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DIVERS FOR THE ENVIRONMENT

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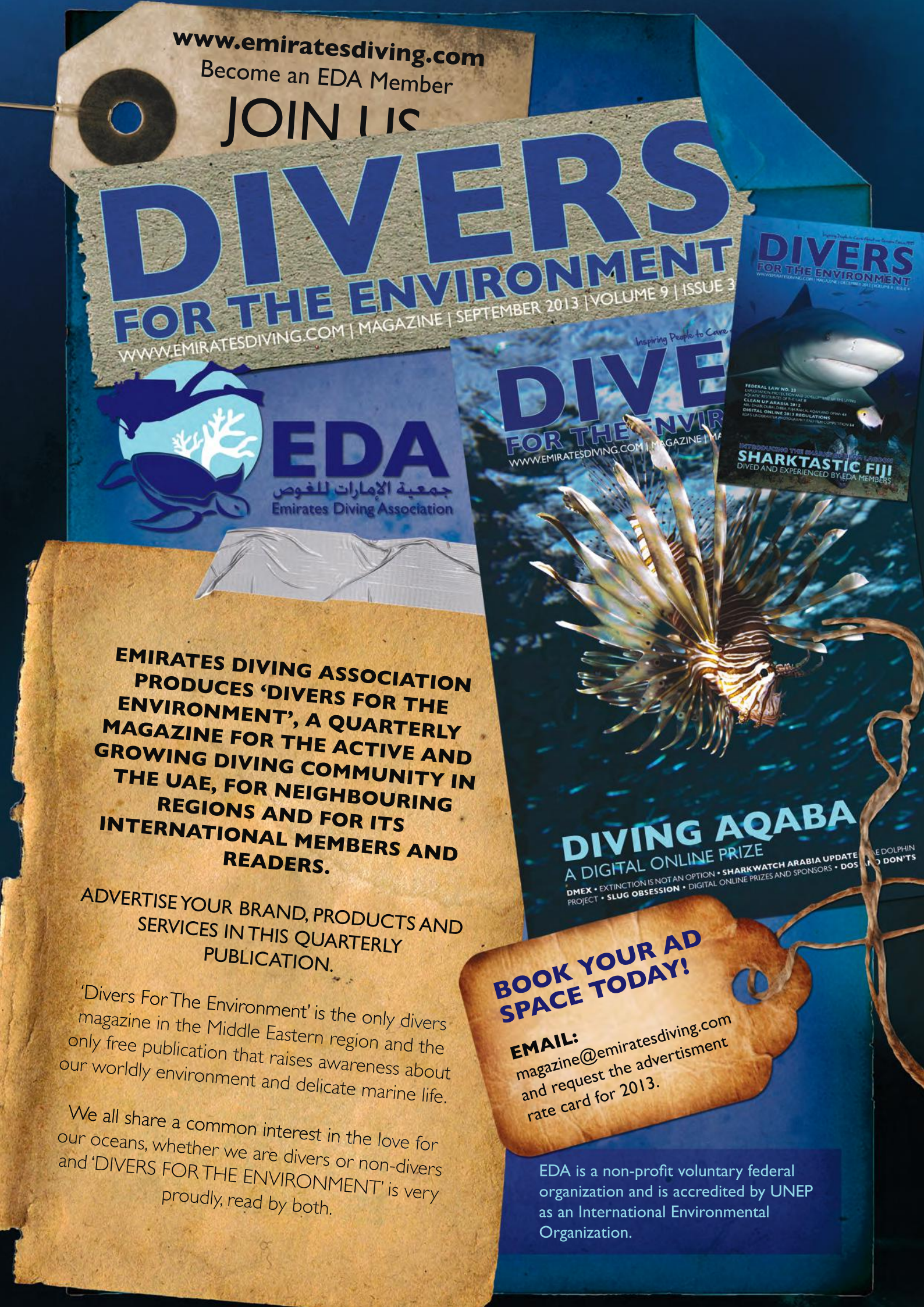

EMIRATES DIVING ASSOCIATION PRODUCES 'DIVERS FOR THE ENVIRONMENT', A QUARTERLY MAGAZINE FOR THE ACTIVE AND GROWING DIVING COMMUNITY IN THE UAE, FOR NEIGHBOURING REGIONS AND FOR ITS INTERNATIONAL MEMBERS AND READERS.

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'Divers For The Environment' is the only divers magazine in the Middle Eastern region and the only free publication that raises awareness about our worldly environment and delicate marine life.

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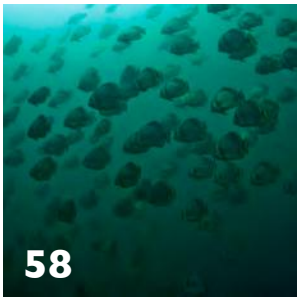

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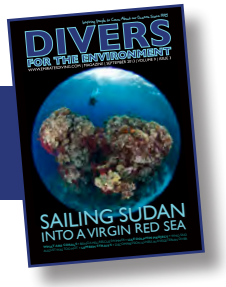
DIVERS FOR THE ENVIRONMENT

Please note that EDA's magazine, "Divers for the Environment" includes articles written by individuals whose opinions, whilst valid, may or may not represent that of EDA. It is hoped that the magazine can become a platform for individuals to voice their opinion on marine and diving related issues. You are welcome to submit an article for the next issue of "Divers for the Environment" released in December 2013. Send all articles, feedback or comments to: **magazine@emiratesdiving.com**

EDA COVER
PHOTO BY SIMONE CAPRODOSSI



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DIVING DESTINATIONS

HEALTH

SUMMER TIME DIVING

IBRAHIM N. AL-ZU'BI
EDA Executive Director

As the summer is stubbornly starting to subside, it is my great pleasure to present to you our September issue of 'Divers for the Environment'. As always, I am overjoyed with the support, not only on our diving campaigns and clean ups, but also the quality and quantity of articles we regularly receive from our loyal readers, fellow divers and friends; including those from various diving sites around the world who send in their experiences or advice to other divers and keep us updated on international diving and marine environment and conservation events.

It has been a busy summer so far for the EDA team – we've been working with local authorities to promote for diving among the younger generation, in the hope to encourage them to become passionate about marine conservation from a young age. In collaboration with the General Authority of Sports and Youth Welfare, 24 students obtained their PADI Open Water certification and we're delighted to welcome our new members to the EDA family. What better way for students to spend the summer than in cool waters exploring the treasures of the underwater life.

In other EDA news, this summer saw our events coordinator, Ally head to Sudan to explore diving in the Red Sea. This was EDA's first time to visit Sudan, to report and experience the diving there, so be sure to keep an eye out for her fascinating article. This issue also sees EDA's member Philippe Lecomte realize one of his dreams of diving alongside the Blue Shark in the Azores Islands, Portugal – amazing photography to accompany his fantastic recollection. A very big thank you to our good friend Simone Caprodossi, underwater photography enthusiasts will be reading all about tips and tricks of how to capture the perfect underwater snaps. Simone has been a fantastic and active member enriching EDA's photography library, so make sure to read the article so that you're ready for our 2014 Digital Online Awards!

As some of you may know, EDA is a Reef Check (RC) Training Facility with a resident RC Course Director and more than 70 certified RC divers. The Global Diving and RC movement use tools such as 'Divers for the Environment' to promote and share their work, so I am sure you will enjoy reading our Reef Check news and finding out what your fellow divers are up to in other countries.

EDA's annual 18th Clean up Arabia will be on the 22nd and 23rd of November this year, and I am sure you are all excited to join us all over the Gulf region to ensure we do the best we can to keep our oceans as clean as possible. The campaign is organized in collaboration with the Ocean Conservancy who will start the global campaign this September. Looking forward to seeing you all there and a big thank you in advance to all our clean up volunteers and of course, sponsors.

Finally, I want to remind you to follow us on twitter http://twitter.com/EDA_UAE and send us your tweets! Like us on Facebook and share your thoughts, stories, experiences and photography!

I hope you have all managed to have a diving holiday and explored somewhere new this summer. It's a wonderful world, so if you haven't managed to go off exploring just yet then make sure you get a chance in October for the Eid break. Eid Adha Mubarak in advance, and as always happy eco diving.

Dive Safe!

EDA JULY MOVIE SCREENING – BAG IT

Back by popular demand, EDA partnered up with VOX Cinemas in Mercato and showed a second screening of 'Bag It' on the 31st of July for EDA members that had missed the first screening in September 2012.

VOX فوكس سينما vox cinemas

bag it

is your life too plastic?

Try going a day without plastic. Plastic is everywhere and infiltrates our lives in unimaginable and frightening ways. In this touching and often flat-out-funny film, we follow "everyman" Jeb Berrier, who is admittedly not a tree hugger, as he embarks on a global tour to unravel the complexities of our plastic world. What starts as a film about plastic bags evolves into a wholesale investigation into plastic and its affect on our waterways, oceans, and even our own bodies. We see how our crazy-for-plastic world has finally caught up to us and what we can do about it. Today. Right now.

UAE GENERAL AUTHORITY OF SPORTS AND YOUTH WELFARE

EDA SUPPORTS 'MY UAE SUMMER'

EDA, along with the UAE General Authority for Youth and Sports Welfare, supported 20 children to learn how to dive and get a diving certification as part of the summer government initiative called, 'Saif Belady' (My UAE Summer).

The children's training was conducted in Arabic in the TDIC Dive Centre in the Diving/Heritage Village.

The inauguration of the initiative took place in The Dubai Mall Aquarium where divers held a banner underwater to mark the beginning of the summer activities. Several government officials and children taking part in 'Saif Belady' attended the opening.

ABOUT 'MY UAE SUMMER' (SAIF BELADY)
Inline with the directions of His Highness Sheikh Khalifa bin Zayed Al Nahyan – President of the UAE and His Highness Sheikh Mohammed bin Rashid Al Maktoum, UAE Vice President, Prime Minister and Ruler of Dubai and the members of the Supreme Council – Rulers of the Emirates; a program was developed to care for the youth and to develop activities to fill their leisure time during the summer months.

The Ministry of Culture, Youth and Community Development and the General Authority for Youth and Sports Welfare developed the National Program for 'My UAE Summer' activities with the collaboration of strategic partners, and supporters of the program.

EDA coordinated the marine summer camp for this year and the Dubai Mall Aquarium sponsored the inauguration dive.

AL RAQIAH SCHOOL PRESENTATION

On the 29th of May, EDA was invited to give a presentation in Al Raqiah School in Al-Ain. The school had just started their Oceans Week so the presentation was quite fitting to the theme and to what the kids were learning about at the time.

