



www.bluegrassdiveclub.com

April's Club Meeting

Date: Tuesday, April 12th
Time: 7:30-PM (business)
 Social at 7:00
Location: The Racquet Club
 3900 Crosby Rd.
Program: Diving in North Carolina

President's Message



We have a great trip underway to Cozumel as this newsletter is being sent through cyberspace. 40 lucky souls will be diving in one of Mexico's premiere dive destinations.

Meanwhile, Bob Shepard our club secretary for the past 4 years has asked to step down due to increased work load in his current job. Bob was great at keeping up with the club paper trail and brought a clear view to any issues the EC was dealing with. Bob was instrumental in support of the highly successful Truk trip.

He has promised to be active in the club trips and we will see him at the meetings. The new secretary, George Fleischmann from Versailles brings many talents to the club EC and we look forward his insight.

George has been a member for about two years, a retired IBM employee, and a great U/W video photographer as evidenced by his Yap Manta film last month. Everyone is excited by the energy and skills he brings.

Finally, we are planning a new venue for the Derby Party this year. Working with the Ski Club we will have the party at Keenland this year. More details and e-mails to follow.

April's program will be a professional video on North Carolina Diving, hope to see you on the 12th. □

Mark

The Editor's Notes

By John Geddes



This month I will again include some pics from the Chuuk and Yap trip. But I thought I would shake up some of the officer's pics on here and put a "fresh face" on the Undercurrents.

We have all heard of the credit card ad about being priceless, so here's one for you; A ticket to a ballgame, \$200.00. Gas to get to the game, \$50.00. A hotdog and a coke, \$12.00. A guy with a Blue Face, - - - - Priceless... □



Sherry Covington checks out some soft coral

Co-Vice President's Report

By Dan Miller and Carol Call



New Members

Please welcome our newest members Joe & Sue Salem of Lexington. They've recently relocated from Big 10 country in Columbus, OH so we need to show them what southern hospitality is all about. The Salem's are PADI certified divers and they have 2 children, Nicole & Matt. The Salem's joined at the February club meeting and we look forward to sharing many future dive adventures with them.

North Carolina Trip

Don't miss the April club meeting as we'll show a video of our June 18-22 Morehead City, NC wreck diving trip. The video highlights the 12 most popular wrecks serviced by Olympus Dive Center and we'll go to 6 of them over our 3 days of diving. We have 9 slots reserved but Kit Hudson must have your \$150 deposit by the April club meeting or else I cannot assure you a spot. Go to the "Upcoming Events" tab on our website and you'll see all the trip details outlined or you may call me at 948-5133.

The EC and Dive Trip Committee have heard many members yearn for "cheap, short, close distance dive trips". We'll this trip fits the bill so now you finally have a use for that tax refund. Step up to the challenge and let's go diving! Don't be a one trip per year diver, experience a wider variety of dive adventures.

Door Prizes

Last month we had 3 door prize winners but I forgot to bring the goods. Fear not Joy Johnson, Mark Doerr & Sid Yarbrough as I'll have your stuff at the April meeting.

Etc.

I came across an interesting website, www.undercurrent.org. You may sign up for their free e-newsletter via the site. They offer interesting articles, safety & photography tips, dive equipment recalls, dive related book & travel reviews. See you at the next meeting, Dan.□

Divemaster's Report

By Doug Geddes



LAKE DIVES

Take a look at our scheduled lake dives for this coming year. Please mark your calendars and make sure and try to attend. We have sign up sheets and more information on our website. You do not have to sign up to be able to go on these trips, but it will help us to plan for the size of the boat and also will help us to keep a look out for you at the dock. We also will probably camp out and have a cookout at one or more of the trips. We will have more information, as we get closer.

COZUMEL 2005

As a lot of us are reading this article, a large group of our club is enjoying the sun and diving in Cozumel. We all need to keep them in our prayers for a safe return. Hopefully, they will have pictures or tales about their travels. If you missed this one, you need to mark your calendars for another one of our fabulous trips.



Noel, Mike and the other Sherry looking at a deck gun

HONDURAS 2006

As you might have heard, we are going to Roatan, Honduras in April of 2006. The exact date, location and costs have not been determined at this time. I just wanted to give you the approximate date so you can get it on your schedule for next year's trip. It will be spring break date for Fayette Co. School's week. We are looking at several places to stay. If you have been to or heard of a great place to stay on Roatan, then, drop me an e-mail and let me know about it. The three we are looking at are, Fantasy Island, Coco view and Bay Island Resort. Of course the size of the resort will make part of our decision easier. The cost will be around \$2000.00 or less for a diver including airfare. I hope to resolve this trip before next month.□

Safety Corner

By Rick Stephan



Note: This month's article was taken from the web and provides a somewhat technical discussion about deep diving. We all know folks who tend to push the envelope of what sport diving guidelines say. But what dangers do they put themselves (and their buddies) in? As we go into the warm weather dive season, remember these lessons, and stay at a safe depth for your own physiology, training, and equipment limits.



