undercurrent®
THE PRIVATE, EXCLUSIVE GUIDE FOR SERIOUS DIVERS

P. O. Box 1658, Sausalito, California 94965
Cable Address: Gooddiving

Vol. 10, No. 6 June 1985

The Lady Of The Sea, Philippines

-- *Certainly Worth The Wait*

The Philippines. Papua New Guinea. The Maldives. These distant dive destinations have drawn me for as long as I can remember. But, aside from the obvious economic setback I would suffer from the air fare, the psychological and physical suffering I would endure from jet lag has been enough to keep me closer to home. To overcome the mental retardation of jet lag when I journey across several time zones, I have tried every technique imaginable. I have gradually switched to London time while still in Sausalito. Going to bed at four in the afternoon days before my departure was downright ridiculous. I have followed the so-called "jet lag diet," alternating high and low protein meals, abstaining from coffee when required, but coffee loading upon boarding the plane. The authors of the anti-jet lag diet (Overcoming Jet Lag, by Charles F. Ehret and Lynne Waller Scanlon) claim it works for politicians in their international travel. But the foggy mind I was left with made me wonder if the current Administration is not permanently jet-lagged.

I have also followed the normal rhythms of my body, only to find that I cannot sleep in the miniaturized coach seat on an airplane and that being entombed for nine hours with scores of other restless and weird people drives me wacko; once I arrive I am irritable and incompetent and remain so for the next 72 hours. I am asleep at noon and ready to rock and roll at midnight.

With this in mind, a dive trip to the Philippines meant that I would need to take three or four days to decompress before diving, not to speak of suffering through 26 hours aboard an airplane which would surely drive me as crazy as a rabid racoon.

Thanks to medical science, I've found my cure (though it's not entirely the cure recommended by Stanford Sleep Research Center--see sidebar). I simply pop a couple of sleeping pills after my in-flight dinner, conk out, and wake up six-eight hours later. I arrived in the Philippines with my sanity and my sleep nearly intact.

INSIDE UNDERCURRENT

Overcoming Jet Lag

Whatever myths you harbor about jet lag, data developed in a six year study by the Stanford University Sleep Research Center suggests that jet lag is simply caused by the lack of sleep. It would seem, then, that the obvious solution is to sleep, not always a simple task for travelers spanning six or more time zones.

With this in mind, the following suggestions are offered by the Sleep Research Center.

First, drink little or no alcohol on the plane or before your first night's sleep.

Second, acclimate yourself to your new location by staying awake and active until it is time to go to bed in that time zone.

Third, take a short-acting sleeping pill (a hypnotic) such as Halicon (generic name: triazolan) just before retiring.

You should not take a sleeping pill if you drink much alcohol. The two interact and not only can lead to much less sleep, but also may produce a more substantial hangover than would the alcohol alone.

The Center recommends against taking a sleeping pill during the trip. Even if you sleep at your regular time, you will still need to adjust to the new time zone and that may be difficult if you have slept, sedated, through a long flight. Take the sleeping pill just before going to bed at your destination.

A short-acting pill will lessen the drowsy feeling associated with long-acting sleeping pills. It will get you to sleep, then let your normal sleeping pattern resume. In the morning you won't be drugged up.

Suggested dosage is .25mg for time zone changes less than six hours, and .5 mg. for six or more hours. These dosages will vary with the direction of the travel and the individual consumer. Since sleeping pills are prescription drugs, you will need to contact your physician.

This dive trip on the Lady of the Sea, booked through Beverley International Travel, recognizes the problems of jet lag and provides an initial two days in Manila just for decompressing. Our group arrived at 10 A.M. and was advised by our hostess (Teresa Jison, co-owner of Gloria Maris Adventures and the Lady of the Sea) to stay busy the first day, so that the first night would bring sleep. For me her advice worked well. Those who ignored it missed an exciting day in Manila and converged in the hotel lobby at three in the morning for gin rummy.

Throughout the trip, my measure of value became how many days of diving I got for the days required to get there and back. Would the seemingly endless traveling be useful? Or simply lost? Two days in Manila were worth a graduate seminar on the chaos and color of the Philippines. But diving the out islands, which was what this trip was all about, meant an initial 15-hour boat ride to the first site. What had been billed as nine days of diving became nine days aboard the boat--and eight of diving. Choppy seas extended this 15 hour trip to a full 24 hours before we could moor and get wet. I needed another sleeping pill.

I would hope, then, that with all this hassle something spectacular would occur as soon as my snorkel slipped beneath the surface. But getting into the water even required more endurance. Long rolling swells and choppy two-to-four-foot waves made boarding the dinghies difficult. Then, it was a bumpy ride to our first stop, tiny Cauayan Island, where we donned our gear and waited for the appropriate moment to back roll into the churning sea. "Five days of travel for this?" I muttered into my mouthpiece as I looked into the less than 50-foot visibility. What happened to the 200-visibility that article and brochure proclaimed?