The presentation was given to children of different age groups and each group was made up of around 30 students. It was fun as always to hear the interesting questions and to interact with the children, especially the younger ones!

During the break, we were given a tour of the well-organised school and visited the Oceans room which had been decorated with all things related to the sea.

EDA PRESENTATION AT DUCTAC SUMMER WORKSHOP

Every summer DUCTAC (Dubai Community Theatre and Arts Centre) conducts a Summer Camp for children in the community, and this year they invited EDA to be involved. The workshops took place from the 30th June to the 3rd July, and involved kids between 5 and 11 years old.

The DUCTAC Summer Camp consists of a number of workshops wherein local children take part in arts and crafts activities and, for the first time this year, these workshops were themed. DUCTAC have an overall theme of Community and each set of workshops address a different side of our community here in Dubai: the undersea environment, recycling, health and safety and the performing arts (specifically music and theatre).

During each week, DUCTAC invited like-minded groups to visit the Summer Camp and talk to the children about what they do. The children then created arts and crafts inspired by what they have learnt from the group talks and discussions.

COLD WATER DIVING

BY **ANDREW ROUGHTON**

Scuba diving is unlike most conventional sports. That is, it is not competitive. However, it does have many similarities with other conventional sports. For example, one should be physically fit enough to take part, one should only "compete" at one's own level, and one should have the appropriate equipment to safely enjoy the sport under the expected weather conditions. The last point is particularly pertinent to cold water diving.

Now, classifying cold water can be slightly challenging because, of course, it is subjective. It depends upon a person's body shape, their attitude, and their equipment. However, it is fair to say that water temperatures from 35°C to 25°C do not require a wetsuit, 25°C to 15°C do require an appropriate wetsuit, and 15°C down to 5°C really require a drysuit. Moreover, to really enjoy scuba diving in water temperatures between 15°C and 5°C, one should also consider several other aspects of one's dive plan.

Firstly, one must consider one's equipment. As previously discussed, selecting a wetsuit or a drysuit should be based on the individual diver's experience. However, when a diver decides to use a drysuit, it is safe to say that an additional, thick (5mm plus) hood and gloves will be required. I also opt for an inner thermal suit and a thick pair of wooly socks underneath. There is no point in being macho about this. You must be properly protected to avoid the cold, enjoy your dive, and prevent the onset of serious cold water illnesses such as hypothermia. Of course, all these extra layers will make the diver more buoyant. Thus, extra weight is also a prerequisite for cold water diving. And a diver's final equipment check should be to select regulators that are approved for cold water diving. Non-cold water regulators can freeze at the first-stage as a result of the cooling from gas expansion coupled with the cold water, which in turn creates an unwanted free-flow. Therefore, please be sure to confer with a specialist and select wisely when renting or purchasing your regulators for cold water diving.

Secondly, one should be prepared for the cold water shock. Whether in a thick wet-suit or even a dry-suit, one can expect an initial shock when entering cold water. This is a physiological reaction known as the Mammalian Diving Reflex, which creates a sensation that one cannot breathe properly when one's head is submerged in cold water. Stay calm. This is perfectly normal and will pass. Similarly, even when accustomed to the water temperature, one should be equally prepared for the shock of cold water on the face when exhaling through the nose to clear a mask in cold water. Again, this is perfectly normal, but it does take some getting used to. Regular practice will easily overcome the shock of this task.

Finally, if a diver feels cold, his or her air consumption rate will inevitably increase. That is, when a scuba diver becomes cold, s/he will burn more calories in order to stay warm, and thus consume more oxygen. Moreover, if a diver becomes very cold, his or her air consumption will increase further as a result of the extra work of shivering. So what is the solution? Wear suitable protection. As previously mentioned, do not be macho about your tolerance levels and do ensure that you have the right equipment to keep you warm.

People can enjoy a variety of sports in all conditions. If it's raining, one may wear a rain-coat and still enjoy a round of Golf. If it's baking hot, one may wear sunscreen, glasses and hat and still enjoy a game of tennis. If it's snowing, one may cover oneself in deep-heat and still enjoy a game of Rugby. Scuba Diving needn't be different. The visibility can be terrific, the marine life can be abundant, and the escapism can be unparalleled any time of year, so plan your cold water diving carefully and you can enjoy this wonderful, rewarding, and perennial sport no matter what the temperature may be.

AL MARSA MUSANDAM

Al Marsa Musandam was created by two men with a passion for diving and a desire to preserve the unspoilt beauty of the eastern Musandam region of Oman.

Al Marsa Dhows have the privilege of entering the breathtaking world of the northern Hajjar mountain range, Ru'us al Jibal with its awesome rugged 'Fjord-like' coastline known as the eastern Musandam Peninsula. It is here, surrounded by the warm waters of the Indian Ocean and Gulf of Oman, that one of the widest biodiversities of marine species can be found anywhere in the world. The deep drops-offs and the cool water upwelling provides an abundance of plankton, making this a rich feeding ground for a huge variety of marine life and coral gardens.

Perhaps more than this, is the almost indescribable beauty of nature here itself, clear starlit nights, panoramic ocean seascapes, hidden coastal villages with their interesting history and traditions of dhow building and fishing. We have top of the range Arabic Dhows that cruise you up into these hidden bays, which are for the most part, inaccessible from the land. Every vessel we have is fully equipped (including satellite communication) for cruising and living onboard with air conditioned cabins, large open sun decks, freshly prepared meals by our onboard chefs and all the facilities for diving, snorkeling, fishing, kayaking, paragliding and microlighting.

LIVEABOARD TRIPS – STARS OF SHISSA

Travel 120kms from Dubai to Musandam and be transported into a mystic world of nature as you discover the wonders under the sea. Call Al Marsa – the diving and cruising specialists since 1999 – and check into the traditionally styled liveable dhow, equipped with all modern amenities. Trips can be booked for a minimum one night and can go up to seven nights or more. Guests can either enjoy the incredible surroundings as the dhows sail across the picturesque bays or appreciate the exotic marine life spread across over 22 dive sites. An excellent trip for divers (of all levels) with 2-3 dives a day, each dhow is accompanied by a PADI/EFR certified diving crew. Starting from Dhs 750 (per person per night – full board).

JOIN THE FIGHT AGAINST MARINE DEBRIS

Support Project AWARE's September Debris Month of Action & Dive Against Debris by Domino Albert, Project AWARE New Media Specialist.

Scuba divers are often the first to see devastating impacts of debris underwater, so we are in a unique position to take action to stop the ocean's silent killer: marine debris. Here's how: it starts with underwater data. We need information that describes the underwater perspective to the problem and documents underwater impacts of marine litter to support policy change and prevention.

No one knows the precise amount, but scientists think more than six million tons of marine debris may be entering our ocean every year. One of the reasons Project AWARE is collecting marine debris data from divers year-round, is to help build a clear picture of the underwater litter that threatens ocean life. With this knowledge, we can make more effective decisions when it comes to waste management policies.

Project AWARE is calling on the diving community to join the fight against marine debris by participating in September's Debris Month of Action, a month-long rally undertaken by thousands of scuba diving volunteers. Throughout September, divers will not only pick up marine litter; they'll report on the data to Project AWARE. Last year, bizarre items from teddy bears to washing machines were picked up, but Project AWARE also tabulates millions more pedestrian objects such as cigarette butts, fast-food containers and plastic straws.

Don't let your dives go to waste. Make a difference and help work toward a clean, healthy ocean planet:

- Dive Against Debris with a dive buddy or join a community event. Divers and event organizers can grab the toolkit and report debris data online to help drive change.
- Make a gift to help thousands of marine animals that die from litter entanglement and ingestion each year.
- Pledge to Dive Against Debris all year round. The first 50 Dive Against Debris Heroes to take the pledge will receive a t-shirt that they can wear with pride.
- Spread the word by sharing your Debris Month of Action photos on Social Media. Use the hashtag #DiveAgainstDebris or #DebrisMonthofAction.

"Marine debris kills countless marine species silently and needlessly each year. But divers are using their unique skills to fight back and contribute the underwater debris data needed to show the true extent of marine debris issues and devise solutions," says Alex Earl, Executive Director, Project AWARE Foundation.

Visit the Project AWARE's Action Map and find a Dive Against Debris event near you or grab the Debris Month of Action Kit and take action today! Just go to projectaware.org

MARINE DEBRIS FACTS

230 MILLION TONS: The annual plastic production and use of plastics in 2009; up from 1.5 million tons in 1950.

6 MILLION TONS: The amount of marine litter that is estimated to be entering the oceans every year.

260 SPECIES: The number of marine species that are rerouted to have been entangled in or who have ingested marine debris.

90 PERCENT: The percentage of floating marine debris that is estimated to be plastic.

FEATURE CREATURE

HALFSPOTTED HIND (*CEPHALOPHOLIS HEMISTIKTOS*)

FEATURE **IUCN RED LIST 2013.1** PHOTOGRAPHY **PHILIPPE LECOMTE**

RED LIST CATEGORY & CRITERIA: NEAR THREATENED
Scientific Name: *Cephalopholis hemistiktos*
Common Name: Halfspotted Hind

Justification: *Cephalopholis hemistiktos* is listed as Near Threatened on the basis of predicted future decline of close to 30% based on increasing fishing effort in the future. This species is not as heavily fished as larger co-occurring groupers at present, but as these larger species decline and are no longer economically viable to target, it is expected that this species will become more of a focus of the fisheries.

Range Description: *Cephalopholis hemistiktos* has a disjunct distribution. It is known with certainty only from the northern end of the Red Sea, and then occurs on the northern coast of Oman to the Arabian Gulf and coast of Pakistan. And there are recent records from Socotra (Yemen) and mainland Somalia. Records from elsewhere are apparently based on misidentifications of other species.

Native: Bahrain; Djibouti; Egypt; Eritrea; Iran, Islamic Republic of; Iraq; Israel; Jordan; Kuwait; Oman; Pakistan; Qatar; Saudi Arabia; Somalia; Sudan; United Arab Emirates; Yemen.

Population: Records from northern Oman show that Cephalopholis hemistiktos is one of the most abundant species of Cephalopholis recorded, however, abundance in other parts of its range is unknown. The population structure and abundance patterns of this species in Oman are highly variable. *C. hemistiktos* is abundant in the Gulf of Oman extending north beyond Musandam into the Arabian Gulf. To the south abundance drops sharply and this species is absent from reefs of the Arabian sea south of Ras al Hadd.

