3020 Bridgeway #447
Sausalito, California 94965

Undercurrent

The Private, Exclusive Guide for Serious Divers

Vol. 19, No. 3 March 1994

Komodo Island, Aboard the *Komodo Plus*

—not for everyone, but . . .

Loyal Undercurrent readers will remember when one of our travel correspondents had the good fortune to meet Dr. Kal Muller as a fellow passenger aboard the Tropical Princess. Along with his review of the boat, he described the professor as "author, photographer, explorer, and raconteur extraordinare." Kal Muller is indeed an interesting character, and now, a few years later, another correspondent catches up with him. This time he's a partner in a live-aboard, diving around the fabled Komodo Island of Indonesia. This is a boat that you won't read about in the slick mags, but you may be interested. . . .

"If you're looking for the comforts of a $300-a-day live-aboard, then we're definitely not the boat for you, but if you don't mind roughing it a bit, then you'll experience some of the world's most exciting tropical diving and have a great adventure as well."

This is the refreshingly honest self-evaluation of the Komodo Plus, Indonesia's newest live-aboard, by the boat's co-owner, Dr. Kal Muller. Kal is a longtime resident of Indonesia and the author of Underwater Indonesia, which was rated the best travel guidebook of the year by the BBC and is Kal's fifth travel book about the vast Indonesian archipelago. No one is more familiar with this island nation's diverse culture and habitats, both above and below water, and no one describes it better. When Kal wrote me, "Expect a great trip for a reasonable price. We are offering the perfect opportunity to go native and dive an unknown part of Indonesia," I didn't think twice about joining him on his first dedicated dive charter.

The Komodo Plus turned out to be a 56-foot, traditional-style Indonesian vessel. All guests sleep in one large, central cabin that bunks 18 when the boat does non-diving excursions to see the Komodo dragons but, fortunately, accommo-

INSIDE UNDERCURRENT

dates only seven when it's a dive trip. The boat is not air conditioned, but does have small fans that keep the cabin bearable during the day and comfortable at night. There are two shower/toilet combinations, but because Komodo Plus does not have water-making facilities, guests have to make do with a single military-style shower per day. The upside is that during trips lasting more than a week, the boat takes on extra water at picturesque anchorages that are great for topside photography.

The large, covered deck provides plenty of room for dining and serves as the camera work space as well. Although the boat is not dedicated to diving photographers, there is enough 220/240-volt power from the generator to charge strobes, but you need to bring your own converter. Rinse tanks are provided for camera gear, but with fresh water use limited, the water in the tanks is changed only once a day. On my trip, there were six serious photographers with multiple rigs and we had plenty of space to work (I even repaired a flooded Nikonos 15-mm lens twice!).

Diving in Indonesia

Kal Muller. *Underwater Indonesia: A Guide to the World's Greatest Diving*. Chicago: Passport Books, 1992. 286 pages, 5.5" x 8.8", $15.95.

Underwater Indonesia is an ambitious undertaking considering Indonesia is made up of 13,667 islands. Of course they're not all covered, but this guide goes above and beyond in its thoroughness of a wide range of topics. With 33 maps that include dive sites, 120 plus color photographs, charts of site conditions, ocean current maps for different seasons of the year, glossary of Indonesian dive terms with translations in English, French, and German, travel advisory, fish chart, local history, reef ecology, and several other relevant topics, this book is well worth its $15.95 price tag. Available from Helix, 310 South Racine Ave., Chicago, IL 60607, 800/33-HELIX.

Diving is done mother-ship style. The Komodo Plus draws only six feet of water and can anchor or stand by at almost all of its dive sites. The ship does have a small dinghy for diver shuttle and pickup. Although extremely capable and friendly, the crew have little knowledge of English. The divemaster, however, speaks fluent English and is well informed about the dive sites. There are two compressors and 20 tanks on board, plus plenty of weights. Some rental gear is available, but I would strongly recommend that you bring everything you need, plus a set of backups; this really is the frontier of diving.

Kal and his staff at Grand Komodo Tours made all the necessary arrangements to get us from Bali to Sape on Sumbawa Island, where the boat is anchored. Once settled on the boat, we headed out to dive a sampling of the more than 50 dive sites that the Komodo Plus staff has pioneered around Komodo Island.