At 45 feet down I started to relax. It would be a 30-minute swim round the perimeter. Beautiful, soft corals in the jewel tones that abound in the Pacific were sprinkled about. Schools of jack, interspersed with unicorn fish, moorish idols, coral trout and butterflies wove around me. Yes, it began to be an underwater fairyland. But wait. What was that behemoth below me? I gasped and held by breath, a certain way to embolize. Cruising ten feet below was an enormous hulk, perhaps 18 feet long. Incredible. A docile whale shark, sifting plankton along the edge of the wall. For several minutes I swam a few feet above it, my heart pounding, my eyes trying to burn every detail of this benign creature into my memory. I was in such awe I didn't even think of approaching it, touching it or riding it. It seemed docile enough, as though it were aware of my presence and seemed even to bask happily in our awe. And then I was down to 100 psi and had to ascend. I soon took a second dive falling in near a small school of dolphins. The whale shark had left, but still enjoyed the myriad varieties of nudi-branches, tropicals, tunicates and gorgonia, plus huge, Cayman-like vase sponges.

Viewing a whale shark nearly made the five front-end days worthwhile, but hassles were still to come. Our next day's dive was to be into the cone of a submerged volcano, whose interior stalagtites and stalagmites were proof it had once been above water. But with moderate winds, high seas, low visibility, and no land in sight for triangulation, the captain's two-hour search proved fruitless. We then traveled several hours to the lee of a small, beautiful island, but from above we could tell visibility was too bleak to bring cameras. The coral heads were alive and lovely and plenty of small tropicals darted about, but the 20-foot visibility depressed me. Was this what I had traveled so far for? One whale shark?

The Lady Of The Sea, Philippines

Diving for Experienced	★ ★ ★ ★ ★
Diving for Beginners	not for beginners
Boat Accommodations	★ ★ ★ ★
Boat Food	★ ★ ★ ★
Moneysworth	★ ★ ★ ★½

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

Luckily, the 120-foot, air-conditioned Lady of the Sea is a comfortable craft. On the main deck there are six cabins, some of which have four bunks, some of which have two. The lower deck has the same, plus crew's quarters. The craft is outfitted for 32 passengers, but more than 20 would be uncomfortable. The two main deck heads are regular, fresh water flush types . . . which swoosh, splash and spray constantly in choppy seas. To say they were unpleasant is being kind. Below two marine pump heads, required more effort to flush, but were cleaner and more efficient at sea. Four tiled stall showers were practically "luxurious" and to conserve water each passenger was allowed a single shower per day. The roomy main cabin held 4 dining tables, with comfortable, upholstered chairs. For lounging, the large bow deck has a few chairs, padded benches and straw mats, and an adjustable awning. Yes, a comfortable craft. But I came to dive.

And then came the clear water. The dinghies took four divers at a time a mile up current for a drift dive. As I fell in, I knew luck was changing. In the 2 to 3 knot current my camera wasn't much good; I couldn't stop long enough to focus--but what a dive! I flew slowly by a technicolor wall: magnificent hard coral formations bedecked with glorious, translucent trees of brilliant orange, violet, pink, emerald and star white. Schools of small fish in royal blue, gold and magenta surrounded me at 60 feet. At 90 feet a black tip reef shark cruised by. The visibility wasn't fantastic, perhaps 75 feet, but I was encouraged.

The weather improved hour by hour. Our next stop was the Tubbataha area, with a reputation for lush reefs, steep walls, cruising sharks, mantas, large tunas,

enormous schools of jacks, lion fish and all the tropicals and corals in profusion, plus great visibility. With the exception of "great" visibility (80-100 feet), we got it all.

One day here we entered the water where the reed came within five feet of the surface. I descended down a wall covered with white anemones, hiding flame-colored fish. After shooting at least 20 frames of these bright and darting creatures, I swam along the wall, which was literally blooming with bouquets of soft corals. On another dive I found dozens of clusters of deep, electric blue tunicates, colors I've never found in destinations closer to home.

On one dive to ninety feet I discovered a large cave housing two sizeable nurse sharks. I began shooting from the entrance and when these denizens seemed unperturbed I approached closer, inching into the roomier side of the cave for side and front shots. They tolerated my strobe for a full fifteen minutes, with never more than a brief lazy swish of their tales. Outside the seas were again awash with plenty of color, even at that depth, and filled with a range of fish unkown to Caribbean divers.

The Lady carries two 15 cfm compressors and forty aluminum tanks with back packs. Each evening we would be briefed on the next day's diving. Once in the water we were on our own. Although expected to govern ourselves, we were required to provide the divemaster with our depth and bottom time after each dive. The crew provided excellent service. They quickly learned who had what gear and whenever I was ready to dive my regulator was on a tank and the dinghy was standing by be deliver me to any site. Should my buddy decide to forego a dive, one of two divemasters always stood ready to accompany me. Given the superb service, which extended from the diving deck to the dining room, I must say that the crew operated more as the staff of a fine hotel than as the crew of an intimate dive boat. They kept social contact to an absolute minimum. In fact, I barely learned their names. Apparently their lack of fraternization stemmed from once excessive fraternization with the guests and Teresa had felt compelled to serve warning to the crew. She, herself, is remarkably efficient, perhaps hyper, not unlike a New York hotel manager; those who know her call her the "Dragon Lady." Indeed, the boat ran exceptionally well and the crew's social distance surely caused no hardship.