Population Trend: Decreasing

Habitat and Ecology: In the Red Sea, *C. hemistiktos* is more often found on patchy open reef areas rather than on well developed coral reefs and occurs at depths ranging from 4 to at least 55m. In Oman it is abundant but patchily distributed on shallow coastal reefs. The greatest abundance is shown in the central region (Muscat) with smaller numbers in the Arabian Gulf. In Oman on rocky reef substrata from 2 to 55m. Abundant in the upwelling area of the Gulf of Oman despite local fishery.

It is a diurnal, ambush predator feeding throughout the day on fish (64%, mostly pomacentrids) and crustaceans (36%).

C. hemistiktos is a monogamous species and each pair jointly defends a common territory of up to 62m².

Major Threat(s): The greatest threats to *C. hemistiktos* are habitat loss and overfishing.

The yellowfin hind is not as heavily fished as larger co-occurring groupers at present, but as these larger species decline and are no longer economically viable to target, it is expected that this species will become more of a focus of the fisheries. It is heavily fished by line and trapping on the central Oman coast. Weekly sampling in the Muttrah market from March 2004 to March 2005 revealed *C. hemistiktos* as the most abundant grouper, accounting for 34% of all grouper that were measured (by numbers). During the same time period, sampling the landings at Dibba in Musandam found that *C. hemistiktos* accounted for 16% of the total grouper landings. Logbooks filled out by Omani traditional fishermen from Barka (35km north of Muscat) suggests *C. hemistiktos* accounts for 7.5% of the total catch (all fish species combined) and 42% of grouper species.

Not necessarily targeted in Musandam, but are caught as by-catch in traps that are set around reefs. This species is not targeted or caught by the Industrial trawl fishery which operates in the Arabian Sea where *C. hemistiktos* does not occur.

Conservation Actions: C. hemistiktos is not protected by area management within its range of occurrence except in the Daymaniyat Islands in the Gulf of Oman. Marine Protected Areas (MPAs) will be required in the future. There is effort control on the number of fishing licenses in Oman.

Source: Choat, J.H., Rocha, L., Ferreira, B., Bertoncini, A.A. & Craig, M. 2008. *Cephalopholis hemistiktos*. **In:** IUCN 2013. IUCN Red List of Threatened Species. Version 2013.1. www.iucnredlist.org

STRANDED: SOUTHERN CALIFORNIA SEA LION PUPS

FEATURE **BRIANNE BILLUPS, REEF CHECK CALIFORNIA SOCIAL VOLUNTEER COORDINATOR**
PHOTOGRAPHY **CLAIRE FACKLER/NOAA NATIONAL MARINE SANCTUARIES**

A rare event is currently taking place along the Southern California coast. Since January of this year, more than 1,300 malnourished sea lion pups have come ashore in the area spanning from Santa Barbara to San Diego. Marine mammal rescue centers have been overwhelmed by the extraordinarily high numbers of sea lions coming into their facilities. This has led the National Oceanographic and Atmospheric Administration (NOAA) to declare an "unusual mortality event".

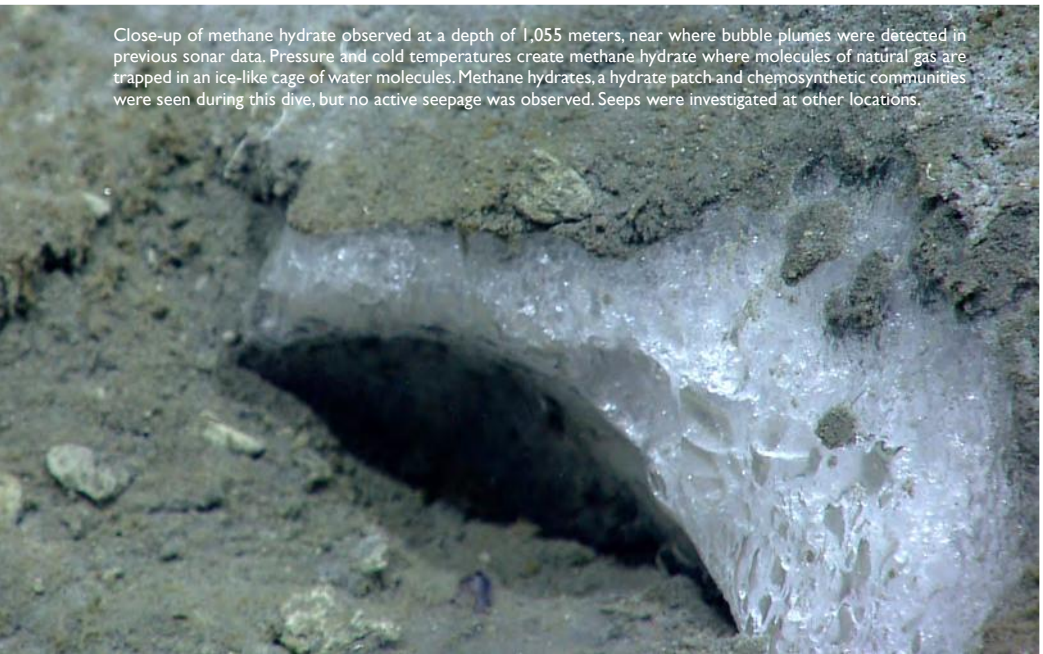
The stranded sea lion pups were born last summer and it is abnormal to see them on coastal beaches now, considering they should be with their mothers at the Channel Islands. Sea lions born during that time typically don't wean until April or May. In general, they are turning up alive but severely emaciated, some weighing less than 20 pounds when they should be well over 50 pounds at this point in their development, marine officials say.

Due to the fact that almost all of the stranded pups are extremely underweight, scientists believe the mass stranding is occurring since they are not getting enough food. Environmental conditions in the area are being studied for clues as to why the pups are starving. Scientists are focusing their investigation on factors such as changes in algae growth, wind patterns and sea surface temperature, which have led to sea lion stranding epidemics during years past.

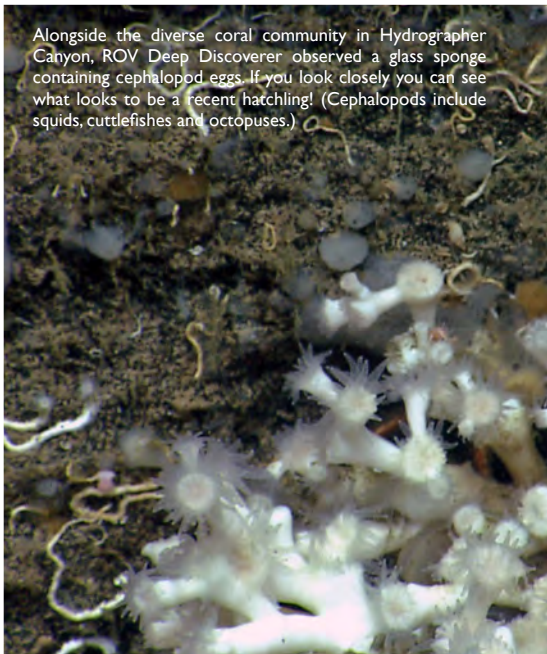
The leading hypothesis is that particular sea conditions are cutting the sea lion pups' main food supply of anchovies and sardines. While adult sea lions and other marine mammals are more adaptable and can change their feeding habits in the face of a shortage, pups are more limited in how far they can travel for food and what they can eat. As part of their investigation, scientists are also testing blood and tissue samples for bacterial, viral and other infectious agents as well as traces of radioactivity.

While the exact cause of the high numbers of sea lion strandings is still to be determined, scientists are working diligently to pinpoint a reason. In the meantime, rescue centers are working at their maximum capacity to release rehabilitated pups back into the wild.

NOAA Ship Okeanos Explorer, "America's Ship for Ocean Exploration," is the only federally funded U.S. ship assigned to systematically explore our largely unknown ocean for the purpose of discovery and the advancement of knowledge. Telepresence, using real-time broadband satellite communications, connects the ship and its discoveries live with audiences ashore.



Close-up of methane hydrate observed at a depth of 1,055 meters, near where bubble plumes were detected in previous sonar data. Pressure and cold temperatures create methane hydrate where molecules of natural gas are trapped in an ice-like cage of water molecules. Methane hydrates, a hydrate patch and chemosynthetic communities were seen during this dive, but no active seepage was observed. Seeps were investigated at other locations.



Alongside the diverse coral community in Hydrographer Canyon, ROV Deep Discoverer observed a glass sponge containing cephalopod eggs. If you look closely you can see what looks to be a recent hatchling! (Cephalopods include squids, cuttlefishes and octopuses.)

EXPLORERS DISCOVER NORTHERNMOST ATLANTIC SEEPS, DEEP-SEA CANYON DIVERSITY, OFF US NORTHEAST

PUBLIC CAN JOIN EXPEDITION LIVE ONLINE AS "CITIZEN SCIENTISTS" THROUGH AUGUST 16

FEATURE AND PHOTOGRAPHY **NOAA OKEANOS EXPLORER PROGRAM**

Ocean explorers in July on NOAA Ship Okeanos Explorer discovered a wide diversity of seafloor features and communities of life in the largely unexplored deep-sea canyons off the northeast US coast. Now through August 16, as the expedition continues, the public can join the mission as "citizen scientists," at oceanexplorer.noaa.gov/okeanos, to see live seafloor video and listen as scientists discuss their observations in real time. During the expedition's July leg, there were nearly 60,000 visits to the live streaming video.

Canyons represent some of the most striking features of the continental slope off the US East Coast and may also be among the most productive areas in the deep sea. Organic matter and nutrient-rich sediments are often concentrated in these areas and strong currents flow through the steep and rugged terrain of the canyons, exposing hard substrates. With an increase in food availability and a variety of different habitat types across varying depths, submarine canyons may contain higher biodiversity and biomass than the adjacent continental slope, and are likely places to observe deep-sea corals, sponges, and other deep-sea marine organisms.

During the July leg of the expedition, the ship's multibeam sonar detected bubbles rising from the seafloor in several locations about 90 nautical miles southeast of Nantucket, Mass. These water-column plumes were traced to seafloor seeps where explorers observed chemosynthetic communities of life supported by chemicals rather than by sunlight. These are the northernmost seeps detected to date on the US Atlantic margin.