Komodo Island, home of the famous giant lizards, lies between the islands of Sumbawa and Flores, east of Bali. I had heard that expert divers, including Ron and Valerie Taylor, consider the marine fauna around Komodo among the most diverse in the world. I have to concur. Diving this area was like visiting two

© Copyright 1993, by Insightful Newsletters Corp., 175 Great Neck Rd., Suite 307, Great Neck, NY 11021. All rights reserved. *Undercurrent* (ISSN: 0192-0871) is published monthly, except for combined issue November/December by Insightful Newsletters, Corp. Copies of this guide are not available on newsstands, but are furnished directly to the diving public by mail subscriptions only. To maintain its independence *Undercurrent* carries no advertising. Copying by any electronic or mechnical means, including information storage and data retrieval systems, without written permission from the publisher is strictly forbidden. News media may use no more than one quarter page of material per issue, provided that *Undercurrent* is credited. Permission to photocopy articles herein is granted by Insightful Newsletters, Corp., to libraries and other users registered with the Copyright Clearance Center (CCC) for internal and personal use only at the base fee of $10 per article plus $1 per page paid directly to CCC, 21 Congress Street, Salem, MA 01970. Serial Fee Code: 0192-871/89$10+$1. POSTMASTER: Send address change with old label to *Undercurrent*, 175 Great Neck Road, Suite 307, Great Neck, NY 11021. Second Class Postage paid at Great Neck, N.Y. and additional mailing office.

To receive the accurate, inside diving information *Undercurrent* offers, send $58 (U.S. funds only) for a one year subscription to *Undercurrent*, 175 Great Neck Road, Suite 307, Great Neck, NY 11021 and get a valuable FREE gift. Or call toll-free 1-800-237-8400 Ext. 523. Or FAX: 516-466-7808.

different oceans. On the south side of Komodo, cool (72°-75°) currents swirl in from the Indian Ocean, bringing in nutrient-laden waters that nourish an incredible mix of temperate and tropical life.

Because the waters in the south are so rich, visibility suffers. During my two-week trip, it ranged from a miserable 20 feet up to an acceptable 50 feet, which the divemaster said was much more typical of the season. I wasn't discouraged by the mediocre vis. In 25 years of diving, I have never seen an area as prolific as the south side of Komodo Island. Every square inch of the substrate was encrusted with flamboyantly colored marine life. The reduced visibility forced me to concentrate on macro subjects. And concentration was a problem! There were so many new (to me) species that deciding what to photograph was a dilemma. I easily ripped through two rolls of film on every dive.

One of my favorite subjects, nudibranchs, were so abundant that, after the second day, I began passing up single nudis for the multitudes of mating pairs. While I added over a dozen new species to my portfolio, my biggest thrill was the pair I photographed that were coupled and laying their eggs at the same time!

Nudibranchs usually win a color contest hands down, but not at southern Komodo. The orange tubastrea coral bloomed during the day and provided a neon backdrop for multitudes of blue-ribbon eels, crustaceans, and holothurians. One dive site was named the Apple Orchard because it was covered with the most beautiful of all holothurians: the sea apple, a red, white, blue, and yellow critter that is just about as knocked out as nature can get. Competing for space were crinoids in every color imaginable, and along with the crinoids came their commensals: shrimp, crabs, clingfish, and even the ornate ghost pipefish!

KOMODO PLUS
Worldwide Comparison

Diving for Experienced	★★★★★
Diving for Beginners	★★★
(The diving is not too difficult, but I don't recommend the boat for a beginning live-aboard diver.)	
Photography	★★★★★
Photography Accommodations	★★
Food	★★★
Cabins	★★
Crew	★★★★
Boat Comfort	★
Money's Worth	★★★★★

★ poor, ★★ fair, ★★★ average, ★★★★ good, ★★★★★ excellent

Along the sandy bottoms near shallow reefs, we found an astonishing variety of rare creatures, including waspfish, anglerfish, gardens of sea pens with commensal crabs, and even a mimic octopus that contorted its body to look now like an anemone, now a lionfish, then glided along the bottom like a flounder!

The reduced vis did hamper my identification of the large schools of "shadows" that constantly hovered just out of range. According to the divemaster, the south surpasses even the north side of Komodo in fish life, but I can only hope for better vis on my next trip to confirm it. I will be back.

Next we moved to the north side. Much warmer, clearer water (78°-82°, with 60'-150' vis) flows around the north side of Komodo Island. There was a good

variety of tropicals as well as pelagics. Here, we were told, we could expect to see an occasional whale shark, and mantas in aggregations of a dozen or more.

Sabolan Kecil, an isolated northern Komodo seamount, has it all. We descended into a sea garden full of enormous gorgonians and soft corals that covered the sides of the pinnacle. Clouds of anthias and damselfish hugged the corals – no space was wasted on this reef! All around us, schools of fusiliers and jacks swirled and scattered as they were attacked by the various sharks – grays, whitetips, and blacktips – as well as large tunas that herded the smaller fish into tight aggregations and then attacked the school.

With action like this, we decided to stay another day to take it all in. The extra day gave me enough time to work with the very cooperative garden eels at the base of the seamount.

Great diving, but there was even more to experience on this Komodo Plus cruise than just fabulous marine life. Foremost were the dragons. Indigenous to Komodo and Rinca Islands, the Komodo dragons are the world's largest lizards. Some are a frightening 10 feet long and weigh over 350 pounds. Dragons hunting game have been clocked at over twenty miles per hour and they will chase and eat just about anything. This is one fierce predator! Guests on the Komodo Plus have the option of spending a day visiting the dragons – the trip is included with the price of the charter.