Food, though not up to New York hotel standards, was for a dive boat very good. A few complained too much fried food and too little fresh fish, but quantity was never a problem. Breakfast typically consisted of eggs, any style, toast, fruit, and, most mornings, bacon or occasionally frankfurters (yuk!). Lunch was always a hot meal: soup, then meat or chicken with rice and vegetables, and mangoes for desert. Dinners too began with a hearty soup, then meat, fish or fowl, often fried, with rice of potatoes, vegetables and desert or fruit and custard. One night a fine curry was served up, another night a delicious Indonesian buffet. Although I often longed for a great salad to lighten the load, most divers always ate heartily and fresh salad fixins are hard to come by out to sea. Special dietary needs, so I was told, can be accommodated with advance notice.

Special diving needs were accommodated with unlimited diving and the use of the dinghies to take divers anywhere within a reasonable distance from the anchored Lady of the Sea. Sites in the Tubbataha area were indeed outrageous. At Black Rock the wall and innumerable caves housing sleeping white tips and nurse sharks were exciting. Bird Rock was sensational, with a wonderous variety of huge sea fans, black corals and gorgonians covering a steep wall which begins at ten feet below the surface; sharks were in caves, and mantas stroked by outside them. Our final destination, Jessie Beazley Reef, northwest of Tubbataha, was to me the best. I tumbled into a quiet sea through schools of pendant butterflies and

moorish idols and, before I even recovered by equilibrium to focus my Nikonos, three spotted eagle rays glided by. As I descended, nearly a dozen sharks cruised the wall below me. I took five dives at this site, not nearly enough.

By the time my nine days at sea were over, I had forgotten the protracted journey to get here. I was hooked. Here was some of the best diving on this planet. The Lady of the Sea and Beverley International did a fine job in getting me to it. The chance to tour Manila and do a little sightseeing was a pleasant plus. Poseidon Adventures offers a similarly-priced journey, with a side trip to Hong Kong for $220. Now that I've licked the jet lag problem, I've got half a notion to take the same trip next year. The diving was that good.

But I must declare one disappointment. Even though shell collecting and abusing the marine environment in any way is discouraged in the Philippines--and there are a few new laws governing this--the Lady of the Sea allows unlimited live shell collecting. After seeing the mountains of excavated shells in a Manila shop, I wonder just how long it will be before the non-virgin Philippines will look just like another picked over Caribbean reef.

Diver's Compass: The Beverley tab, airfare included, is $2495, including two nights in a Manila hotel: Beverley International, 9465 Wilshire Boulevard (Suite 832), Beverley Hilles, CA 90212 (213/271-4116); Poseidon Ventures also runs a similar trip: 359 San Miguel Drive, Newport Beach, CA 92660 (800/854-9334; 714/644-5344) . . . water temperature in March ran a tepid 80-82'F, making it comfortable without a wet suit top, though most everyone wore one . . . a fresh water barrel was provided for rinsing camera gear and regulators; some divers exercised very poor form by rinsing out their spit laden masks or wet suits in the barrel . . . bring your own lights for night dives.

50 Keys Divers Rescued After Boat Sinks

-- *Cause Of Sinking Not Determined*

Fifty people on a scuba diving charter were pulled to safety on a Sunday in March after an aging wooden charter boat sank in choppy water off popular Molasses Reef.

"We were out there diving on our second dive, and the boat started taking on water," said Alex Rosen, a New Jersey surgeon taking scuba lessons on his vacation. "The boat was in very poor condition, the pumps weren't able to handle it. One plank gave way and it took on water. It went down."

Rosen was among the 48 divers taken into several boats when the 65-foot *Captain Crunch* slid into the Atlantic Ocean shortly after noon, 11 miles northeast of Key Largo at John Pennekamp Coral Reef State Park.

Neither the captain nor the boat's owners could explain why the boat sank. The Coast Guard is investigating.

Only the bow of the black-hulled boat jutted above the surface as helicopters from the Coast Guard, the Florida Marine Patrol, and U.S. Customs scanned the ocean for survivors shortly after the accident. Randell Sharp, Coast Guard marine safety officer for the Keys, said the hull and other parts of the boat apparently were still intact.

Operated by Ocean Ventures Inc. of Key Largo, the converted fishing boat passed an annual safety inspection in December, Sharp said.

Despite small-craft warnings from the National Weather Service, the 9-year-old boat ventured into stiff 15-20 knot winds at 8:30 a.m. Sunday with 48 divers, a captain and a first mate. Most of those aboard were taking scuba lessons.

Divers had been in the water for about 90 minutes for their first dive and returned to the boat for a second dive when the craft began to sink. The Coast Guard picked up the boat's distress signal at 12:37 p.m. By then, winds were gusting at more than 30 knots.

Norman Spivey, 31, who went along with friends said the first clue that something was wrong came when the crew announced they would not continue on to French Reef, six miles northeast of Molasses Reef.

"They said they weren't going to take us to the second site. They said, 'Go ahead and take your second

dive here now,'" Spivey said.

When Spivey boarded again after his second dive, he noticed the boat seemed low in the water.

"I thought it was strange but I didn't pay attention," Spivey said.

Then a fellow passenger screamed: "Norman, get your keys! The boat's sinking!"

The boat tossed back and forth. Passengers ran from one side to the other to balance it.

Captain Babbie Dailey barked out orders: Keep calm, remove air tanks, move to the bow, don vests, grab the towline. She freed the life rafts and knocked them into the water.

"She was really calm, really cool, an excellent captain," Spivey said. "She went down below to make sure nobody was trapped."

John Jensen, 15, added his praise: "She was the last one off the boat."

