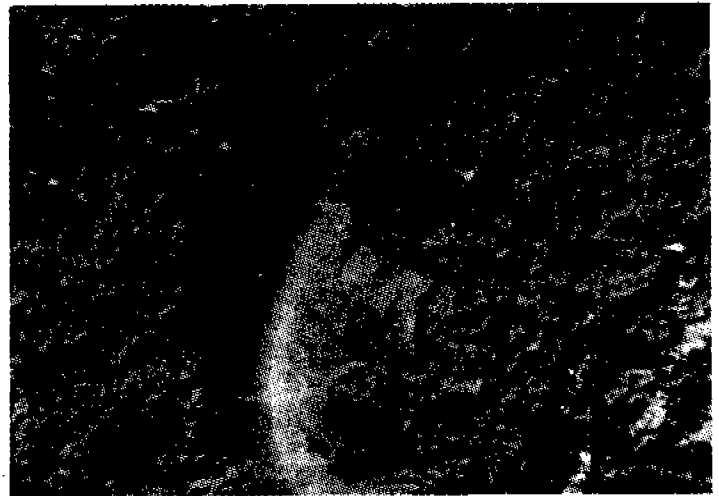


A flatworm, found in Wookey Hole, Somerset, England. Photo by Randy Bohrer.

arc of light ahead and the darkness closing in behind. All I could think of was how wonderful it was going to be when I broke the surface in Chamber 20, my objective. My air consumption was outrageous! In the 400 feet of sump between Chambers 9 and 20, I used a full one third of one of my 50-cubic-foot cylinders. I was a bit more comfortable returning, however, and took the time to photograph some of the small cave critters. Isopods, amphipods, and flatworms were seemingly everywhere!

After carrying the gear back to my car, I notified the cave proprietors that I was out and okay, thanked them, and left. I thought, "So now I'm a solo cave diver. I sure hope that Forrest, Wes, and my mother don't find out about this."

The solo experience was very worthwhile, since the next Keld Head dive required that I see myself out, while Geoff continued in to look for the King Pot branch, around 3500 feet from the entrance.



Niphargus Fontainus, a cave shrimp (amphipod) found in Wookey Hole, Somerset, England. Photo by Randy Bohrer.

Equipped with my 100's and one 50 as a stage bottle, I dove with Geoff behind me wearing two 110's and a back-mounted 80. He fell a few minutes behind while removing the 80, but soon caught up. Finally, at the well-known restriction called "Dead Man's Handshake," 3000 feet in, I shook Geoff's hand, wishing him luck. I then made an uneventful exit, emerging from the water about an hour later. Geoff returned about 40 minutes after me, with the bad news. No luck--the passage he checked was a dead end. Dye tracing would have to be done to find out anything more.

Since that time, dye tracing has narrowed down the location of the King Pot branch to a 1000-foot area. Unfortunately, the British weather has effectively ruled out any chances for a search for the passage, with heavy rains and flooding, followed by melting snow and flooding, followed by flooding and more flooding. I then turned my attention to the Marble Steps route, hoping to eventually find

passage to the dry Marble Steps Cave, whose entrance is currently blocked by breakdown. With Geoff turning his attention to family matters, I considered this a project more within reach, as opposed to groping around in unfamiliar passage a mile from the entrance.

The Marble Steps attempt would involve diving through 2500 feet of passage to an airbell at the end. Then, bolts would need to be installed on which to hang diving gear, since the water is about 10-15 feet deep, and the sides are vertical. An attempt to climb to the top of the 40-foot airbell could then be made, either by bolting or aid-climbing. My one attempt on this passage ended after about 5 minutes, since I found it impossible to make my way through the underwater passage in scant 2-foot vis. The chance for finding a dry, high-level passage is still there; all that's needed is for someone to do it.



An isopod, found in Wookey Hole, Somerset, England. Photo by Randy Bohrer.

There have been some major discoveries here during the past year. The most notable are Martyn Farr's discovery of large dry passage beyond sumps in South Wales and the new 4 km of passage found in Nott's Pot (Yorkshire) after passing a sump that was previously written off as a dead end. This author unfortunately must retire (at least temporarily) from the British cave-diving scene, in favor of moving to a warmer area (the sunny Mediterranean). Hopefully, I'll find some good caving and diving there. Anyway, American cave divers seem to be quite welcome here, so if you get a chance, and like extremely difficult and unpleasant dives, come on over.