Another wonderful bonus is the lovely outrigger sailing craft that abound in this part of the world. Each boat is unique and symbolizes its owner's link with the traditional lifestyle still maintained by Indonesia's "sea gypsies." One anchorage off northern Komodo found us surrounded by 30 large outriggers at sunrise, a beautiful beginning to an incredible day of diving.

Diving on the Komodo offers everything that you could ever hope for from a world-class destination, except for the amenities. Dining is family style, out on the covered multi-use deck. The local-style food is quite good, but don't expect the crew to handle special dietary requests or serve ice cream for dessert. In fact, don't expect dessert at all, but do be prepared to see the chef cook one of the live chickens that

Luggage for Extreme Use

If you're looking for a really durable carry-on guaranteed for life, request a free catalog and price list from a company called Shooting Systems, 1075 Headquarters Park, Fenton, MO 63026-2473 (phone 1-800-325-3049). The company makes specialized luggage for law enforcement agencies (concealed handgun holsters, cases for assault rifles, etc.). Most of the products in the catalog are either black or camouflaged, and obviously intended for military or police use. When you call, you're likely to be asked whether you're with "the Agency." You don't need to work for the FBI or the CIA to order luggage, however. I've been aggressively overloading one of their Flight Bags for about 10 years, and have never ripped a seam or blown out a zipper. When I finally bent a clip on the shoulder strap, they immediately sent me a replacement for free, no questions asked.

On this trip, my Shooting Systems carry-on was crammed with three regulators, three instrument consoles, two spare dive computers, one BC, a mask, a diveskin and neoprene hood, my SLR and a 20-roll brick of film, my documents, a small Pelican box filled with first-aid supplies, a small flashlight, toothbrush, deodorant, a couple of T-shirts, a bottle of carcinogen-strength Cutters, a bottle of drinking water (in case we got stuck in some Amoebaville overnight), and my Speedos. It fit in the overhead bin on the jet, but I made a point of not sitting directly beneath it.

have been your deck mates for the past week. This trip is definitely for those into no-frills adventure diving and an unequaled cultural experience.

Diver's Compass: The boat is priced about $150 a day. Bookings should be made directly with Grand Komodo Tours. Ask to speak with Kal's partner Nyoman Kirtya. Grand Komodo Tours, P.O. Box 3477, Denpasar, Bali, Indonesia, Phone 62-361-287166 or fax 62-361-287165. With sufficient notice, Kal is available for lecturing during dive trips on such topics as marine biology, history, and cultures of Indonesia.

K. B.

Where's the Snorkel?

It gets caught in your hair, it wobbles around when you swim fast, it feels awkward on the side of your head, and it creates additional drag in the water. When diving in the Caribbean, I never wear a snorkel. I've always thought the best place for a snorkel was in your gear bag, but *Undercurrent* reader Ron Kuznetz of Plainview, NY, has a different idea, especially after the following experience. Here's Ron's story:

The skies were partly cloudy and the water seemed a bit choppy, but this was typical of the weather during this early November in the Turks & Caicos. As my buddy and I were completing our pre-dive equipment checkout, I realized that I had forgotten to attach my snorkel to my dive mask. For a moment, I considered leaving the snorkel behind, but then decided that although this was aquarium diving, it was better to be safe than sorry.

During our week's diving, it was rare for more than two or three buddy teams to dive the same reef area during a dive, but ironically, all 14 of us found ourselves together when it was time to go back where the boat was moored. As we reached the area, we did a five-minute safety stop at 10 feet, but the boat was nowhere in sight.

From below we could see that the surface was being pelted with rain. Two of us surfaced — no boat! Buffeted by heavy rains, six-foot swells, and strong winds, we dropped back down to the other divers, and with hand signals explained that we should stay together, surface, and inflate our vests. After surfacing, we donned our snorkels, huddled together, and checked our gauges. Everyone was low on air.

I always carry a safety sausage in my BC pocket. After I had inflated it with my regulator, two of the other divers held it up as best they could above the water line. After about 10 minutes, we were spotted by a crew member from the boat, who was looking for us in the ship's dinghy. We could see as he approached that the dinghy was taking on water and looked as if it were about to sink. He announced through a megaphone that a tropical storm had hit without warning, and the live-aboard was literally blown off its mooring. By the time the crew had regained control, the boat had drifted away, and they were afraid to start the engines with divers underneath.

He told us that he would try to bring us back to the boat one at a time because of the dinghy's size, and he needed one of us to climb into the dinghy immediately and help him bail out water. One of the divers was beginning to show signs of stress and fatigue, so we propped him over the side and into the dinghy. The crew member bellowed at him to bail water, and the dinghy left us temporarily to fend for ourselves.

After 15 minutes (which seemed more like hours), the dinghy reappeared with two crew members aboard — one steering and the other bailing. The steerer held up the megaphone and told us that the seas were too rough for him to get us back to the boat in the dinghy, and that we had to swim for the distant shore.