Said his 13-year-old brother, Rick, "She went down with the ship."

"There was one woman who didn't swim. She was in a total panic," Spivey added. "I lost everything --my camera gear, dive gear, clothes, keys, my wallet."

Rick Tanner, 29, wasn't totally reassured by the captain's promise that help was on the way.

"It was scary," Tanner said.

But help did arrive.

The first rescue boat reached the *Captain Crunch* two minutes after the mayday signal.

A Customs helicopter rushed to help, along with several private and Coast Guard boats. *The Captain Crunch II* rescued 31 of the passengers.

"They were all hanging on one of the tag lines so they didn't get swept away," said Ray Ragen, the boat's captain.

Most of the passengers said they were in the water no more than five or 10 minutes. Initially authorities thought two divers were missing. They had been picked up by other boats, and by late afternoon, everyone was accounted for and had been shuttled back to shore.

Coast Guard officials say they don't know what caused the $50,000 *Captain Crunch* to sink near the reef, one of the best-loved scuba diving spots in the United States. Wave and surge action destroyed the craft and the ultimate hope that the cause of sinking could be determined.

Nor did the captain have any explanations.

"There's a bunch of theories. Right now, there's only one fact: She sunk," Dailey said.

The captain said this was the first boat she has lost since assuming her rank four years ago. She said she had about 20 minutes warning before the boat went down.

"The rescue was smooth and calm."

-- *Miami Herald*

Underwater Metal Detectors: Part II

-- *How-To-Buy, How-To-Use!*

Last month we covered how detectors worked. This month let's take a look at the next two steps --buying and using detectors.

Unlike other readily available dive gear, metal detectors are a little harder to find. Harder yet to find is someone who knows enough about them to advise you wisely on their attributes and limitations.

The dive store or supply house you currently deal with may handle underwater detection equipment --but do they know enough about them to advise you properly? Before you write that check ask them if they use the detectors they sell? Do they handle more than one brand? If you were to purchase a detector, would someone familiar with the equipment be available for consultation? What type of warranty comes with the detector? How would it be handled?

You may be a step ahead if you locate a treasure hunting equipment dealer, which you can find in the Yellow Pages under "Metal Locating Equipment," or "Metal Detection Devices." What a dealer can do for you will largely depend on how much you really want to know about the equipment you're after and how open you are to the dealer's presentation.

Tell him exactly what you want to do with your equipment and how much you really know. Leave any preconceived ideas at home. If you have an electronics background, use it to formulate questions, not to challenge the dealer. If you ask a question, wait for the full response. And if you don't understand the answer or demonstration, don't just nod your head. The right response is "Please explain that again. I don't understand."

Unfortunately, all dealers do not play by the same rules. Be a little cautious. A dealer who leads you to the most expensive detector without knowing your capabilities or requirements might bear a little watching. Of course, if the detector they are showing you is the one you need, then that's the one you should have. On the other hand, before you make your decision, ask the dealer if a lower priced model or another brand would do all or most of the things you require. If so, get them to demonstrate that one.

It's far better to admit you're a little green than to find out later you spent hundreds of dollars and didn't get what you wanted or needed.

When it comes to selecting a particular detector

make sure it fits your needs and is not the "best one on the market" simply because that is what the dealer has in stock. Pick and choose just like you would if you were buying any other fine piece of equipment or gear. You'll be up against a lot of pressure from the manufacturers as well as the opinions of the dealers. Every manufacturer would have you believe his brand is best. Some dealers would have you believe that only the particular model they use is best. However you are the one that will be using it, make sure it does what you want it to do.

That's where we get back to the dealers and your dealings with them. If they're honest, and most long time dealers are, he or she will tell you the limitations and boundaries of a particular instrument as well as all its good points. There is no perfect underwater detector. Each one has its limitations and its strengths. If the perfect underwater detector were manufactured your dealer would have long ago closed his doors and become very, very rich.

Using The Detector

Understanding the full and proper use of an underwater metal detector from a few short paragraphs would be akin to teaching yourself scuba diving from a book. Yet, a few principles should get you started in the right direction.

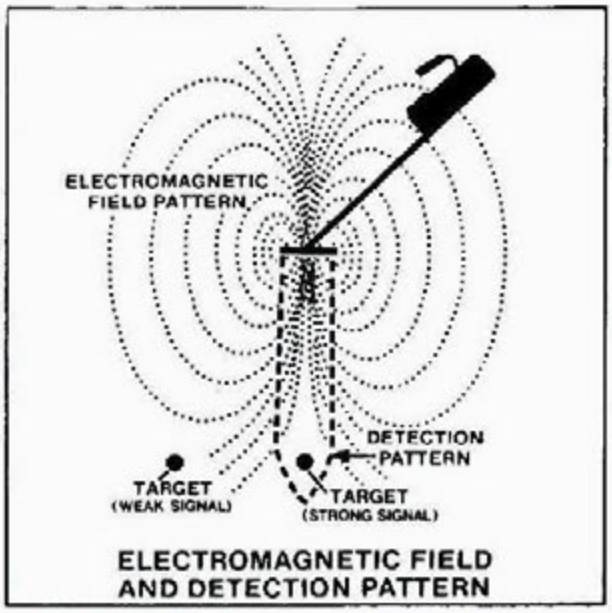
Certain elements of metal detector usage you can control -- and some you cannot. Before any metal detector can generate a response from a buried target the proper combination of usage and circumstances must be blended. No matter how good the instrument is, no matter how good the area is, you have to bring it all together.