Remember, safe diving is fun!

How Deep is Too Deep?

By John Lippmann
Executive Director
DAN S.E. Asia-Pacific

During diver training, dive students are normally drilled to avoid diving beyond 130 feet / 39 meters. However this depth limit recommended by most of the training agencies is not forged in stone. Historically, it appears that it probably emerged from the U.S. Navy, possibly as a result of equipment limitations at that time, and the work restrictions imposed by the relatively short no-stop times available at greater depths.



Some of the performers with John from a Village in Yap

An increasing number of divers dive beyond the 130-foot limit, some routinely and others occasionally. The advent of dive computers has negated much of the decompression penalty and dive restrictions previously associated with deep diving, and has no doubt encouraged the current trend. In addition, the increased availability of a

variety of gas mixtures has enabled more divers to venture deeper and deeper.



Here's Ralph waiting to see one of the Manta's

Deep diving demands vast amounts of knowledge, experience and discipline, as well as appropriate preparation and equipment, since deep diving is fraught with potential hazards. There appear to be some inescapable realities of deep diving. These include:

- the increased potential for certain problems to occur;
- if a problem does occur, the consequences are often more serious;
- the fact that the physiological effects of deep diving are still largely unknown.

An old friend of mine used to teach diving at a tropical resort. The instructors routinely dived on air to depths approaching 300 ft (90m) and beyond on their days off. During such a dive, one instructor became unconscious at about 200 ft (60m) without obvious warning. He fell away and out of reach of the others before anyone could get it together to do anything. His body was never recovered.

Elsewhere, another diver diving at just over 165 ft (50m) on air on a wreck was seen to become unconscious and to convulse. Luckily his buddies managed to rescue and resuscitate him.

These are not isolated stories, and there are many similar reports involving deep air dives and mixed gas dives. Unconsciousness underwater is often associated with deep diving accident reports. It usually results in drowning. A number of conditions can cause a diver to lose consciousness underwater. Such conditions include, but are not confined to:

- high blood carbon dioxide levels(hypercapnia);
- oxygen toxicity;
- nitrogen narcosis;
- decompression illness;

all of which are exacerbated by depth. Blackout underwater may not be due to a single cause, but may result from a combination of physiological or physical factors.

Safety Corner Cont.

Nitrogen narcosis can become a very serious adversary on deep air dives. Although we can acclimatize ourselves to the affects of narcosis to some extent by regular exposure to depth, it can still sneak up and very quickly overcome us when we don't expect it. Although conventional wisdom states that the narcosis appears on arrival at a particular depth and usually does not worsen with continued exposure at that particular depth, many divers are aware that it can quickly be precipitated by exertion or stress at depth, without further descent.



Mike with the guide, George and Mark touring Yap

Divers who have had to quickly deal with a problem at 200 ft (60m) on air realize the extreme difficulty of reacting rapidly and appropriately. Sometimes the mind-numbing effects of narcosis can strike suddenly and make appropriate reactions almost impossible. Extremely high levels of stress can be precipitated instantaneously and, unless controlled, panic and injury are likely results. Narcosis may be the direct cause of unconsciousness in a diver at depths somewhere in excess of 200 ft. Narcosis can be reduced by using certain gas mixtures. However, this involves the appropriate equipment, preparation, training and care since new potential hazards are introduced.

Carbon dioxide acts as a respiratory stimulant and can cause depression of the central nervous system (CNS). The effect depends on the level of carbon dioxide in the blood. Deep diving produces elevated blood carbon dioxide levels for several reasons, which include:

- the resistance to breathing caused by breathing denser gas through a regulator and against a higher ambient pressure;
- reduced ventilation efficiency due to the denser breathing gas;
- reduced transport, and, hence, elimination of carbon dioxide.

Hypercapnia increases narcosis and the likelihood of CNS oxygen toxicity. In addition, it may

increase heat loss, alter heart rhythm and predispose to decompression illness. If the carbon dioxide level gets too high, and it can on deep scuba dives -- especially if a diver is very anxious and / or exerting him/herself -- the diver may go unconscious without warning. Certain divers are more susceptible to severe hypercapnia for a variety of reasons and are therefore more at risk.