We stayed in a pack and began snorkeling toward shore, fighting a moderate crosscurrent going from right to left. We swam for over an hour, dashed and smashed by wind and waves, some of us having our masks knocked off our faces repeatedly. As we got close to shore, the rain let up, but the waves didn't. At this point we decided to use our remaining air to swim the rest of the way underwater. We placed our regulators back into our mouths, slipped below the surface, and let the surf drag and roll us in.

We took a head count after we landed. We had all made it. All the divers on this trip were experienced, well conditioned, and safety conscious. Everyone performed as trained during this freak emergency, but in spite of all the state-of-the-art gear that each of us carried, we might not have survived without that most basic piece of equipment, the snorkel.

Editor's Note: I don't know, maybe a compromise: I've seen several Aussies wear a snorkel strapped to their leg like a dive knife.

Emergency Ascent Training Workshop

— *a potpourri from the land down under*

Most North American divers are familiar with the Diver's Alert Network (DAN), but don't know that most of the educational information that DAN disseminates comes from other hyperbaric researchers and facilities. In Canada, the crew at the Defence and Civil Institute of Environmental Medicine (DCIEM) has produced one of most thoroughly researched and tested sets of tables in the world. In the USA, the US Navy, Air Force, NASA, and National Oceanic and Atmospheric Administration all conduct diving-related research, along with a variety of individual chamber staffs such as those at various universities and medical centers.

How do they share information? Most of the hyperbaric researchers in this country belong to an academic organization called the Undersea and Hyperbaric Medical Society. Those who are involved in scientific diving programs (in colleges that teach marine biology, for example) often belong to the American Association of Underwater Scientists. These organizations publish technical journals in which current research is described, reviewed, attacked, and assimilated. For instance, UHMS publishes Undersea Biomedical Research, *and the AAUS publishes* The Slate.

The hyperbaric research community is strongly opinionated, and highly fragmented, as you might guess from the sheer number of competing decompression tables and algorithms. Organizations similar to the UHMS and AAUS exist in other parts of the world, and they don't necessarily see things the same way that our own sport diving training and medical agencies do.

One of the most vocal and prominent of these groups is the South Pacific Underwater Medicine Society, whose membership consists largely of physicians and researchers in Australia and New Zealand. SPUMS focuses on practical problems affecting the recreational diving community. The SPUMS Journal *often publishes alternative viewpoints that are not always given the kind of attention they deserve in the USA.*

In this article, Undercurrent *summarizes some very interesting material that came out of a 1993 workshop on emergency ascent training sponsored by SPUMS. Emergency ascent training has been controversial in the USA for decades. If done incorrectly, an emergency ascent (either in a training situation or for real) can kill a student. Furthermore, instructors who are compelled to make repeated ascents with their students have an increased risk of decompression sickness.*

The SPUMS workshop provided an opportunity for a lot of people with widely differing backgrounds to sound off, and as you might expect, the noises they made were not entirely harmonious. In no particular order, I'll summarize the most interesting nuggets published in the December 1993 issue of the *SPUMS Journal.* Some of them amused me, some amazed me, and some just irritated me. For your pleasure and enlightenment, here are some thought-provoking excepts. Note that the authors' opinions were not the official policy of SPUMS, but their own individual views.

The term "free ascent" is used frequently, meaning an emergency ascent to the surface without the use of compressed air, either from a shared regulator or from an independent source such as a pony bottle. I've emphasized the points that seemed most important by printing them in **boldface**, and added my own comments in *italics.* When appropriate, I've replaced acronyms and abbreviations, and paraphrased slightly when required for clarity.

Gerry Stokes, Irish Underwater Council:

> [When you are out of air and no alternative supply is available], then it is recommended that you **drop your weight belt and swim to the surface**. At least an embolism can be cured, it is difficult to cure a drowning.
>
> *Note that this is exactly the opposite of what most of us are taught in training in the States. A buoyant free ascent is considered a last resort by most training agencies.*
>
> In Irish diving we teach and practice free ascents quite successfully. To date we have not had an accident while training or practicing. **One thing we do not recommend is changing methods on the way up.** Whatever method you start with, go all the way to the surface with. A number of years ago, we had two accidents . . . where two divers buddy-breathed from around 25 m up to 10–8 m; in both cases the victim then did a free ascent and never reached the surface alive.

Dr. John Williamson, Director, Hyperbaric Medicine Unit, Royal Adelaide Hospital:

> I believe that "horizontal ascent training" is a poor (and not necessarily safe) alternative to emergency swimming ascent training. The concept that emergency swimming ascent training implies a rushed ascent is false.

It is the dive instructor who is at risk. In my view . . . an instructor (or his assistant) [should not] do more than 10 ascents from a depth greater than 5 m during any single day. Even that number of ascents is medically undesirable, but difficult to reduce. The maximum depth of the entire dive should be 5 m or less . . . [and] must not be a repetitive dive.