A number of circumstances have to be taken into consideration: bottom conditions; size and shape of targets, etc. Your control comes by properly adjusting the detector to do what you ask. Are you asking it to eliminate specific targets (i.e., discriminate) and if so, what type? Are you manipulating the detector in the right pattern and at the right height and speed to get the maximum coverage for the conditions and target depth you wish to achieve?

You can begin to appreciate the complexities of metal detection when you learn how the loop or coil of a metal detector transmits its detection field. It is easy for a beginner to assume that if you are using a detector with an 8 inch transmitting coil or loop you are covering a path 8 inches wide. In some cases you are -- if the bottom conditions are right and the object is very close. However, conditions are generally less than perfect and the objects are often buried deeper than you might expect.

The most likely detection of objects occurs in the modified conical field directly below the detector (see illustration).

Although many large objects can be detected outside this cone, the field of detection on the outside edges is so spread out that small objects produce a very weak signal. How large a conical area your detector can produce (and how strong the signal is) has a lot to do with the type of detector you are using, how well it is adjusted, size and shape of coil or loop you are using and mode of operation.



ELECTROMAGNETIC FIELD AND DETECTION PATTERN

Covering An Area

The best advice for a beginner is "take your time --slow down." Too many first time users of underwater detectors try to cover a vast area on a single dive. Treasures could be present but the rush to use the equipment means you'll miss more than you'll find. Concentrate initially on getting 100 percent out of your metal detector, not out of the ground.

With practice, areas that had produced very little before will suddenly prove fertile. You will find yourself concentrating on that little patch of bottom just in front of you instead of a large general area.

Conclusion:

With a hand held underwater metal detector, you are not professionally equipped to search for century old galleons buried deep in coral reefs. But in our inland waterways, our lakes and streams, our bays and harbors, millions and millions await detection by the skilled diver. Row boats and fishing boats, pleasure craft and trawlers have long ago sunk and been forgotten. Some carried nothing, but others carried coins and artifacts that could quickly pay for your investment in a hand held detector.

Regardless of your findings, the fun is in the hunt. Researching the waterways, mapping the strategy, and undertaking the systematic search are tasks with their own intrinsic rewards. So, enjoy the hunt. If you strike gold, *voila.*

-- Gerald Pattee

Recommended Detectors

We have asked Gerald Pattee the author of our two part series on underwater metal detectors to give us his choice of detectors based on performance, features, versatility, quality and reliability.

★ ★ ★ ★ ★

PI Detectors

I select the Garrett PI detectors as my overall first choice because of their discrimination (trash rejection) capacity and their interchangeable loops.

Best bet! Garrett Electronics PI500-XS (and PI-500-XL). Standard features on 500-XS: sensitivity meter, LED indicator and audio output; audio and visual threshold adjustment; visual and audio trash target elimination control (limited discrimination); selectable detection depth control (Maximum, normal, minimum); built-in Ni-cad rechargeable batteries; flexible, zippered carrying and storage bag; standard 7 1/2" search coil; factory sealed unit, pressure tested to 200 feet; buoyancy: slightly negative; price: $799.95.

Garrett PI500-XL: same features and price as XS above except housing is belt mounted and loops have longer cords and two interchangeable shafts: short shaft for diving and long shaft for wading or probing into crevices and land use.

Lowest Priced: PI White Electronics PI 1000. Standard features: signal intensity and battery condition LED indicator light; audio: remote mechanical vibrator for signal detection sound and feel (non-detachable); standard 12" non-detachable search coil; pressure tested to 200 feet; buoyancy: slightly negative; Power: 6 replaceable alkaline pen-light batteries; Extension rod for wading or land use; Price: $499.95.

J.W. Fishers Pulse 6 and Pulse 8: Audio and visual detection; Ni-cad batteries with switch selectable chargers; upgradeable to Pulse 8 any time in the future; Extension handle converts unit to land detector; Price: $595.00.

J.W. Fishers Pulse 8: Same features as 6 with increased sensitivity and detection area; sensitivity switch allowing pinpointing of targets; underwater and land earphones; Nylon carrying bag; Price: $795.00.

VLF Detectors

Garrett Sea Hunter XL500 VLF: designed primarily for use on land and in fresh water. Not recommended for salt water operation. Similar to PI500-XL.

Fisher Research Laboratory's Aquanaut: Visual target response LED indicator light; VF discrimination; Quartz Crystal Controlled; Audio: custom designed non-detachable headset; automatic ground and salt-water interference stability; standard 8" non-detachable search coil; housing pressure tested to 250 feet; Power: 8 disposable alkaline pen-light batteries; can be used either hand held or hip-mounted (belt clip); optional recharge kit; Price: $649.95.

★ ★ ★ ★ ★

For more information on the above underwater detectors and a complete set of brochures on these and other units, send a large self addressed stamped envelope to:

UNDERWATER DETECTORS
PO BOX 151
AUBURN, MA 01501

The Existence of Mermaids:

-- *Two Cases, Two Extremes*

As long as there has been a fascination with the sea there has been fascination with and speculation about mermaids. Not long ago two credible scientists announced that they had encountered a mermaid near New Guinea and scientists in some quarters seem to share the belief that in fact that may have very well been what they saw. That report came from *Science '85.* We ran across another mermaid story in

the *National-Enquirer*-like tabloid, *Weekly World News*, where a diver off the Mexican Yucatan claims to have been attacked by a mermaid. As to the veracity of either, your guess is as good as ours.