Kelly Brady (NSS #26061) of Louisville, KY wrote the following:

Recently, I became the host for a computerized club on a national computer network where computer users all over the nation call a local number and are connected to a bank of computers. The network, called Quantumlink, offers news, electronic mail, shopping, and much more. The club I host (regulate) contains an area for caving & rappelling, where people interested in this may leave messages to each other and carry on discussions about caving. There

#### INTERNATIONAL CAVE DIVING SAFETY AWARD

- by Joe Prosser, Secretary/Treasurer

#### Background:

During 1984, Milledge Murphey (NSS# 24433) proposed that an award be established by the Cave Diving Section of the National Speleological Society, Inc. for the purpose of recognizing those cave divers who have completed 1000 or more safe cave dives. This award, as originally conceptualized, is for the purpose of promoting safe cave diving on the national and international level by means of providing recognition and publicity for those persons who have attained exemplary safe cave-diving records. The first awards were presented at the 27th NSS-CDS workshop held at the end of May.

Without question such an award, established in honor of exemplary cave-diving safety and presented at official NSS-CDS meetings, will have great and positive public-relations benefits (media, general public, etc..) for cave diving. The sport has frequently been characterized as hazardous; the I.C.D.S.A. will substantiate that highly publicized cave-diving related accidents are exceptional occurrences rather than commonplace. Further, the award may also provide motivation for all cave divers to cave dive safely over an extended time span.

Such divers will strive for excellence in diving equipment maintenance and technique with the result being safer, more productive cave-diving performance. The award will provide an additional positive database (as has the Abe David Award for the beginning cave diver) illustrative of safe cave-diving practices among cavers who have accomplished 1000 or more safe cave dives. Finally, the I.C.D.S.A. will bring an element of professionalism to cave diving, which at present is in the formative stages, thus enhancing the activity for all persons.

#### ELIGIBILITY:

Award eligibility is open to all cave divers worldwide in the hope that this award will influence the unification of the American and international cave-diving communities. Except for the initial recipients, candidates must submit to the award

is also a club "library," which contains articles and files of interest to club members, which they can receive over the phone line and print out on their printers later. I would like permission to make the Cave Diving Safety Brochure available as one of these articles. Upon your approval, the brochure, in electronic form, will be available to the hundreds of people who access the club. If you have any questions, please call me after 8pm at 502-367-8313. [Permission gladly granted!--H.V. Grey, Chairman of Publications.]

administrator a completed application form. Upon verification, the award will be presented during the next regularly scheduled Section meeting.

### THE IMAGE OF CAVE DIVING

- by Milledge Murphey

The inception of the International Safe Cave Diving Award has resulted in two well-written (if opposed) articles in Underwater Speleology. I read both with interest (Roger Werner, 13:2, and Paul Smith, 13:3) and discovered that both authors considered viable issues in their articles.

Conceptually, the I.C.D.S.A. is "ego-less," as noted by Paul, and will provide an avenue for use by the cave-diving community in addressing public opinion regarding the activity. By providing international cave diving with a standard for exceptional safety recognition, the award at once unifies and distinguishes an activity which is almost universally misunderstood and publicly maligned.

Cave diving, when pursued by trained individuals, properly equipped and in good health, is in fact, safe! When pursued by persons outside the above-designated conditions, and who further neglect the five principles of the NSS-CDS-conceived Principles of Accident Analysis, it becomes absolutely hazardous. The Award enables us to cite and recognize extraordinary safety, not hazard, as is commonly popularized by the media today.

Consider for a moment the positive world-wide impact of newspaper articles with accompanying photographs of cave divers who are trained, equipped, and healthy, and who have attained the stellar accomplishment of more than 1000 safe cave dives. Public opinion could then focus momentarily on the positive effects of the activity. When a school teacher, dive instructor, engineer, or businessperson receives such recognition, all readers will be aware of the fact that cave diving can be accomplished safely and by normal (not demented) people!

The I.C.D.S.A. has numerous other applications, all safety related. Among these are:

1. Positive Public Relations for Cave Diving.
2. Discouragement of the thrill seeker from "trying it."
3. Enhancement of safety in all diving environments.
4. Deserved international recognition for active cave divers.
5. Enhancement of a cohesive international cave-diving community with a united, safety-based philosophy.
6. Reduction and countering of negative media coverage of cave-diving accidents.

7. Provisions for motivation among cave divers (for all cave divers) to dive safely over an extended time frame.

8. Enhance provision of professional status for cave-diving instructors.

9. Encourage proper equipment selection.

10. Encourage proper equipment maintenance.

11. Enhance use of correct cave-diving technique.

12. Further recognize proper subaquatic cave conservation and exploration.

13. Recognition of the expert or experienced safe cave diver as the well-accepted Abe Davis Award does for the beginning diver.