Larry Williamson, Submersible Systems (manufacturers of the Spare Air):

There can be little room for advancement until the diving community can distinguish between true redundant systems, such as Spare Air and pony bottles, vs. octopus or so-called safe seconds. I think that this omission keeps diving in the dark ages as compared to other sports. Can you imagine how sky diving would be viewed if their instructors went around saying spare chutes are a good idea but you don't need one for yourself as long as your buddy has one and that you both jump from the same plane?

Just this last month we received three letters from divers thanking us for saving their life with Spare Air."

Drew Richardson, PADI:

Before offering any quotes from Drew's material, I want to thank him for making the following totally irrelevant information on accidents available to the diving community (see table). The data came from the National Safety Council (USA) in 1991, but do not indicate the severity of any accident. It seems almost certain that accidents incurred while playing volleyball or bowling are minor compared to diving injuries, but I can't prove it. Somewhere, there's probably at least one volleyball player who got bent digging for a low ball, or a bowler who embolized reaching for a 7–10 split. Anyway, I'm going to send a copy of this table to my mom so she'll stop worrying about me underwater.

In the unlikely event that a diver runs out of air, trainees are taught to consider their options and act intelligently along the dependent or independent pathways described. The techniques are meant to be simple and **easy to remember without practice** and we attempt to train divers not to risk another person.

Is this a misprint, or did Drew really say that? In my experience as a diver (30 years) and an instructor (10 years), diving skills that aren't practiced have a way of vanishing, especially under stress.

The training organizations feel that emergency ascent training is a necessary and valued skill in the training of new divers.

With regard to an emergency buoyant ascent (no weights, no air):

Of NAUI, PADI, and SSI, only one organization conducts this skill in open water, two have skill sessions in confined water, and one only covers this skill in an academic context with no motor skill training.

SSI teaches buoyant ascents in confined (pool) and then open water; NAUI teaches it in confined water only, and PADI doesn't do any buoyant ascent training in the water at all. How likely are students to succeed in a genuine, air-out, emergency buoyant ascent without having ever attempted one before? Nobody knows. . . .

Richardson provided several tables showing accidents incurred by PADI students during open emergency ascent training. From 1989 through 1992, there were 3,754,704 ascents performed during training, which led to ***33 reported injuries, including two deaths****. Broken out by ascent type, there were 1.19 injuries per 100,000 buddy-breathing ascents, 0.71 injuries per 100,000 alternative air souce (octopus) ascents, and 0.71 injuries per 100,000 controlled swimming (nonbuoyant free) ascents.*

As you suspected when you were choking on water in your first pool class, learning how to dive isn't entirely without risk, but it is, overall, pretty safe. Based on these numbers, it looks as if buddy-breathing is the most dangerous emergency ascent method used during training. If one can extrapolate from these training figures to the real world, resorting to buddy-breathing in an

Sport	Number of Participants	Reported Injuries	Incidence
Football (U.S. style)	14,700,000	319,157	2.17%
Volleyball	25,100,000	92,961	0.37%
Bowling	40,800,000	17,351	0.04%
Scuba diving	2,600,000	1,044	0.04%

emergency rather than swimming up without dropping your weights increases your chances of serious injury or death. That is, of course, assuming that you're in fairly shallow water, not deeper than the typical training depth for these exercises (25–30 feet).

Dr. Chris Acott, Hyperbaric Medicine Unit, Department of Anaesthesia and Intensive Care, Royal Adelaide Hospital:

Dr. Acott summarized statistics from the Diving Incident Monitoring Study, an Australia/New Zealand program designed to provide a statistical overview of diving accidents. Eighty-two (15%) of the 533 incidents reported through the end of 1992 involved running out of air. Of these 82, there were nine cases of bends and six lung injuries such as embolism or pneumothorax. There were 49 more cases resulting from being low on air, causing missed stops, bends, and so forth.

*The divers who ran out of air weren't all novices, either. Of the 82 cases, **40% were certified as advanced divers, divemasters, instructors, or commercial divers.***

> **Contents (SPG) gauge inaccuracy** featured in 20% of the out-of-air situations. **Failure to check their gauges** frequently enough accounted for 34% of the out-of-air ascents.
>
> Fifty of the 82 out-of-air problems did not involve a rapid ascent to the surface. These resulted in three cases of saltwater aspiration. Of the remaining 32 who made a rapid ascent to the surface, 18 ascents resulted in harm. A rapid ascent increases the morbidity (injury) rate from 3/50 (6%) to 18/36 (56%). A rapid ascent breathing from an octopus involved a 26% chance of causing harm, while a rapid buddy-breathing ascent involved a 50% chance. **All nine of the rapid, uncontrolled nonbreathing (free) ascents involved morbidity.**
>
> A nonbreathing, slow-exhaling ascent is associated with the same or less morbidity as a slow, aided (octopus or buddy-breathing) ascent. However, as the ascent rate increases, so does the morbidity rate. This is true for both nonbreathing (free) and aided ascents. **However, a rapid ascent breathing from an octopus is associated with a much lower incidence of morbidity than a buddy-breathing or nonbreathing rapid ascent.**
>
> If a diver is able to control his or her ascent rate, then the chances of morbidity are reduced."