When divers breathe oxygen at partial pressures greater than about 1.5 atmospheres (ata), it may rapidly exert a toxic effect on the brain. A diver breathing air at a depth of around 200 ft is exposed to an oxygen partial pressure of 1.5 ata. CNS toxicity is a limiting factor and a very real danger in deep diving since it can cause a diver to convulse and/or become unconscious with little or no warning. The likelihood of CNS oxygen toxicity increases with exposure time, cold, exertion and hypercapnia, and the depth and time of onset can vary greatly between individuals and from dive to dive.

The high nitrogen load accumulated by the "fast" and "medium" body tissues during a deep air dive can cause substantial bubble formation during or after ascent unless the decompression is properly controlled and conducted. Some of these bubbles may form in or enter the arterial circulation and cause neurological problems. This mechanism may be responsible for some underwater blackouts during ascents from deep dives.



Cara and Captain Lenny receiving their BGDC plates

Various data indicate that deeper diving is associated with a substantially increased risk of decompression illness. This risk appears to increase at depths beyond about 80 ft (24m). In addition, using a dive computer to guide decompression from deep air dives appears to increase the risk further due to the greater dive times allowed and the increased unreliability of the algorithms at depth. More and more divers have adopted the use of various gas mixtures in the belief that it will reduce the risk of decompression illness. However, recompression centers still treat a significant number of these divers.

Safety Corner Cont.

Certain studies suggest that microbubbles are often present after dives, particularly deep dives, especially if ascent has not been appropriately executed but even after what is generally considered to be a safe ascent. Some hyperbaric specialists fear that microbubbles, although asymptomatic, may cause cumulative neurological damage in divers. However, to date, the evidence does not appear to be consistent.

Unless adequately prepared for, deep diving carries a higher likelihood of an air supply emergency. Increased ambient pressure means increased air consumption. In addition, narcosis may hinder a diver's ability to properly monitor and manage the air supply. Despite the improvements and superior performance of much of the modern diving equipment, malfunctions do occur. The deep divers who value their hides ensure that they have adequate backups of various essential pieces of equipment, including an independent and adequate air supply.



John and John doing their surface as we head on

Buoyancy compensation can sometimes become a critical factor on deep dives, especially in cold water where greater insulation is required. Unless compression of the exposure suit is adequately compensated for by BC or dry suit inflation, a diver may become very negatively buoyant at depth.

Wreck divers may sometimes prefer to be negatively buoyant, but problems can develop if the air supply is low and the diver needs to ascend fairly quickly.

Various experiments have demonstrated that, at low cylinder pressures, it is sometimes impossible to inflate a BC (or dry suit) at depths approaching 130 ft, especially while breathing simultaneously from the regulator. This problem would be magnified at greater depths. At times, a negatively buoyant diver who is low on air may find it difficult, or even impossible, to ascend without ditching their weight belt. If the weight belt is ditched, it is unlikely the diver will make it to the

decompression line to get some extra air and perform any necessary stops.

Some divers routinely dive to depths in excess of 165 feet/50 meters on air, although over recent year's gas mixtures such as heliox and trimix have become far more commonly used for very deep diving as they are less narcotic. These divers are often, but not always, conversant with the substantial risks and demands of these dives and choose to push the limits for their own reasons.

Such divers are usually well equipped and well prepared for the dives. Most usually manage to get away with diving to these depths with no apparent problems, others do not. Some of the unfortunate ones are left with permanent disability; others die. On the other hand, there is the "occasional" deep diver. These divers are generally less experienced than regular deep divers, are on a dive trip with a group, and are drawn into diving deeper than they normally do because of the more relaxed holiday atmosphere and because "everyone's doing it."



Bob, Mark and Sherry doing their surface time

Such divers are often not sufficiently trained, mentally prepared and appropriately equipped to deal with a problem should it occur on a deep dive. It becomes obvious that there is no safe depth limit that applies to all divers all of the time. A diver's ability to cope with depth depends on a number of highly variable factors. The depth of the onset of the effects of the exotic cocktail of elevated pressures of nitrogen, carbon dioxide and oxygen, coupled with the sensory deprivation and stress associated with diving, are not always predictable. A dive to 80 feet in cold, dirty water can be far more hazardous than a dive to twice the depth in warm, clear waters. Factors such as visibility, water temperature and diver experience and preparedness greatly affect a diver's comfort and safety, rather than depth alone.