14. Many other positive points too numerous to append herein.

I must comment on events occurring during 1954 in order to contrast the activity from its inception to its present state. At that time several divers, including Doug Duerloo, John Paul Jones, and myself, were beginning to cave dive. The presently used NSS-CDS definition of "cave dive" was not yet in existence and we considered a cave dive to be any overhead-environment dive on scuba, wherein we went beyond the sight of surface light. Interestingly, this definition still applies--no duration, depth, or distance causes one to change the interpretation of what a cave dive is. "You lose surface light and you're in the cave zone." (Author's note: Paul Smith clearly defined several interpretations which may be correctly made--the point being that a cave diver makes the decision individually and logs it accordingly.)

To return to the 1954 dive episode, a big dive for us at that time was a minor penetration into Little River or a traverse from Peacock to Pot Hole. Age, equipment (or lack of it) and the zero training level, were some of the reasons why this was so. Few of us logged dives, however, the three of us did in connection with diary entries which we kept for the purpose of meeting Boy Scout advancement requirements.

My most unique psychophysiological reaction while cave diving occurred during late 1954 when I experienced a total light failure on my second traverse (solo for the first time) between Peacock and Pot Hole. I was 14 years old and somehow avoided panic as I followed the ceiling on the right side of the passage until I reached the delicious shaft of light beneath Pot Hole. A singular experience, and one which is crystal clear in my mind even though it occurred more than 30 years ago.

The total absence of available training in scuba, the availability of scuba to anyone who had the money to purchase it, the lack of experience in overhead-environment diving world-wide, and the almost total absence of literature on the subject

**APPLICATION FOR THE  
NATIONAL SPELEOLOGICAL SOCIETY  
CAVE DIVING SECTION  
INTERNATIONAL CAVE DIVING SAFETY AWARD**

**I, the undersigned, have completed and logged 1000 or more safe cave dives and therefore submit this application for recognition as a recipient of the International Cave Diving Safety Award.**

**My 1000th cave dive was at** \_\_\_\_\_

**(phreatic cave location) with** \_\_\_\_\_

\_\_\_\_\_ **(dive team members) on** \_\_\_\_\_

\_\_\_\_\_ **(date)**

**Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

\_\_\_\_\_

**NSS # (if applicable):** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**I certify that the applicant has made and logged 1000 or more safe cave dives.**

**Signature of any Abe Davis Safety Award recipient**

\_\_\_\_\_ **NSS#** \_\_\_\_\_

was (at that time) the condition in which we found ourselves. The major factor which somehow was our basis for safety was unabashed luck! Regardless of all the foregoing, we were recreational cave divers and we enjoyed it. Again, as Paul Smith correctly stated, a safe cave dive is simply an invasion of any subaquatic cave zone (while of scuba) with an accompanying and subsequent successful exit. If followed by a 10-minute surface interval, a repetition of the event will result in a second cave dive. These simple facts are irrefutable.

Those who have amassed a prodigious (1000+) number of cave dives have, in many instances, been cave-diving instructors. Teaching may produce 6-10 cave dives on each teaching day and therefore it is to be expected that cave-diving instructors may accumulate logged cave dives at a rate much greater than recreational, scientific, exploration, or other types of cave divers. The issue, it appears, revolves around the content of the personal dive log of the I.C.D.S.A. applicant. Those who have the extraordinary 1000+ safe cave dives will have an Abe Davis recipient so verify (by signature) and will receive the award. It is the safe, repeated (1000 or more times) exposure to the actual subaquatic cave environment which results in eligibility for the award, nothing less.

From 1954 until 1962 most of my dives, and those of my friends, were short, shallow, and brief. However, given the embryonic equipment available and the absence of literature, knowledge, and training in the area, the dives seemed "big" to us.

We must all recognize that subaquatic cave explorers do a singular type of diving, cave diving instructors do an entirely different type of diving (which includes numerous, brief exposures to the environment), and scientists do yet another type (as do cartographers, photographers, and others.). Many cave divers may participate in all types and most probably do try them all at least once. The focus of I.C.D.S.A. is SAFETY, public awareness, positive public opinion, and recognition of those international persons who have logged an extraordinary 1000+ safe cave dives. We know that NSS-CDS training and strict adherence to the principles of Accident Analysis is the message which we must strive to convey to all scuba divers, instructors, and to the public. We must illustrate these principles with a philosophical base which praises near perfection and accepts nothing less, just as the underwater cave will accept nothing less and is absolutely unforgiving.

As Joe Prosser's recent article, "Accident Report - Peacock Springs - Saturday, March 29, 1986," so clearly indicated, we must attempt to prevent present and future increases in accidents via our training, publications, media, and safety programs. Certainly no one can successfully live through 1000 or more cave dives

(statistically speaking) without utilizing the reasonable safety practices which have been developed by NSS-CDS and NACD members. The I.C.D.S.A. is the international safety award recognizing this effort. Perhaps we will ultimately mitigate completely against the further intrusion of open-water divers into subaquatic caves. Senescence is, after all, preferable to drowning.