Based on these down-and-dirty, chamber-derived data, the trend looks clear enough: self-rescue at a controlled rate is about as safe as any kind of shared-air ascent if you can keep your speed down. The faster you come up, however, the less likely you are to be hurt if you're doing an octopus-assisted ascent instead of a buddy-breathing ascent or a free ascent.

Dr. John Knight, Editor, *SPUMS Journal;* Dr. Guy Williams, SPUMS Executive Committee:

> Are emergency ascents always successful? No, they are not. Unfortunately, far too often the diver does not reach the surface, or sinks again after reaching it, and the body is recovered from the bottom with the weight belt still on. Whatever method of emergency ascent is used **there should be no possibility of failing to reach the surface**. This involves the diver increasing his or her buoyancy. When one is out of air, there is only one way to do this. Drop the weight belt and start what will eventually become a buoyant ascent, if one is wearing a wet suit or buoyancy compensator. This is the best survival technique, which is carefully NOT practiced because it can result in an uncontrolled ascent.
>
> As far as I know, no training agency makes trainees repeat the emergency ascent training the 17 to 21 times that are **necessary to achieve competence**. . . .

So who's right? Should we drop our weights immediately, and then sort out the options on the way up (as these well-respected experts feel), or should we just start up with our hands on our weight belts (the way our training agencies teach us), in case we lose faith on the way?

> With vertical (emergency training) ascents, such as specified by PADI, the instructor is put through a number of ascents. **This has led to instructors requiring recompression**.
>
> It has been known for over 35 years that breathing out can narrow and close small unsupported airways (bronchioles), trapping air, because they get squashed by the surrounding lung when the pressure within them drops below the general lung pressure. This narrowing can happen to anyone who breathes out hard . . . so breathing out may not avoid air trapping, and this can lead to cerebral arterial gas embolism. On the other hand, not breathing out enough can leave the lung overinflated, again predisposing to lung damage on ascent. Breathing in and out during ascent, and even attempting to do this, prevents both of these problems. **Attempting to breathe, even if no air is available, opens the small airways.** If one is attempting to breathe in and out on the way up it is likely that a breath or two or even more will come from the scuba cylinder as the depth decreases . . . [which] will prevent hypoxia developing as the diver nears the surface.

Swimming ascents while not breathing can result, and have resulted, in the diver going unconscious from anoxia on the way to the surface. This is because swimming up when not buoyant is hard work.

What is needed for a safe emergency ascent? Firstly, a decision to start for the surface as soon as the problem starts. Far too many deaths follow failed buddy breathing or octopus breathing. **Usually the survivor is the one who bolts for the surface or drops the weight belt** when disaster seems imminent. Secondly, a procedure which will guarantee the diver reaching the surface. This requires that the diver becomes buoyant early in the ascent. The easiest way to achieve this is to **discard the weight belt**. Thirdly, a procedure which will reduce the risk of hypoxia on the way up. This requires a source of air. . . . **A separate emergency air supply carried by the diver is the safest option, provided the device contains enough air to get the diver to the surface.** The simplest choice is to retain the regulator and try to breathe in and out. And finally, a procedure which is easy to remember and has been practiced many times. Buddy breathing is not easy to remember under stress and not often practiced. The same applies to octopus breathing. . . . But all divers will practice having the regulator in the mouth and breathing in and out on every dive [and] taking the weight belt off . . . on many occasions.

This information comes from extremely experienced hyperbaric specialists who have been unbending divers for years. I take it seriously.

Most emergency ascent training is useless because it is too complicated and not practiced often enough to become automatic. There is a simple-to-learn routine which will see the diver to the surface. . . . **This should become the standard teaching: Waste no time in becoming buoyant, keep the regulator in, attempt to breathe in and out all the way up, undo the weight belt and hold it away from the body.**

The bottom line: Everything I've always believed (and been asked to teach) about emergency ascents may be wrong. Self-rescue in a buoyant free ascent may actually be the way to go for most emergencies, unless you've got a pony bottle and enough air to ease your way on up casually. I've got a Cliff Impact 6-cubic-foot tank that's small enough to fit in my carry-on, and I take it on every trip. M. G.

Catch-50 at Club Med

— *to dive, and mostly not to dive*

Cub Med diving? Come on, not for serious divers. Reader reports consistently point thumbs down to Club Med's dedicated dive centers in Baja, Turks & Caicos, St. Lucia, and Tahiti. However, we do hear some good things about Columbus Isle on San Sal. Can a serious dive traveler, with a non-diving buddy, make it a real dive trip or is it still a compromise? Here's one reviewer's answer:

After only an hour and 45 minutes, we landed on a rain-soaked runway and walked to the terminal (a small hut). Customs gave us a cursory inspection and sent us on our way to the waiting GOs (at Club Med, staff are called GOs – gentils organisateurs – and you become one of the gentils membres, or GMs). We then boarded a van to the Club Med resort, no more than five minutes away. From the time we went through customs until we returned to Miami a week later, we never lifted a piece of luggage.