* * * *

The Case Of The Reclusive Ri

In July of 1983, off the coast of New Ireland, an island some 300 miles east of New Guinea, anthropologist Roy Wagner and colleague Richard Greenwell had a close encounter with a Ri. Wagner had his camera cocked because natives of New Ireland had described the Ri as an animal with a fishlike lower body -- in other words, a mermaid.

Wagner and Greenwell say they were able to maneuver their dinghy to within 50 feet of the Ri, but at that point the creature dived and never reappeared. Wagner got photographs; murky, poorly focused ones that show the tail of an unidentifiable marine animal raised out of the water. An article appeared soon afterward in *Cryptozoology*, the annual journal of the International Society of Cryptozoology devoted to "the science of hidden animals."

Natives had claimed persistently that the Ri was neither a local porpoise nor a dugong (manatee), a marine mammal believed to be the source of early mermaid myths. Greenwell and Wagner didn't expect to find a mermaid, but they did think they might find a new species of marine mammal. Although their expedition was inconclusive, they found that the Ri habitually dived for 10 minutes at a time and almost doubled over when bending its back. No other marine mammal, they say, shares both characteristics.

Many zoologists complain that such expeditions often produce articles but no specimens. The *Cryptozoology* article did not present "a single shred of physical evidence" that would confirm the Ri's existence, zoologist Tim Berra of Ohio State University points out.

Greenwell counters that to survive, some animals have developed a defense strategy, such as a nocturnal or solitary life-style, that makes them much more difficult to study. "Perhaps," he says, "there are some animals that are so extremely elusive that we're not even sure they exist." But Berra is dubious. "When does the absence of evidence become the evidence of absence? If I say Bo Derek is in my room, and I look behind all the bookshelves and in all the drawers, and I don't find her, have I proved that she is not in my room? I think I have."

Cryptozoologists often point out that the coelacanth, a primitive fish found only off the coast of southern Africa, and the okapi, a relative of the giraffe that lives reclusively in Zaire rain forests, were just discovered earlier this century. According to John McCosker, director of San Francisco's Steinhart Aquarium, the occasional discovery of a creature such as the megamouth -- a 15-foot shark captured in 1976 that belongs not only to a new genus but to a new family -- is enough to lend credibility to the theory that large animals still exist undetected.

The two issues of *Cryptozoology* published so far have included a fair share of skeptical articles. One suggests, for example, that rare golden monkeys may be the source of reports of the so-called "Wild Man" in China. But articles like the recent one by biologist Marcellin Agnagna, who claims to have observed Mokele-Mbembe in the Congo in 1983, cause most scientists to roll their eyes. Agnaga left the camera on the wrong setting, resulting in a total lack of photographs. "Why is it that the picture is always out of focus or the lens cap is always left on when they're taking these pictures?" asks McCosker. "I suspect that some of these (animals) will never prove to be real."

Greenwell, who plans eventually to go search for Mokele-Mbembe, is undeterred. "When I talk to physicists, they tell me, 'if we had one-tenth the evidence for black holes that you have for some of these unknown animals, we'd have no problems,'" Wagner says. "But the only really satisfactory solution to any of these zoological mysteries is a specimen."

* * * *

Diver Attacked By Mermaids

Scuba diver Maria Castanhara was caught in a nightmarish fight for her life when she was savagely attacked by legendary creatures believed to exist only in the minds of shipwrecked sailors -- a band of mermaids!

The 24-year-old Brazilian beauty said only the fear that no one would ever know what happened to her gave her the strength and determination to survive her incredible ordeal in the crystal-clear Caribbean waters off Mexico's Yucatan Peninsula.

"I thought I was going to die," Maria told authorities only hours after her harrowing escape from the creatures of the deep. "There were four of the beasts and there is no doubt that they wanted to kill me.

"And they WERE beasts! I've never believed in mermaids, but in stories I've read they are supposed to be irresistibly beautiful women. The creatures that closed in on me were definitely female -- they had human breasts -- but they were horribly ugly things! The human part of their body was covered with slime and swarming with tiny sea animals and their hair was like long, oily seaweed. They weren't beautiful.

"At first, I simply couldn't believe my eyes," she said. "I thought that I was having rapture of the

deep, but I was only 40 feet below the surface.

"Then, one of them grabbed at my mask and I felt its slimy skin. It was ghastly -- like the flesh of a corpse. It narrowly missed pulling my mask off. I would be dead now if that had happened.

"I tried to get back to the surface, but every time I started up, I felt an icy, oily hand grab my leg and pull me back down. I realized that the only chance I had to survive was to fight as hard as I could."

Maria said that at no time did the mermaids attack her as a group. Instead, each awaited its turn to pounce.

"I tried desperately to control my breathing," she said. "I had almost a full tank of air when the beasts attacked, but I knew that if I panicked, I would gulp that down in just a few minutes. Then I would be a goner.

"I just kept kicking and punching with all my strength, but I knew I couldn't keep on fighting much longer.

"And then, just like that, they were gone. For some reason or other, they just left me.