LETTER FROM DANNY BRASS. (Cont'd from P. 2

purpose of addressing the potential risk to cavers of contracting bat-inflicted rabies.

The Cave Diving Section of the National Speleological Society has expressed tentative interest in publishing the finished work as an independent section proceedings. Although my time and effort on behalf of the NSS and the cave community are freely given, I am quickly running out of necessary funds for library research, correspondence, computer facilities, translation of foreign literature, etc.

It is my belief that this work will be a significant addition to the caving literature, of interest to both cavers and speleobiologists. If the NSS Research Advisory Committee or the Conservation Committee can provide a research grant of \$150.00 - \$200.00, I will be able to see the project through with no loss in quality because of inadequate funding.

Thanking you in advance for your consideration, I am

Respectfully yours,  
 Danny Brass  
 College of Veterinary Medicine  
 Iowa State University

### Discussion

The recognition of rabies in many geographically dispersed bat populations has served, in some instances, to fan the fires of hate in those who have sought to further malign these strangely different creatures of the night. Armed with half-truths and a loathing for animals they refused to understand, these people have produced many exaggerated reports which have capitalized on the fears that can be instilled in the public mind.

With sensationalism well in hand, the specter of bat rabies looms over us all each and every night, like the growing menace of a hovering dark army; angels of death borne aloft on membranous wings. Such irresponsible reports do a disservice to the public community: they insult our collective intelligence, and they are an affront to the heart of nature. Indeed, the likelihood of any one individual being bitten by a rabid bat in the United States is, in truth, remote in the extreme.

Any yet, this is not meant as license to give bats a clean bill of health with

respect to rabies. Quite the contrary-- that bats do harbor the virus of rabies is an incontrovertible fact; that they have and can continue to transmit this dread disease to man is undeniable. Those who seek to convince the public otherwise behave in an equally irresponsible manner. What is significant, in this regard, is the effort made by the general populace and those in specific high-risk groups to protect themselves from exposure.

Nevertheless, the advent of an extreme point of view, single-mindedly bent on the eradication of bat populations, ushered in an era of heightened awareness and concern for bats. Championed by conservationists equally extreme in their perspective, many spokesmen denied the evidence before them and sought to convince the public of the complete innocence of bats in the transmission of disease to man or beast.

The thought that bats could be rabid seemed ludicrous to them. The ravages of Latin America seemed lost in the certain knowledge that bats worldwide, in annually devouring countless billions of insect pests, were an integral strand in the complex web of life. Once again, the public was subjected to biased reports, this time by the irresponsibility of fanatic conservationism. The war between chiropterophobes and chiropterophiles lingers today.

It is, perhaps, typical that the middle ground of scientific objectivity, relatively boring in its suitability for arousing public interest, has been relegated to consideration solely by science itself. But, even science is not free from bias. It is the unfortunate nature of scientific inquiry that positive results hold sway. The Journal of Negative and Irreproducible Results is of somewhat dubious scientific character. Thus, for every rabid bat that science is quick to tell us flies overhead at night, scores of healthy ones do, too.

The scientific community might not be so alert to point this out.

A great cloud of confusion exists in the rabies literature regarding the role of bats in the epidemiology of this disease. The interpretations of early investigators are oftentimes all that exist in the body of scientific knowledge. Many of these interpretations are based upon antiquated experimental protocols that would, today, be abandoned in favor of modern technology. Such technology, when applied to the same questions, might yield different answers than those of the past. Unfortunately, in the pragmatic everyday world of the 1980's, great sums of money cannot be allotted to investigate all that one would care to. Contradiction and ambiguity, mistakes and misinterpretations, therefore, abound. The difficulty lies in ferreting out the true from the seemingly true, the false from the seemingly false.

Thus it is that the science of bat-inflicted rabies will provide evidence to support any contention one wishes to make. The indications that bats are ultimately responsible for all animal rabies worldwide can be found liberally scattered through the pages of reputable scientific documents, side by side with the indications that they play no significant role at all. Reasoned debate is invited by the literature and serves as the stimulus which is the lifeblood of science.

So, the problem becomes a necessarily complex one. Of concern to protagonists is the jeopardy of human health on the one hand, and the continuity of the essential fabric of nature on the other. To be sure, both are important and deserving of our attention. Yet, both hang in delicate balance, between extremes of thought, with scientific objectivity and good common sense at the fulcrum.



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