It took us 10 minutes to register, then one of the GOs gave us a quick tour of the facilities and walked us to our room. Those of you who have been to Club Med before will be shocked: no Spartan accommodations here. The rooms had quarry tile floors; marble end tables; hand-carved wooden doorways; thermostatically

controlled air conditioning; a large walk-in closet; a safe for valuables; a queen-sized bed; individual night lights; remote-control color TV with cable, sports channels, and two movie channels; a direct-dial phone; a balcony, overlooking the ocean, with lounge chairs; a bathroom complete with blow dryer; fresh, clean towels; a mini-refrigerator; and a gift package containing hand-milled soaps, conditioner, and shampoos imported from London. All rooms are located in pastel-colored, villa-style buildings, each with an ocean view.

Once we had unpacked and settled in, we went to the theater for an orientation meeting. Here we were told of the available activities and how to go about signing up for them. Every water sport that you can imagine is available (free instruction and use of equipment for windsurfing, water skiing, snorkeling, kayaking, sailing, and scuba diving for certified divers). If you can handle it, the Club Med package also includes 24-hour tennis, aerobics, fashion shows, cocktail parties, nightly entertainment, and three meals a day.

While meals are served buffet style a la typical Club Med, the food here was outstanding. Breakfast included everything you've ever seen at a breakfast table: hot and cold cereals, fruits, eggs prepared to your liking, pancakes, bacon, sausage, pastries and muffins, juices, coffee, etc. Lunch and dinner were a gourmet's delight – fresh fruits and cheeses, at least eight different freshly baked breads, exotic salads (as well as a huge salad bar), grilled fish, meats, chicken, and pastas, all continually cooked and tasting newly prepared, no matter what time you arrive for your meal. Also included are unlimited wine, soft drinks, and beer. Additionally, each night's dinner has a theme: on Japanese night you'll find sushi, Italian night brings exotic pastas, seafood night has fresh lobster. Several choices at each meal are marked with a happy face, which means they are low in fat and cholesterol. As a windup, there is a huge array of desserts, from rich French pastries, cakes, and tarts to low-fat, soft-serve ice cream.

OK, so it's posh for a Club Med and the food is good, but is it a real dive resort? Columbus Isle is what Club Med refers to as one of its dedicated dive centers. Mask, fins, regulator with octopus and gauges, BC, tanks, and weight belt are all provided at no charge. All their equipment is Scubapro; the reg they handed me was a Model R190 with adjustable air flow. You can rent a shorty Henderson wet suit and/or Aladin computer (strongly recommended if you don't bring your own, and I'll tell you why in a minute) for $35 each for the week.

After a required group checkout dive with six to eight divers per divemaster, experienced divers are free to buddy dive for the rest of their trip, including the night dive; everyone else is required to group dive with a divemaster. Depth limitations are 100 feet for divers without computers, 130 feet for those with computers (reason enough to rent a computer if you didn't bring one).

All diving is done by boat from either of the two nearly identical 48' x 23' catamarans – the Blue Manta and the Eagle Ray. Which boat you get depends on whether you sign up for a one- or two-tank morning dive. The boats are segregated: the outer rows of tanks are for experienced divers, inner rows for newly certified or inexperienced divers. These boats are exceptionally stable and comfortable (even with a full load of divers on board, as many as 36 during my stay), with a large shaded area, upper and lower sundecks, a large and easy-to-enter/exit dive platform with two ladders, two underwater safety bars with extra air for 15-foot safety stops (although the one time my buddy could have used it, they forgot to hang tanks), and a working marine head.

On the way to the very first dive site of the week, we spotted a pod of pilot whales about 500 feet off our stern. We turned the boat around, cut the engines, and had closed to 50 feet when two of the whales jumped high out of the water. The breaching continued for about ten minutes, until the pod swam off. What a way to set the diving mood for the week.

Freedom to buddy dive away from the group down to 130 feet makes this Club Med start to sound like a real dive resort – but there's a catch. Although there is the possibility of diving three times a day (four times on Tuesdays with a night dive), every dive after the first is limited to 50 feet for 30 minutes, with or without a computer. This is semi-strictly enforced, because the chief Club Med policy is for guests to have a good time. This means that the divemasters have been told to cut some slack to divers who break the rules. Staying under longer than thirty minutes was less frowned upon than diving deeper than 50 feet. I was informed that the harshest penalty imposed to date was to bar a diver from the next day's dives.