The discoveries are expected to help fisheries and other ocean resource managers make better-informed decisions about how to manage, use and protect the ocean and its resources. Scientists believe the need to learn more about these relatively undisturbed canyon ecosystems is becoming more urgent, particularly as the potential for fishing, marine mining, and hydrocarbon exploration extends into the deep sea.

"We found these little-explored canyons are highly dynamic," said Tim Shank, a deep-sea biologist from Woods Hole Oceanographic Institution, who participated from ashore. "With each dive of the ROVs (remotely operated vehicles that are undersea robots with cameras), we documented vertical walls with jagged rock failures, collapsed features, and extensive debris fields. Each canyon also appeared to host different biological communities – even different depths within the same canyon would reveal different types of coral and sponge ecosystems.

"As we explored different sides and depth zones of these canyons, we discovered a broad physical and biological diversity," said Shank. "One canyon would host great animal diversity but low animal abundance and the next canyon would reveal just the opposite. As with any new deep-sea region we explore, we observed many suspected new species and remarkable range extensions of known species. All these observations will be highly informative to design and implement ocean conservation and management strategies in the near future."

Explorers also observed several instances of new coral life establishing itself, hundreds of skate and cat shark eggs on the seafloor and attached to deep-sea corals, and numerous octopus and squid guarding clutches of eggs. Initial impressions revealed these canyons are hot spots for biodiversity, hosting more than 25 species of corals, and hundreds of associated animals.

Andrea Quattrini, a Ph.D. student from Temple University in Philadelphia, said the expedition provided an immense opportunity for the ocean science and management communities to educate and train the next generation of explorers and deep-sea scientists.

"Their ability to interact with thirty to forty scientists with different areas of expertise, and the free exchange of ideas and discussion, further advanced the exploration and findings by defining new questions and outlining exciting avenues for future research," she said.

Teachers may take advantage of an Expedition Educational Module at http://go.usa.gov/jn2h. The site provides products tied to the expedition including standards-based lesson plans and ocean-career connections.

Brendan Roark, a geographer from Texas A&M University who participated in the expedition from the ship, believes corals in the area may live as long as 4,000 years. "Deep-sea corals provide a new archive that can help us reconstruct past ocean and climate conditions," he said. "They grow in a shrub-like fashion and most importantly, they deposit annual growth rings much like trees do. Because of their extremely long life spans, they may develop high resolution

records of oceanographic and climate variability."

An international team of more than 40 scientists and students – partners from multiple federal agencies and academic institutions – located mostly on shore, participated in the expedition's first leg, receiving data and live video from the ship via telepresence-technology, using satellite and Internet pathways. The science team included several scientists at sea and others in Washington DC, 12 US states and two nations.

Scientists on the expedition's July leg mapped 7,209 square kilometers of seafloor as they explored areas between 560 meters (1,837 feet) and 2,135 meters (7,005 feet) deep, in and between Block, Alvin, Atlantis, Veatch and Hydrographer canyons. The second leg is exploring Welker, Oceanographer, Lydonia, Nygren and Heezen canyons as well as Mytilus Seamount, one of the easternmost seamounts along the submerged northeast New England Seamount Chain within the US Exclusive Economic Zone. Very little information exists for these areas. Scientists on both expedition legs are obtaining valuable data using the latest technologies including state-of-the-art multibeam sonar and NOAA's new 6,000-meter ROV, Deep Discoverer, coupled with the Seirios camera sled and lighting platform.

NOAA Fisheries' Deep-Sea Coral Research and Technology Program and the Northeast Regional planning team contributed scientific and financial support to this expedition. The program provides scientific information needed by NOAA and regional management councils to conserve and manage the nation's deep-sea coral ecosystems.

NOAA's Ocean Exploration Program is the only federal program dedicated to systematic exploration of the planet's largely unknown ocean. NOAA Ship Okeanos Explorer is operated, managed and maintained by NOAA's Office of Marine and Aviation Operations which includes commissioned officers of the NOAA Corps and civilian wage mariners. NOAA's Office of Ocean Exploration and Research operates, manages and maintains the cutting-edge ocean exploration systems on the vessel and ashore.

NOAA's mission is to understand and predict changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and to conserve and manage our coastal and marine resources.

ROV Deep Discoverer investigates the geomorphology of Block Canyon.

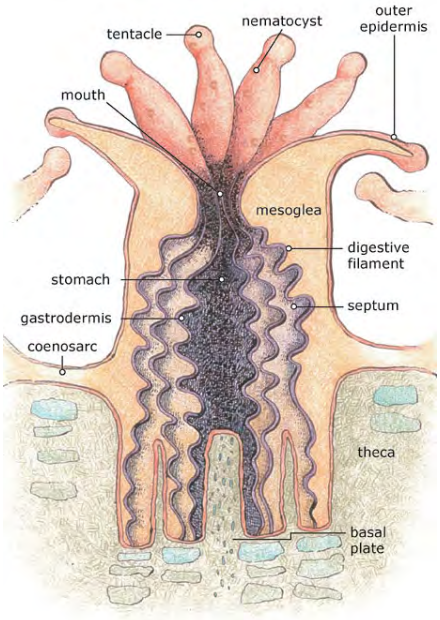
WHAT ARE CORALS?

FEATURE **NOAA**

When corals are mentioned, most people immediately think about clear, warm tropical seas and fish-filled reefs. In fact, the stony, shallow-water corals – the kind that build reefs – are only one type of coral. There are also soft corals and deep water corals that live in dark cold waters.

Almost all corals are colonial organisms. This means that they are composed of hundreds to hundreds of thousands of individual animals, called polyps. Each polyp has a stomach that opens at only one end. This opening, called the mouth, is surrounded by a circle of tentacles. The polyp uses these tentacles for defense, to capture small animals for food, and to clear away debris. Food enters the stomach through the mouth. After the food is consumed, waste products are expelled through the same opening.

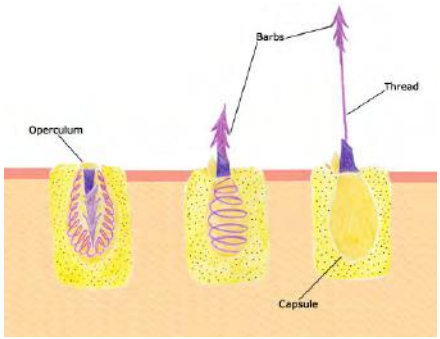
Most corals are made up of hundreds of thousands of individual polyps like this one below.



Many stony coral polyps range in size from one to three millimeters in diameter. Anatomically simple organisms, much of the polyp's body is taken up by a stomach filled with digestive filaments. Open at only one end, the polyp takes in food and expels waste through its mouth. A ring of tentacles surrounding the mouth aids in capturing food, expelling waste and clearing away debris. Most food is captured with the help of special stinging cells called nematocysts which are inside the polyp' outer tissues, which is called the epidermis.

Calcium carbonate is secreted by reef-building polyps and forms a protective cup called a calyx within which the polyps sits. The base of the calyx upon which the polyp sits is called the basal plate. The walls surrounding the calyx are called the theca. The coenosarc is a thin band of living tissue that connect individual polyps to one another and help make it a colonial organism.

Most corals feed at night. To capture their food, corals use stinging cells called nematocysts. These cells are located in the coral polyp's tentacles and outer tissues. If you've ever been "stung" by a jellyfish, you've encountered nematocysts.



The diagram above shows the anatomy of a nematocyst cell and its "firing" sequence, from left to right. On the far left is a nematocyst inside its cellular capsule. The cell's thread is coiled under pressure and wrapped around a stinging barb. When potential prey makes contact with the tentacles of a polyp, the nematocyst cell is stimulated. This causes a flap of tissue covering the nematocyst – the operculum – to fly open.

The middle image shows the open operculum, the rapidly uncoiling thread and the emerging barb. On the far right is the fully extended cell. The barbs at the end of the nematocyst are designed to stick into the polyp's victim and inject a poisonous liquid. When subdued, the polyp's tentacles move the prey toward its mouth and the nematocysts recoil back into their capsules.

Nematocysts are capable of delivering powerful, often lethal, toxins, and are essential in capturing prey. A coral's prey ranges in size from nearly microscopic animals called zooplankton to small fish, depending on the size of the coral polyps.

In addition to capturing zooplankton and larger animals with their tentacles, many corals also collect fine organic particles in mucous film and strands, which they then draw into their mouths.

REEF CHECK MALAYSIA'S ROCKIN' 4 THE REEFS 2013

FEATURE AND PHOTOGPAPHY **REEF CHECK MALAYSIA**

In April, Reef Check Malaysia (RCM) and the Environmental Education Alliance of South East Asia (EEASEA), with support from Ecoknights and Go! International, organized Rockin' 4 the Reefs 2013 (R4R). R4R is an annual music, arts and cultural festival to raise awareness and funds for local environmental education and conservation initiatives. It is part of the annual Rockin for the Environment series that has "rocked" in the past for sun bears, dugongs, orangutans, tigers and turtles.

The two-week long R4R campaign was launched at Publika, a local shopping mall, with performances by school groups from SK Bukit Damansara, SMK Puterijaya, SK Brickfields, International School KL and the Alice Smith School, as well as performances from local artists Az Samad, Poova and Bihzhu. In addition to the performances, 17 non-governmental organizations and businesses that promote green living showcased their work and products at the R4R bazaar.

After the launch, RCM continued to visit schools, universities and companies under the banner of R4R, conducting talks to raise awareness for coral reefs and problems they are facing. The talks reached out to about 3,365 school students and close to 100 staff from various companies around Kuala Lumpur.

In conjunction with R4R, RCM also launched its "Adopt a Reef" and "Adopt a Reef Critter" programs, allowing individuals and companies to contribute to coral reef conservation. For RM 1000, an individual or company can support the cost of conducting a coral reef survey. Alternatively, an individual can also symbolically adopt one of 3 reef critters for RM 20, RM 50 and RM 100. This will help fund coral reef education programs.

R4R has raised nearly RM 10,000 for local environmental education and conservation, and has reached out through various media to educate an estimated 20,000 people about coral reefs. The Rockin 4 the Environment series will continue in 2014 and will hope to reach out to more individuals and spread awareness for conservation initiatives.