Divers in remote locations must also be aware of the complications associated with medical evacuation. These can include significant delays in retrieval due to lack of current availability of an aircraft and and/or medical team, the distances involved, as well as the accessibility of some

Safety Corner Cont.

airstrips in darkness or adverse weather conditions. Such delays can impact the amount and the effectiveness of the subsequent recompression treatment, and the likelihood of residual injury.

In addition, once a diver has been evacuated and/or treated for DCI, they will be advised to avoid air travel or driving to altitude for between three days and six weeks post treatment to avoid recurrence of symptoms. This can certainly impinge upon the diver's travel and work commitments.

As with many things in life, one must balance the risks against the benefits and make a decision. However, it is essential to have a real understanding and appreciation of the risks.□

From The Secretary

By George Fleischmann



General Meeting Minutes 3/8/05

The 7:30 dinner meeting held on 3/8/05 was attended by 41 folks. Everyone seemed to enjoy the food and conversation.

Kit gave the treasurer's report. As of 2/28/05 there is total of \$ 10,282.39 in the unreserved and reserved funds. Doug Geddes handed out itineraries for those going on the Cozumel trip.

Two videos were shown from the clubs recent trip to Yap & Chuuk. The first was 17 min video of the mantas in Yap and the second was a 30 min video of the week's activities aboard the Odyssey in Truk Lagoon.



Sarah and Charlie having lunch at Traders' Ridge Resort

EC Meeting 3/29/05

The 7:30 pm meeting was attended by Mark, Dan, Kit, Carol, Rick, Doug, John and I.

Mark called the meeting to order. Kit presented the treasures report for approval and it was.

Doug reported that all details of the Cozumel plans were complete. Tentative dates were chosen and initial plans reviewed for the trip to Roatan. More information on this trip will be on the web soon.

Details of the Derby Party are still being worked out and will be posted on the web as soon as they are firm.□



And yes, the Chicken was there too

From the Treasurer

By Kit Hudson



Membership Dues:

Membership dues for 2005 are being accepted. If you are unsure as to if you are up-to-date or not, please contact me:

Email: kithuds@iglou.com

Phone: (859) 873-4974

Remission: Bluegrass Dive Club
% Kit Hudson
231 Stourbridge Road
Versailles, KY 40383

Dues:	Student (current)	\$10.00
	Family (0 or 1 diver)	30.00
	Family (2 or more divers)	40.00



Some of the group at the local watering hole

Bluegrass Dive Club 2005 Calendar

April

- 12, Tuesday Dive Club Meeting
- 26, Tuesday E.C. Meeting
- 29, Friday Newsletter Deadline 11pm

May

- 7, Saturday Club's Derby Party
- 10, Tuesday Dive Club Meeting
- 31, Tuesday E.C. Meeting



Doug and Noel before the village dance

June

- 3, Friday Newsletter Deadline 11pm
- 14, Tuesday Dive Club Meeting
- 18, Friday North Carolina Trip
- 28, Tuesday E.C. Meeting

July

- 1, Friday Newsletter Deadline 11pm
- 12, Tuesday Dive Club Meeting
- 23, Saturday Dale Hollow Lake
- 26, Tuesday E.C. Meeting
- 29, Friday Newsletter Deadline 11pm



Last day, last dive done but the stories are just starting

August

- 9, Tuesday Dive Club Meeting
- 13, Saturday Club Pig Roast
- 27, Saturday Laurel Lake
- 30, Tuesday E.C. Meeting

September

- 2, Friday Newsletter Deadline 11pm
- 13, Tuesday Dive Club Meeting
- 17, Saturday Cumberland Lake
- 27, Tuesday E.C. Meeting
- 30, Friday Newsletter Deadline 11pm

October

- 11, Tuesday Club Dinner / Meeting
- 22, Saturday Bonne Terre, MO
- 25, Tuesday E.C. Meeting
- 28, Friday Newsletter Deadline 11pm

November

- 8, Tuesday Dinner Meeting (Elections)
- 29, Tuesday E.C. Meeting

December

- 2, Friday Newsletter Deadline 11pm
- 18, Saturday Club Christmas Party
- 30, Friday Newsletter Deadline 11pm



Dive hard, rest hard, Kit did both

2005 BGDC Officer's & Staff

Mark Kidd, President	266-2276
Carol Call, Co-Vice President	253-3992
Dan Miller, Co-Vice President	948-5133
George Fleischmann, Secretary	873-9539
Kit Hudson, Treasurer	873-4974
Doug Geddes, Divemaster	224-3197
Rick Stephan, Safety Office	223-3719
Mike McCann, Webmaster	255-3937
John Geddes, Undercurrents Editor	223-7926