CLUB MED SAN SALVADOR
Worldwide Comparison

Diving for Experienced	
First dive	★★★★
Subsequent dives	★
Diving for Beginners	★★★★
Food	★★★★★
Accommodations	★★★★★
Money's Worth	depends

★ poor, ★★ fair, ★★★ average, ★★★★ good, ★★★★★ excellent

However, the conservative 50 for 30 isn't the catch, and here's why. There are 40 dive sites listed on the dive board, most established by the Riding Rock Inn, the island's first and only other dive resort. The sites are almost exclusively vertical, bottomless walls that start at depths of 35 to 40 feet. The best diving was always the first dive of the day. Sites such as Telephone Pole, Dr. John's Reef, Doolittle's, and La Crevasse were outstanding dives. Besides beautiful underwater scenery, including cuts, chutes, tunnels, and large barrel sponges, there was the possibility of an encounter with hammerheads and other pelagics. I swam face to face with fish that were some of the largest of their species that I have ever seen, enormous Nassau and tiger groupers, barracudas, jacks, midnight and blue bumphead parrot fish, and giant hogfish. I saw several colonies of garden eels along the sand beds leading to the walls. I saw turtles. Billy, one of the divemasters, told me that hammerheads were sighted in schools of up to 30 almost every day during the winter months, when the water temperature was a little cooler, but that sightings this late in the summer were rare. Visibility never exceeded 100 feet, and an algae haze often cut it to 60 feet.

But the shallow second (or third) dive of the day was usually a bust. The lack of fish or invertebrate life, combined with a bland seascape, often made me opt for the single-tank 10:15 morning dive; this enabled me to have a leisurely breakfast with my non-diving spouse instead of eating by myself and rushing to make the 8:00 a.m. boat). Dive sites are anywhere from 10 to 50 minutes away, and the boats didn't return to the dock until nearly 12:30 p.m. (an optional dive leaves at 2:30 p.m. every day for an extra $25).

The night dive was also a bust. At a site called Runway 10, which we had used for the second dive Tuesday morning, we were able to familiarize ourselves

with the site to get ready for the night dive to follow. Unfortunately, the dive had little action during the day, and even less at night. The highlight was a half-sleeping puffer that kept bumping into everyone's lights.

Was it a compromised dive trip? Not if you're satisfied with an outstanding one-tank morning wall dive each day. Afternoon dives were just not worth it. Were we happy otherwise? Afternoon and evening activities kept us busy together. We enjoyed it. If I did this trip again, I would plan it during the winter months – more high voltage diving; and if I did this trip with a hairy-leg dive partner, I would stay at the Riding Rock Inn to get in a whole lot more diving.

Diver's Compass: San Salvador is supposedly the first island Christopher Columbus landed on during his search for the new world, hence the name Columbus Isle. Price, including roundtrip airfare from New York, room, meals, all activities, diving, and equipment (less wetsuits and/or computers), is $1,620 per person (including a $50 Club Med membership fee). The Club Med policy is no tipping allowed; I tried to tip an extremely helpful GO but he turned down the offer. A free, four-day resort course is available for non-divers wishing to try scuba, as well as open-water, advanced open-water, and kayak diving certification courses for an additional fee. Parts of the resort are still under construction: two restaurants, a larger disco, larger scuba center, and additional rooms to open the Club up to singles (it's couples only now). Accommodations are for 250, but plans call for the resort to hold up to 600 eventually. Beware: another dive boat has been ordered that will be even larger than the two presently in operation. . . . Several of the staff seem to suffer from burnout; a new shift was expected to arrive shortly. Incidentally, on the day we were leaving, a hammerhead shark was circling around the safety bars of the dive boat during the morning dive.

L. R.

Freeflow

■ Malaysia and Indonesia have failed to resolve a dispute over ownership of two border islands, one of which is the dive destination of Sipadan. The dispute over the two islands off Borneo, which has strained relations between the two countries, flared again because Malaysia has been promoting Sipadan as a dive resort, which Indonesia calls a violation of their 1969 agreement to maintain the status quo of the two islands. Military sources in Jakarta and Kuala Lumpur have said that Indonesia has sent several warships to the area.

■ How far could you swim if your boat went down? Three Australian fishermen in their 40s managed to swim for 19 hours to safety after their boat sank off Papua New Guinea. Their 24-foot motor cruiser sank — just slipped beneath the water in a calm sea. When they finally made it to dry land, exhausted and with swollen eyes, they were quoted as saying, "There are some pretty big fish in those waters."

■ Will it be worse than Miami? Muslim extremists have recently stated, "We implore tourists and investors to leave Egypt, because our next operations will be extremely ferocious and strong." In all, three foreigners have been killed and dozens wounded during the last two years of political violence in Egypt. Tourism that once earned Egypt $3 billion a year dropped to $2 billion in 1993.

■ Any fish will bite if you've got good bait. Three Australians used a 3-week-old sea lion pup as bait on a rod and line to catch a record 3,344-pound great white shark. But the record was disqualified. The Australian sea lion is a rare endangered species, with only 10,000 left in the world. The men were ordered to pay $21,000 in fines and court fees.