REEF CHECK DOMINICAN REPUBLIC LAUNCHES NATIONAL CORAL REEF INITIATIVE

FEATURE AND PHOTOGPAPHY **REEF CHECK DOMINICAN REPUBLIC**

This May, Reef Check Dominican Republic (RCDR) launched the National Coral Reef Initiative. In order to reduce local impacts, restore affected areas and promote sustainable use of marine and coastal resources, RCDR announced the implementation of strategic alliances with key partner institutions in parts of the country with tourist or fisheries importance to develop regional coral reefs initiatives, that all combined, constitute the national coral reef initiative. The National Coral Reef Initiative seeks to institutionalize local or regional efforts that would in turn follow the global guidelines of the International Coral Reef Initiative (ICRI).

This initiative aims to provide training for different groups of users, both to raise awareness and to enable local communities to verify the status and progress or deterioration of marine ecosystems. These studies will indicate the location and size of potential protected areas, both inside and outside the national system of protected areas, and will involve local communities in sustainable use activities in these areas. These natural attractions, in turn, will benefit the local communities.

Partners supporting this initiative will create a locally funded independent marine conservation area from voluntary user fees and will be responsible for active members and for following the guidelines of sustainable use of coastal marine resources through local conservation programs.

Currently the National Coral Reef Initiative has launched activities in Las Terrenas with Turtle Dive School Dive Center, Coral Point Divers in Bayahibe, and Tasha Gough in Cabarete, Sosua and Punta Rucia. Montecristi and Las Galeras will be coming on board soon.

To be part of this initiative, please contact RCDR at 809-227-4409, info@reefcheckdr.org, or visitwww.reefcheckdr.org.

In recognition of its conservation efforts, RCDR was recently awarded the 2013 ATABEY Conservation Award by the Centro de Innovación ATABEY (the ATABEY Center of Innovation). Located in the Dominican Republic, the Atabey Awards is an annual event that identifies national efforts related to environmental protection, coupled with local economic development and the promotion of social cohesion. The award aims to recognize the work of individuals or institutions that perform actions or relevant works to the benefit of sustainable development in the communities where they are located. At the same time, the award serves as a platform to showcase what is being done in the Dominican Republic in terms of sustainable design, environmental protection, alternative energy technologies, organic agriculture, among other related topics.

REEF CHECK: A VOLUNTEERS POINT OF VIEW

We have been covering our Reef Check trainings and surveys, since 2009. We have updated all our members about what we have done and how important it is to take part in this training in all our magazine issues. In this issue, we have asked our Reef Check members to tell you themselves, why they have joined the Reef Check project and what they like about it.

Everytime we open a new Reef Check training, we send an email out to all of our EDA members with the training details. Unfortunately, because we only have space to train eight volunteers at a time, those who don't make that training, end up on our waiting list. When a new course is announced, we always make sure that the candidates on the waiting list get priority and receive the information at least 24h ahead of the other EDA members. If you are interested in signing up for a Reef Check training and want to join the waiting list, please send an email to Racquel requesting your place: projects@emiratesdiving.com.

We plan to give three more Reef Check trainings before December. We hope that by reading what other Reef Check volunteers have experienced, you will also be interested in joining the cause and sign up to one of our next trainings. Hope to see you there!

If you want to learn more about Reef Check, go to **www.reefcheck.org**

ROBERTA ZELARI

In May 2013, I attended the Reef Check training organized by Emirates Diving Association and I have to say that the experience was great, far above my expectations!

Reef Check training is an intensive training – 2 days but with a lot to learn and practice – but extremely fulfilling from many points of view. Firstly, as a scuba diver, you have the chance to add more knowledge on the marine environment and on so doing, realizing how many things you have missed in the sea so far.

Secondly, through the Reef Check training and the active participation to the dives, you feel that you are really fulfulling the commitment that all PADI certified divers have made: respect and protect the marine environment. The underwater world requires all possible support to get studied further and to monitor how it evolves.

Thirdly, you can support environmental studies and at the same time, have fun! At the training you meet new people and share your experiences with those that have your same passion for the sea.

Last but not the least, you can learn or refresh scuba diving skills, specifically related to Reef Check. They get you accustomed to avoiding any reef impact every time you scuba dive.

Thanks to the trainers Ken Atkinson and Rania Mostafa for making the Reef Check training a really worthwhile experience.

AHMED A. FIKRY

From the first breath I took underwater, I was enchanted by this world and one of my first thoughts was a prayer that my children can enjoy it when they are old enough. I found the answer to my prayer in EDA and the Reef Check program, where each survey we took made a difference to how tomorrow's underwater world is shaped and diving took another perspective. Now we are, "Diving for the good of tomorrow".

ANNE PETERSON

The Reef Check training was a real eye opener for me. I have been diving here and there since I was 12 years old and absolutely love the sea and its wonders. I found with the training, that it gave me a much better understanding of the ecosystem that we venture into when we go diving. It's not just lots of amazing coloured fish and coral, but suddenly it all makes more sense in terms of why you see less colours in some areas and you start looking out for indicators that will give you another insight into this amazing ecosystem and tell you how it's doing. You even start looking at the smaller details of the coral and see how much life one piece actually has. Sometimes, the message of the dive area is disturbing and you feel upset, but the great thing is you can help by attending a reef check dive and collect data which will help to raise awareness and create action. Having written this now, I kick myself for not making it more of a priority to help Rita in the amazing work that she is doing for our local reefs. So get out there and do your bit!

KINNIE RASSINEUX

It is my privilege to be one of the Reef Check divers. Diving is my passion, contributing to our local diving community is fundamental to me. I am very proud to have the opportunity in patrolling our precious reefs in this region. Not only have I learnt tremendously during our Reef Check surveys, but I have also mastered my buoyancy skills, in particular hovering, reversing, controlled pattern diving during our survey, and of course, counting our all time favourites, diadema!

Our diving community is built around us doing our part for the ocean we love diving in. It is a very important part for each of our Reef Check contributers and it produces phenomenal results for this region.

I believe in "hold our vision" and "trust our process" for our ocean. Be proud! Come, join our next Reef Check training, and be one of us!

WALTER CRAMERSTETTER

After following the EDA Reef Check course, a new and better chapter opened in my diving experience development. What appeared dull, while flipping from point A to B, opened to a whole new experience and world with rich meaning and understanding. Having scuba dived in several oceans and fresh water bodies, the importance of coral reefs has become even more important with the new knowledge and training from which the Reef Check course has bestowed on me. Now I make new discoveries on every dive…I feel very lucky and privileged to have access to such beautifully rich biodiversity that the dive sites the UAE and Omani coasts have to offer.

KATE MCQUAID

Doing the Reef Check course has really changed my experience under the water. I now look at the marine environment in a totally different way and see so much more everytime I dive! I can identify a whole new array of coral reef fish and I now see the coral itself as a magical intriguing underwater garden. Reef Check has not only given me more knowledge of what a healthy reef should look like, but also gives me a great sense of pride to know that I am helping to conserve this spectacular environment every time I take part in a Reef Check Survey. I highly recommend this course.

REEF CHECK IRAN HOLDS STUDENT WORKSHOP

FEATURE **MOHAMMAD GHAVASI, REEF CHECK IRAN**

Mohammad Ghavasi of Reef Check Iran recently held a workshop for marine biology students at Shahid Beheshti University in Tehran. Entitled "Introduction to Diving & Underwater World", the workshop introduced Reef Check to the participants and explained how they can act to help save our coral reefs. As a result, many new volunteers were found who will be able to participate in future activities.

The first Reef Check brochure published in Persian was given to the participants; donors willing to assist with the publication of a second brochure are currently needed.

Thank you to Mr. R. Bahmai and Miss S. Alassi, who assisted with the lecture, as well as Mr. A. Bitaab and his wife Mrs. S. Mosafer who held the workshop.

To participate or support Reef Check Iran, please contact Mohammad Ghavasi at marine.gh111@gmail.com or +98-936-896-3171

REEF CHECK SPOTLIGHT: US RELEASES IMPLEMENTATION PLAN FOR NATIONAL OCEAN POLICY

PHOTOGRAPHY **ROBERT THORN**

Earlier this April, the Obama Administration released its final plan for putting the National Ocean Policy into action.

Established in 2010, the National Ocean Policy envisioned "an America whose stewardship ensures that the ocean, our coasts, and the Great Lakes are healthy and resilient, safe and productive, and understood and treasured so as to promote the well being, prosperity, and security of present and future generations." The policy states that Federal agencies will "ensure the protection, maintenance, and restoration of the health of oceans, coastal and Great Lakes ecosystems and resources, enhance the sustainability of ocean and coastal economies, preserve our maritime heritage, support sustainable uses and access, provide for adaptive management to enhance our understanding of and capacity to respond to climate change and ocean acidification, and coordinate with our national security and foreign policy interests."

In January 2012, a draft National Ocean Policy Implementation Plan was released and public comments on the plan were solicited, as well as input from stakeholders from all marine sectors. The plan identified key actions toward fulfilling the plan's vision.

The final implementation plan released on April 16, 2013 focuses on improving coordination to speed Federal permitting decisions; better manage the ocean, coastal, and Great Lakes resources that drive so much of our economy; develop and disseminate sound scientific information that local communities, industries, and decision-makers can use; and collaborate more effectively with State, Tribal, and local partners, marine industries, and other stakeholders. The Plan also ensures the many Federal agencies involved in ocean management work together without creating any new regulations or authorities.

"With increasing demands on our ocean, we must improve how we work together, share information, and plan smartly to grow our economy, keep our ocean healthy, and enjoy the highest benefits from our ocean resources, now and in the future," said Nancy Sutley, Chair of the Council on Environmental Quality and Co-Chair of the National Ocean Council, the interagency council established in 2010 to oversee the Policy's implementation.

"Science is the foundation upon which sound management of ocean and coastal resources is based," said John P. Holdren, Director of the White House Office of Science and Technology Policy and Co-Chair of the National Ocean Council. "The President's National Ocean Policy and the new implementation plan will help advance relevant science and its application to decision-making to strengthen the economies of our coastal regions while increasing their resilience and sustaining their resources."

The oceans and coasts of the United States support tens of millions of jobs and contribute trillions of dollars a year to the national economy through tourism, development, commercial fishing, recreational fishing and boating, energy, shipping, and other activities. Competition for increasingly vulnerable ocean resources is growing, presenting challenges for Federal agencies that follow and enforce more than 100 ocean-related laws. The final Implementation Plan describes specific actions Federal agencies will take to address key ocean challenges, give states and communities greater input in Federal decisions, streamline Federal operations, save taxpayer dollars, and promote economic growth.

To read the Implementation Plan, visit www.whitehouse.gov/oceans.

SOURCES:

"Obama Administration Releases Plan to Promote Ocean Economy and Resilience" Press Release.
Department of the Interior National Ocean Policy webpage.