"I pulled myself up and swam back to the dive boat.

"Now, sometimes I ask myself if it really happened. I tell myself such things are impossible. Then the terror comes rushing back and the reality is something I can't deny."

Why Divers Die: Part I

-- *An Analysis From The University Of Rhode Island*

The National Underwater Accident Data Center at the University of Rhode Island annually publishes a report analyzing and describing diver fatalities from a previous year. *Undercurrent* has subsequently published a synopsis of this report so that divers may better understand what causes accidents and fatalities and then apply the sad lessons learned from these deaths to their own safe diving practices.

The most current NUADC report covers the 1982 calendar year; we take the responsibility for any inadvertent errors due to our editing of the material. We also would like to thank John McAniff, Director of NUADC, for his diligent pursuit of data, his careful analysis, and his cooperation in getting this material into the public domain where these cases contribute to safe diving and, in fact, save lives.

★ ★ ★ ★

The NUADC is happy to report that during 1982 we recorded the lowest number of fatalities for any year since the beginning of this study in 1970; 102 casualties were recorded, including 74 nonoccupational fatalities, 10 skin diving, and 18 occupational fatalities. In contrast we recorded 187 fatalities during 1974.

We estimate that as of December, 1982, approximately 5.25 million persons have been trained by the major agencies. By making allowances for dropouts and cross-certifications we estimate the U.S. active diver (one who dives at least three times per year) population at approximately 2.45 million to 2.6 million, suggesting a fatality rate during 1982 for nonoccupational U.S. underwater divers was between 2.84 and 3.02 fatalities per 100,000 active divers.

"...17 divers lost their lives in Florida caves in 1981; In 1982, only three cave deaths were recorded."

Florida had 15 fewer fatalities in 1982 than in 1981. 17 divers lost their lives in Florida caves in 1981; in 1982, only three cave deaths were recorded. Califor-

Table I. Experience of Nonoccupational Underwater Diving Fatality Victims, Yearly, 1970-1982.

	Percent of Case												
Experience	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
First dive ever with scuba	11	16	8	4	11	8	10	10	9	6	11	4	12
First dive in open water	6	7	4	5	6	6	5	1	1	10	4	3	5
Early open-water	31	24	21	34	37	25	30	26	34	21	37	23	20
Some experience	33	19	37	16	24	20	34	40	45	39	33	32	23
Considerable experience	13	23	14	21	16	28	16	19	7	18	12	26	17
Very experienced	6	11	16	10	6	13	5	4	4	6	3	12	23

Life Insurance For Divers

When you apply for life insurance, one of the questions you may be asked is whether you participate in scuba diving -- or if you dive deeper than 50 feet. It may be a cause for rejection of the policy or for increased rates. Don't lie and say no. That could invalidate your policy and void your coverage.

If you already have insurance and if you took up the sport before you bought your policy, there is no problem. Buying insurance after taking up diving is considered to be a 'precondition' and is factored into the policy.

To the insurance industry, scuba diving and skin diving is considered to be a high risk sport, right up there with hang gliding and mountain climbing. That perception affects the policy for divers. Insurance companies base their rates on actuarial tables which can accurately predict the number of deaths each year in given age categories. Insurance companies have more than 50 years of experience with these tables and their profit or loss depends upon them. For diving, the problem is that there is insufficient history and an insufficient number of participants to have accurate tables.

If you are in the market for insurance, your broker will be able to check various companies and determine their requirements. An independent agent represents you, the buyer; an agent for a specific insurance company represents that company. If your agent has trouble, ask your dive shop manager agents for leads. No doubt he'll have a local contact.

If you still have problems, contact Ron Young of Kelter-Thorner, Inc., who handles insurance for many people in the industry. Ron told us: "I've never had a problem getting life insurance for any diver, just because he is a diver. There may be other reasons for refusal but diving was not one of them. In most cases the rates have been competitive, there has been no additional premium."

Write Ron at Kelter-Thorner, Inc., P.O. Box 10429, Costa Mesa, CA 72627 or call (714) 642-6500.

nia, with only 14 underwater diving fatalities for 1982, has recorded its safest year since the inception of this research. There were 20 deaths in 1981 and 36 in 1973. The state of Washington recorded 17 deaths in 1979 as their peak, while only recording 9 fatalities in 1982.

★ ★ ★ ★ ★

Environmental Aspects of Nonoccupational Fatalities

During 1982, 63 fatalities occurred in oceans, bays or seas; lakes, ponds, and sloughs accounted for 5 deaths; one death occurred in a man-made rockpit; two others lost their lives while diving in rivers; one death occurred in the Great Lakes, and three in caves.

With one exception, all of the 1982 deaths occurred in waters shallower than 120 feet. The exception was a diver off the New Jersey coast on a well known wreck at a depth of 170 feet.

As in previous reports, the NUADC will again stress that some insurance companies unfairly choose to rate scuba divers if they routinely exceed a depth of 50 feet. Some companies have gone so far as to double or triple the premium if this depth is exceeded, while other companies have simply chosen not to insure scuba divers. Our studies have shown that there is no basis for this 50 foot depth limitation. The NUADC strongly believes that such rating should only be used if the diver routinely exceeds the recognized "safe diving limits," i.e., 100 feet or 130 feet if we use the U.S. Navy limits. At approximately three deaths per 100,000 scuba diving is now certainly way below many other sports activities. This fatality rate certainly supports the abolishment of the insurance companies' rating systems.