REEF CHECK HAITI'S 2nd ECODIVER TEAM LEARNS TO DIVE

FEATURE **MAYA SHOUP, PADI INSTRUCTOR**

WHAT AN EXPERIENCE TO CHERISH!

My travels to the north shore of Haiti with Reef Check to teach 15 university students the PADI Open Water Diver course are the reasons I became a PADI instructor. Not only to make a difference in an individual's life, but to also raise awareness about our ocean and its conservation…to make a change!

Haiti's coral reefs and fish populations have been on a dramatic decline over the years due to overfishing. Local fishermen can no longer find big fish to catch so are now targeting smaller fish like parrotfish, snappers, grunts and more. These fish are all that's left due to overfishing and the lack of fishing regulations and marine protected areas – the reefs of Haiti are under threat of extinction. As Reef Check builds their EcoDiver teams in Haiti, they are also building awareness about the importance of restoring, replenishing and protecting what little coral and fish they have left.

With over 300 applicants wishing to become EcoDivers in Cape Haitien, Reef Check's team had some work to do to pick the most suitable 15 candidates who could learn to swim, snorkel and ultimately have a chance of passing their PADI Open Water course. Before I arrived in Haiti to teach their SCUBA course, these 15 students had successfully learned how to swim and snorkel. As their skills and confidence increased, they were ready for the world of SCUBA. The opportunity to explore the underwater world by SCUBA in Haiti is very uncommon. It was explained to me as "an opportunity of a lifetime," according to the students.

When I arrived, I was filled with excitement to meet my hard working students. Knowing how much they worked to get to this point in their course was a great feeling for any SCUBA instructor. Knowing the passion that these students held for becoming EcoDivers and helping conserve their oceans made our English-Creole-French language barrier a little less of a challenge for me (that and the help of Reef Check's staff who worked as amazing translators).

As we began pool sessions with the first group, I was shocked at their confidence level with equipment, skills, and sinus clearing. They had already watched the PADI training videos and had been reading the Open Water Manual so were breezing right through the skills. Equipment was getting assembled properly, mask and regulators were getting cleared, ears were equalizing. At that moment I thought to myself, "they have the skills but, do they really know the reasoning behind learning the skills… so time for the knowledge review and quiz!" We had our after pool dive briefing and this is where the language barrier got interesting, not only was I teaching the students SCUBA but now the students were also teaching me Creole.

After two days mastering their new skills in the pool, it was time for our ocean dives. I couldn't wait to see my students' expressions when they first submersed themselves underwater in the big blue ocean. As I saw the excitement of my students growing, I had to remind them to keep an eye on their buddy and gauges at all times. As we descended, it was a moment no SCUBA instructor can forget, every student began radiating with excitement, smiles from ear to ear. Conditions for the day couldn't have been better at Labadee for us. We had nice calm seas so we were able to move through our skills and all the students enjoyed a nice shallow dive exploring and spotting various reef fish like parrotfish, squirrel fish, grunts, and even some sea urchins and eels. We were lucky enough to also dive a shallow plane wreck that was purposely placed underwater to attract fish.

By our second day in the ocean, the students' skills came together during dives 3 and 4. Gear was getting assembled properly, gauges were being clipped to streamline, dive plans were being made, buddy checks were being done. The students were allowed to dive to 35ft (10m). As their instructor, I wanted to stress the importance of proper buoyancy and proper ascents. I also encouraged the students to use their skills when needed – and they were amazing! I saw masks getting cleared, communication between buddies, and even cramps being removed. Eyes were lighting up while we were spotting reef fish, lobsters, eels, and lionfish. When we were exiting the water, the students were so full of joy and were giving me hugs. They must have thanked me over 100 times and each time I thought to myself, "and this is why I became an instructor."

Even better, they all studied hard and they all passed their PADI exams! Imagine – none of these 15 students knew how to swim just four months before. It was time to celebrate all their hard work and we did! We took tons of photos, exchanged emails, Facebook, phone numbers, addresses and more. While I felt sad to leave my new friends in Haiti, I was so proud of what they had accomplished.

So what are the solutions for Haiti's reefs? Reef Check hopes that these new students will now be able to gather data to show the government the need for Marine Protected Areas in their country. They also hope to educate the fishermen and give them alternative economic activities to make money for their families. This Reef Check team also plans on increasing public awareness about marine issues and create children's marine educational programs. All these solutions will hopefully increase employment, food, and biodiversity for Haiti.

NOTE: Reef Check would like to thank our sponsors for the Haiti program – the USAID Office of Transition Initiatives, MacArthur Foundation, Red Empress, Royal Caribbean Cruise Lines, Einar Madsen, Mt Joli Hotel, Paul Archibald.

OCEAN CLASSROOMS AND TEENS4OCEANS IMPLEMENT SEA TURTLE TAGGING PROJECT IN AKUMAL, MEXICO

FEATURE **CHAD H. KOLL** PHOTOGRAPHY **DR. MIKKI MCCOMB-KOBZA**


Turtle tagging


Science Node

In early July of 2013, Ocean Classrooms, a for-profit online marine education program teamed up with Teens4Oceans, a non-profit organization dedicated to creating student ocean ambassadors, and the Centro Ecologico Akumal (CEA) to implement a study on the foraging patterns of juvenile green turtles. For a more complete description of both companies, see the June edition of Divers for the Environment.

Akumal, Mexico is home to four of seven different sea turtle species, all of which are listed by the International Union for the Conservation of Nature (IUCN) as "Endangered" or "Critically Endangered" and serves as a keystone breeding ground for the green turtle, with at least 180 nests incubating over 100,000 eggs each season. With a protected lagoon and abundant sea grass, Akumal Bay provides a sheltered habitat for green sea turtles to forage and breed.

As the tourism industry in Mexico develops, increases in the intensity of tourist use and boat density as well as unnaturally high levels of nutrients discharged into the sea are threatening the beaches and lagoons necessary for the turtles' survival. These activities, although surprisingly well regulated in Akumal Bay (snorkeling tours to observe the turtles are regulated by the local dive shops), are causing unknown levels of stress to the local turtle populations.

The CEA has been operating on a limited budget, and lacked the ability to develop real-time data on Akumal Bay's resident turtle populations. Thanks to the efforts of Ocean Classrooms and the students from two chapters of Teens4Oceans, eight individual green turtles were captured, weighed, measured and equipped with acoustic transmitters. Local CEA scientist Sofia Sarre had the most notable capture, delivering a green turtle over two feet in length to the willing hands of the Teens4Oceans students.

Both Ocean Classrooms and Teens4Oceans wanted to engage the Akumal community in their research, so the team chartered two large boats from local fishermen that were used for the entire two-day operation. To ensure the participating students received the maximum benefit from their field research, Dr. Mikki Kobza of Ocean Classrooms and CEA's lead researcher Mariano Calleros supervised, letting the students drive the data collection process.

During the collection operation, potential specimens were spotted from the boats and qualified adults brought the turtles onboard and into the gentle hands of the young research team. Once the turtles were calm and comfortable, students took measurements of the length and width of each turtle's carapace and the entire team assisted in weighing the surprisingly heavy animals.

Thanks to the earlier efforts of the team from CEA, many of the captured turtles already had identification tags attached to their flippers. Any turtles captured for the first time received an identification tag and all eight specimens received one of the Ocean Classroom acoustic tags. The CEA staff took DNA samples to add to their database and each turtle was extensively photographed to simplify future identification.

Ocean Classrooms partnered with Wild Goose Imaging to install an acoustic receiver that enables CEA to collect real-time data from the tagged turtles, transmitting it to their research facility. In order to minimize the ecological impacts in Akumal Bay, the receiver system was installed on a pre-existing pipe, removing a navigational hazard to local fishermen while at the same time providing a relay station for the acoustic data.

Wild Goose Imaging donated a science node that will continuously collect data on Akumal Bay's pH, salinity and water temperature and a high-definition underwater web camera that will stream live video feeds of the Akumal research site to students and scientists across the globe. This data and the associated video feeds will allow students to watch live footage of the turtles in their native habitat, allowing them to create projects using actual data collected by the Akumal science node.

For the first time since the inception of the Akumal research project, CEA will have the ability to quickly and accurately assess the effects of environmental change and human activities on the turtles inhabiting Akumal Bay using data collected from the acoustic tags, science node and underwater camera. This data will be used to present information on the sea turtles to the local Akumal community and tourists visiting the region, and will be used to improve existing Akumal Bay management programs.

Teens4Oceans has plans to open several chapters throughout Dubai during the new school year, and has partnered with organizations like the EDA and Jumeirah Tawasul to achieve these goals. Internationally, Teens4Oceans and Oceans Classrooms will expand their Caribbean collaborative efforts with a joint project with the Conservation and Fisheries Department of the British Virgin Islands. Their next project will be the installation of a monitoring station, utilizing the same high-definition cameras from Wild Goose Imaging, to record and stream coral spawning events that occur each fall in real-time.

Learn more at www.oceanclassrooms.com or www.teens4oceans.org.

SIDEMOUNT DIVING IS THIS THE FUTURE?

FEATURE **DIVERS DOWN**

Sidemount has been around for years and has been used by cave divers for particularly tight restrictions. However only in the last 5 years has it started to creep into the recreational realm.

As a recreational Dive Instructor, having worked full time for 13 years and a dive centre owner, I have seen a lot of fads enter the recreational market, products that are great and some that are pointless. Throughout this time, I have always championed the ethos that I will not push something onto a customer that I would neither use, nor recommend purely for a sale, and that goes for my staff as well. Maybe then, this is why we are a little behind on embracing Sidemount and the use it has in recreational diving, until now…

In June, I was in Lake City in the United States of America visiting Dive Rite in order to complete a Service Technician course and by luck I happened to have a few spare days in which to get wet. I was offered a dive at Gilley Springs and jumped at it, why would I not want to dive this world famous cavern and cave system? John, the man in charge of Product Design, suggested we go in the latest Nomad Cave System designed purely for Sidemount diving.

So that was it, my baptism into the world of diving Sidemount, and yes, I loved it, so much so, I decided there and then to arrange a cave trip in July 2014 as part of the Divers Down travel club (more information on our website).

So what did I like about it? Freedom, yes that is correct, it was like free diving but in SCUBA! Now, I normally dive in a 10lt ALM so I have virtually nothing on my back, but I still feel it and know there is a cylinder there. With Sidemount you are free of this weight, more streamlined and able to glide effortlessly through the water. It had rained most of the time I was there and the water levels were high so there was a strong flow in the cave, however I was surprised at the little effort it required to progress forward.

So, other than finding it a revelation diving in Sidemount, why am I now advocating this system to recreational divers and not before?

A few years ago, when I first saw recreational divers in Sidemount, I thought what a waste of time, the set up took ages and the in-water trim was suspect. I witnessed divers looking like Sea Horses and Instructors looking like Discover Scuba Divers. Divers floated in the current of Iran on Inchcape 1, whilst trying to attach their tanks and the same for taking them off!

That was then. Now after a few years in the hands of recreational divers, the system has been adapted, Dive Rite with the Nomad System have made it user friendly. Loop bungees and stage kits help the diver take the guessing out of fitting, tank chokers now bring the tanks into a position close to the body making for fantastic trim and speeding up gear set up and donning.

Now, there are other reasons to dive Sidemount, it is particularly good for those divers with back issues or disabled divers and having two tanks offers you more safety with the additional regulator.

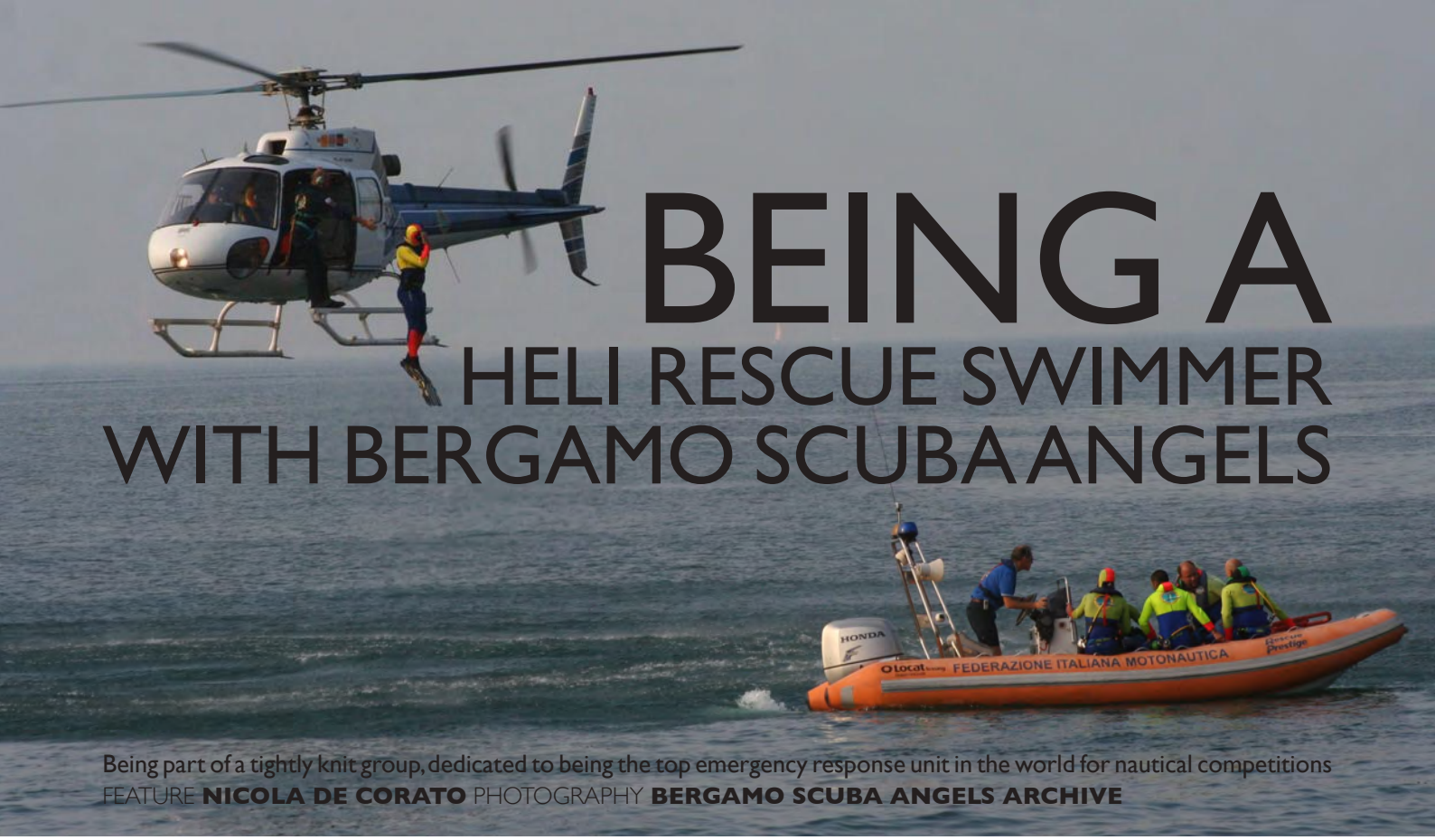
So what now for myself? I have purchased the Dive Rite Blue Water Nomad and Dive Rite XT Sidemount regulators and intend to dive with them whenever possible. So come July 2014, I will be ready to undertake my full cave course knowing that I am competent in the Sidemount system, allowing me to focus on learning cave techniques and not worry about my Sidemount skills.

So for my guests, I now recommend the following…

- Try a discover Sidemount dive in our pool, if you feel that the system is good for you and it is something that you will continue with, then…
- Undertake proper training with the PADI recreational course (tech available).
- Purchase your Dive Rite Nomad system (available at Divers Down).
- Dive, dive, dive, then dive some more!

For more information on Nomad, Dive Rite, PADI courses or the Travel Club trip to Florida next year, please contact:

TEL: 09 2370299
Email: info@diversdown-uae.com
www.diversdow-nuae.com



BEING A HELI RESCUE SWIMMER WITH BERGAMO SCUBA ANGELS

Being part of a tightly knit group, dedicated to being the top emergency response unit in the world for nautical competitions

FEATURE **NICOLA DE CORATO** PHOTOGRAPHY **BERGAMO SCUBA ANGELS ARCHIVE**

Helidiver course in Como, Italy

Being a commercial diver or a Divemaster is not the only way to be a pro when you have a passion for wetsuits. Jumping out of a helicopter to pluck shocked crew members out of frigid waters, rappelling to reach survivors at a remote boat crash site… The rescue activities during the powerboat races is particularly delicate and involves high responsibilities. Incase of an accident or other problems, the team must be fully prepared and able to to jump from their helicopter or rescue boat within seconds. The motto of the Aviation Rescue Swimmer (AIRR) community is, "So Others May Live", but it's every Heli Rescue Swimmer's goal.

The term, 'rescue swimmer' may be applied to any number of water rescue professionals, such as coast guards and military professionals operating around the world. Bergamo Scuba Angels is a sports society with the mission to perform water rescue activities in all their different and extreme aspects, mainly during powerboat and nautical competitions. The organization is born from the experience of a high level team that counts on more than eighteen years of experience. This experience, merged with working alongside other specific professionals, has given the group a concrete identity and created a solid structure dedicated to rescue operations.

The team have contributed to various rescue activities, liaising with Police, Guardia di Finanza, the Coast Guard, Civil defense and other public entities. Over the years, BSA have updated their equipment and new rescue protocols, using advanced technologies and instruments. Most of the senior rescuers have a military background. Exploiting a ten-year synergy with the military helicopter departments, 'Nucleo Elicotteri Carabinieri di Orio al Serio', Bergamo Scuba Angels have trained a limited number of candidates to perform rescue and recovery activities from the helicopter.

Bergamo Scuba Angels are responsible for all the rescue activities of the Italian Powerboat Federation (FIM – Federazione Italiana Motonautica), and all the races of the Offshore, Inshore and Endurance Championships. Bergamo Scuba Angels are also in charge of the rescues activities of the prestigious Class 1 Offshore World Championships and have been chosen to be the official rescue team of America's cup.

The first level of the heli rescue swimmer course enables the student to launch into the water from the helicopter, provides technical knowledge (theoretical and practical) for a safe approach with the helicopter and basic knowledge of flight rules.

In order to access the course, the participant must have an advanced diving license and be in a fit and healthy state. Aspirant Heli Rescue Swimmers must have flexibility, strength, endurance and be confident with current rescue techniques. That's why the monthly training at the headquarter is mandatory for all the Bergamo Scuba Angels: there they can train how to act during simulated accident scenarios and discover and test new procedures and tools. Hard training, together with experience during competitions, improves a Heli Rescue Swimmer's skills.

Your personal fitness training is also important, in order to manage the stress and the physical efforts needed during the rescue activities. You may find you have to lift an injured pilot weighing 120kg from the rescue boat to the dock; after having jumped from the helicopter, spent energy extracting him from the cockpit, maybe from a flipped boat.

Heli Rescue Swimmers, as well as Rescue Divers must have the skills to provide basic pre-hospital life support for rescued individuals. As part of their training, candidates must complete or have completed the emergency medical training (EMT) course. This is not an ordinary EMT. It is exposed to harsh conditions an ordinary EMT is not. Rescue activities can be carried out in rough seas, on unstable ground (a boat or a floating dock for example), rough terrain and in other dangerous scenerios.

During the training, you are tested on some of the typical situations you may find during an in-water rescue for a powerboat competition: how to approach a pilot still in the cockpit of the boat, potentially shocked by the accident, how to extract him or her from the cockpit in a safe way, how to bring him to safety, and so on. Same task as a Rescue Diver, but with the difficulty of the extraction from a confined space and the potential risk from the boat that can sink or catch fire.

Jumping from a platform in a swimming pool is also part of the training: it is already a "big jump", not only physically speaking, because it's not like jumping for fun into the sea from the rocks, you are jumping to save someone's life.

This is nothing compared to when you train the launch from the helicopter. In the pool you have


Assessing a pilot's health after his boat flipping accident

Helidiver course 2013 in Como, Italy


An injured pilot on the backboard being taken to safety

time to prepare yourself, put on your equipment, the platform is stable. When performing the in-water rescue from the helicopter, the scenerio is very different. The crazy loud noises causes difficulty in communicating with the crew; you have to run towards the helicopter as fast as you can, being careful not to injure yourself; as you get onboard, the helicopter takes off and heads to the scene of the accident and in the meantime you have a few seconds to put on – in a very narrow space with your buddy beside you – fins, mask and set up your personal equipment.

As the helicopter starts to hover, you get just a second to stand up and get on the helicopter pad and the countdown begins, 3…2…1…Jump!