During 1982, eight cases were cited as involving heavy or dangerous surf and three cases involved strong currents. Three of the eight cases in which heavy or dangerous surf were cited, involved victims who were at the time under instruction. Two of the eight heavy surf cases involved the victim being thrown onto rocks and possibly losing consciousness. One of the current cases involved a diver on his first dive in the ocean who had "been taught by a friend three days ago." This victim was swept away by a very strong outgoing tide.

During 1982 there were 34 fatalities while diving from shore, ten fatalities while diving from a charter dive boat, 12 while using a private vessel, and California and Florida each recorded three charter boat fatalities; the US Virgin Islands, the states of Washington and New Jersey, and the Bahamas recorded one each.

Age, Experience and Training

Eleven of the 74 nonoccupational underwater diving fatalities were females; seven were 26 to 30 years old. Thirty-six of the 63 male victims were between 21 and 35, and just over 10% of the male victims fell into the age group of 46 to 50.

The experience of nonoccupational underwater diving fatality victims is shown in Table I. The three first listed levels of experience probably indicate a minimal number of dives per diver, while the 4th, 5th and 6th

levels probably indicate dozens to hundreds of dives per victim. Eleven fatalities occurred during training in 1982. One of the Washington State training cases was a 49 year old man who had apparently suffered a myocardial infarct a few days prior to this dive, which was to be his final certification dive. In the second, a 30 year old female was caught in a sudden, violent squall and died of a massive air embolism. This was also the final certification dive.

Both California cases occurred on the rocky shores of Monterey County. A 28 year old female panicked when she was swept into a cove by very heavy surf. The following day a 41 year old died a few miles south of the first incident, suffering a myocardial infarct while in ten feet of water.

The Florida case claimed a 54 year old male who suffered a massive cerebral air embolism when he made an ascent from 30 feet with his vest inflated.

A 61 year old male suffered a cardiovascular event while in a one-day training course in the Virgin Islands.

"The victim was towed to shore without any effort to drop his weight belt or inflate his bouyancy compensator."

The Rhode Island fatality during training involved a 30 year old male engaged in what was reportedly an advanced scuba diving class. He had been ill early in the day but felt well enough to dive. When approximately 200 feet off shore, with full scuba gear but breathing on a snorkel, he apparently got into difficulty and with the assistance of a buddy was hauled up on rocks. When the instructor reached him he was unconscious. He died about two hours later at a local hospital. The autopsy found nothing other than asphyxiation due to drowning.

An 18 year old girl lost her life in a Texas lake while diving with her instructor and two others. Her buddy said that she had gone deeper than 40 feet and that he began to follow her bubbles down when all of a sudden they stopped. The depth was 110 feet and the water murky, with extensive entanglement possibilities with old trees, brush and snagged fish lines. The victim's body was found eight days after the accident.

One mile off Freeport, Grand Bahama Isle, a 43 year old female in formal diver training apparently suffered an embolism. Upon autopsy, it was determined that she suffered a ruptured ovarian cyst during the dive, which may have caused great pain and the resulting embolism and drowning.

During 1982, two fatalities occurred while the victim was receiving instruction from a person not qualified or certified to teach diving. The first case occurred when the victim and the victim's brother and his friend were to introduce the victim to scuba equipment for the first time. On the first two dives, the victim experienced difficulty with his ears and also had a problem with his bouyancy compensator. The two brothers apparently made a dive to a depth of 70 feet and returned to approximately 30 feet where the victim was left alone to swim to shore. The victim's brother and his friend then met at 40 feet and made another dive to 70 feet. Upon returning, they found the victim in 25 feet of water, his face mask off and his regulator out of his mouth. The victim was towed to shore without any effort to drop his weight belt or inflate his bouyancy compensator. The victim had suffered a massive embolism.

In the second incident, a 41 year old male, while diving with the would-be instructor in ten feet of water, became tired and wanted to go to shore. The two started to shore on the surface. The buddy instructor reached the shore first, looked back and could not locate the victim. The autopsy showed that the victim had experienced a myocardial infarct several days before his death.

A review of the nine formal training fatalities reveals some interesting points. Three suffered a cardiovascular event which could have been prevented had a proper physical been done on each of these persons. The same is probably true of the young lady who died as the result of the ovarian cyst. Another victim was reported ill that morning, but was still allowed to dive. The young lady who died in a Texas lake simply went deeper than she should have. In at least two cases, heavy surf or a sudden squall were contributory to the victim's demise.

The NUADC has frequently mentioned the need for medical histories of potential diving students. This is even more important for persons over 35 years of age when potential exists for cardiovascular problems.

It is absolutely essential that students in a formal diving course be given very close supervision. We have recorded many cases in which the student has been allowed to leave the group to return to his base of operations either alone or in the company of an equally untrained buddy. There seems to be a definite need to develop a special category of safety assistant or nurse-maid to assist the instructor in his open-water program. And once again we caution instructors to be very much aware of environmental conditions such as heavy surf, fast currents, and poor underwater visibility. Each contribute to several deaths a year.

Continued Next Issue.

Undercurrent editors welcome comments, suggestions, resort/travel reports and manuscripts from readers of Undercurrent.
Editorial office: P.O. Box 1658, Sausalito, CA 94965.