There is no time to think, you just have to get in. Although the water entry is close to the surface, the density of the water makes it hard when jumping in from 6-8 meters high, especially if the angle of entry is less than perfect. But it's all part of the Heli Rescue Swimmer's job to avoid a water entry shock: indicate you are ok, assess the situation, then go to the site as fast as you can.

It can be worse during the competitions. The most critical moments are usually at the beginning of the race when all the boats are close to each other, or at the end of the race when pilots start getting tired. You have probably been flying for about an hour on the helicopter at this point, with a trajectory often comparable to that of a roller coaster in order to follow the most intense moments of the race, when an accident happens and you have to jump.

Without hesitation, you must be prepared to enter the most treacherous conditions to provide the recovery and relief required to those in need. You may need to utilize your search and rescue swimming skills to ensure safety, or use evasion, resistance and escape techniques to save the pilots. You have to be able to think and perform challenging tasks while submerged, holding your breath, and getting tossed around my high waves, applying your intense physical and mental training to challenging and very real situations where there is no margin for error.

The Bergamo Scuba Angel team is composed of a tightly knit group of people who are highly specialized and continuously trained for this line of work. The team is open to anyone who can demonstrate to have the specific requirements necessary and that agree with the aims that the Club has stated in the Social Statute.

Bergamo Scuba Angels
Helicopter Rescue Swimmers

For more information about Heli Rescue Swimmers and Heli Rescue courses, visit the website: **www.bergamoscuba.com** or contact Nicola at: **ndecorato@bergamoscuba.com**

NICOLA DE CORATO
Blogger, marathon runner and triathlete, diver and heli rescue swimmer with Bergamo Scuba Angels.

You can read my blog **www.dubayblog.com**, contact me on social networks or via email at **admin@dubaiblog.it** for information about dive destinations, to schedule a training or a dive together, or just to say hello.

OCEAN CONSERVANCY'S INTERNATIONAL COASTAL CLEANUP ANNOUNCED FOR SEPTEMBER 21

VOLUNTEER FOR THE MOVEMENT FOR TRASH FREE SEAS AND HELP CLEAN UP OUR COASTLINES

FEATURE **OCEAN CONSERVANCY** PHOTOGRAPHY **ALLY LANDES** – CLEAN UP ARABIA 2012

WASHINGTON, DC – Today, the Ocean Conservancy announces the date for the 28th annual International Coastal Cleanup, a global event that mobilizes hundreds of thousands of people to take action for our ocean, for September 21. By joining the movement for Trash Free Seas, volunteers will help clean up trash already in the ocean and work to reduce their own trash impact before it happens.

Trash in our ocean is an issue that affects wildlife, the environment and our economy. But everyone has a role that they can play in helping. Here are three actions volunteers can do to both clean up and prevent ocean trash:

- Take part in this year's International Coastal Cleanup as a volunteer.
- Pledge to fight trash: What would happen if 10,000 people decided not to make as much trash for one month? We could reduce the trash on Earth by over a million pounds. Taking the pledge will help turn the tide on trash.
- Download Rippl, Ocean Conservancy's free mobile application that helps people make simple, sustainable lifestyle choices.

"Last year, volunteers picked up a quantity of trash equivalent to the weight of 10 jumbo jets, which demonstrates the more people who come out, the bigger an impact we can have," said Nicholas Mallos, marine debris specialist of Ocean Conservancy's Trash Free Seas program. "Seeing the trash along beaches and waterways makes you realize: just because trash is thrown away and out of sight doesn't mean it's out of our ocean. And the continuous need for the Cleanup indicates we're not winning the battle upstream. The Cleanup is a starting point and just one way people can help fight the problem of ocean trash."

The Cleanup is centered on Ocean Conservancy's goal of tackling trash at every point in its lifecycle. While cleaning up trash that's already made it to our waterways is vital, it's not enough. Through individual responsibility, innovative science, smart public policy and industry leadership, we can find comprehensive solutions to the problem of ocean trash that will lead to healthier beaches and a healthier ocean.

"Every piece of trash that is picked up during the Cleanup should be a challenge for change," said Mallos. "The trash that tops our top 10 list every year – things like cigarette butts, bags and bottle caps – include disposable plastics meant for one-time usage. These items simply do not belong in our natural environment."

The Cleanup is part of Ocean Conservancy's larger strategy for Trash Free Seas and is one of the many ways the organization is helping find answers and solutions for marine debris. Other Ocean Conservancy-led efforts include supporting a scientific working group at the world's leading ecological think tank, The National Center for Ecological Analysis and Synthesis (NCEAS), to identify the scope and impact of marine debris on ocean ecosystems; building a Trash Free Seas Alliance® of industry, science and conservation leaders committed to reduce waste; and launching a mobile app, Rippl, to help people make sustainable lifestyle choices that limit their trash impact.

PARTNERS:

The Coca-Cola Company has supported Ocean Conservancy's International Coastal Cleanup for the past 18 years. Last year, Coca-Cola activated a global employee engagement campaign to encourage participation in the Cleanup. Over 24,000 Coca-Cola system associates, their friends and families in 27 countries volunteered, cleaning more than 1,300 miles of coastline. As part of its commitment to address global climate change, Bank of America has supported the Cleanup since 2002, with thousands of employees participating in Cleanup events all around the world. Other national sponsors include National Oceanic and Atmospheric Administration, Altria Group, Inc., The Dow Chemical Company, Landshark Lager, Glad, Brunswick Public Foundation, CVS Caremark, Johnson & Johnson Family of Consumer Companies and US Environmental Protection Agency.

The 2012 International Coastal Cleanup, by the numbers:

TOTAL:

- More than 550,000 people (561,633) picked up more than 10 million pounds of trash (10,149,988) along nearly 20,000 miles of coastlines (17,719)
- Over the past 27 years, over 9.5 million (9,654,895) volunteers have removed 163 million (163,940,906) pounds of trash from more than 330,000 (330,009) miles of coastline and waterways in 153 countries and locations.

VOLUNTEERS FOUND:

- Total garbage equal to the weight 10 Boeing 747 jumbo jets
- Enough trash to equal the weight of 41 blue whales
- Enough beverage bottles that, when stacked end-to-end, are equal to: 1,000 Empire State

Buildings, 2,408 Space Needles or 1,368 Eiffel Towers
- Enough disposable cigarette lighters to start 178,557,500 campfires

IN THE PAST 27 YEARS OF CLEANUPS, VOLUNTEERS FOUND:
- 57 million cigarettes butts, which, if stacked vertically, would be as tall as 3,867 Empire State Buildings.
- Enough glass and plastic bottles to provide every resident of New York City, Los Angeles, Chicago, Houston, Philadelphia and Phoenix a cold beverage on a hot summer day.
- Almost 10 million plastic bags (9,806,905), which required 1,176 barrels of oil to produce.
- More than 1 million (1,017,444) diapers – enough to put one on every child born in Japan last year.
- Enough cups, plates, forks, knives and spoons to host a picnic for 2.3 million people.

Ocean Conservancy educates and empowers citizens to take action on behalf of the ocean. From the Arctic to the Gulf of Mexico to the halls of Congress, Ocean Conservancy brings people together to find solutions for our water planet. Informed by science, our work guides policy and engages people in protecting the ocean and its wildlife for future generations.

WHY IS OCEAN TRASH A PROBLEM WE NEED TO ADDRESS?

It's a threat to our economies: Coastal municipalities spend hundreds of millions of dollars every year on daily beach cleanups to prevent trash from reaching the water, while recreational boaters and the commercial shipping and fishing industries face significantly higher costs from debris in the ocean.

It's a threat to wildlife and habitat: Ocean trash can entrap and strangle ocean wildlife, many of which are listed as threatened or endangered. Also, if animals eat ocean trash, they can absorb high concentrations of toxins. This has been seen in both seabirds and sea turtles, where higher levels of contaminants have been found in the blood of animals that had ingested plastic particles. Ocean trash is also a threat to ecologically critical yet sensitive marine habitat.

It's a threat to our health and food safety: Toxic chemicals are transferred up the food chain as large ocean predators – many of which we eat – accumulate toxins eaten or absorbed by smaller fish and plants. The concentration of toxins in these predators, such as tuna and mahi-mahi, increase considerably as they move up the food chain.

Trash jeopardizes the health of the ocean, coastline, economy and people. It's in our ocean and waterways and on our beaches – and is here to stay unless we change our practices. Trash is one of the biggest threats to the health of our ocean and waterways. For 28 years, we have watched as trash has threatened ocean wildlife and ecosystems, and undermined tourism and economic activity.
- In last year's Cleanup, over 550,000 people (561,633) picked up more than 10 million pounds of trash (10,149,988) along nearly 20,000 miles of coastlines (17,719).
- Future generations will be the ones dealing with our trash. We think this can and will look different in the future. By working together to find solutions, we will take significant steps forward in understanding and preventing ocean trash.
- Estimated time it takes for these products to decompose:
  Fishing Line: 600 years
  Plastic Bottles: 450 years
  Aluminum Cans: 200 years
  Plastic Bags: 1-20 years

The ocean isn't the only location impacted. Trash affects all waterways, coastal or inland, and threatens the well-being of communities that depend on them. In 2012, Pennsylvania Cleanup volunteers collected the greatest amount of debris, with each volunteer hauling approximately 90 pounds of trash from lakes, riverbeds, creeks and streams.

What you use, eat and drink in your everyday life could end up in the ocean. Every year our Top 10 list includes items such as cigarettes, utensils and beverage containers – trash that comes from our everyday lives and households. These items are not only unnatural to the ocean, but are dangerous to the wildlife that relies on the ecosystem. The ocean truly is always downstream.

Ocean Conservancy is tackling trash at every point in the lifecycle to create healthier beaches and oceans to benefit the environment and

people. Enhanced individual responsibility, new industry leadership, innovative science and smart public policy represent the needed components of a comprehensive solution to the ongoing challenge of ocean trash.

- The Cleanup is an essential step of picking up trash after it's already ended up in the wrong place.
- Rippl, Ocean Conservancy's new mobile app, aims to address trash at the starting point – or even before it's created.
- The Trash Free Seas Alliance touches on the point after trash is created and used, but before it's thrown away. The hope is that innovation drives alternatives.

Ocean Conservancy is digging deeper into ocean trash. Starting with Cleanup events in 2013, Ocean Conservancy will distribute new data forms that will help us learn more about what kinds of debris are polluting beaches and waterways around the world.

The Cleanup data forms are more specific, asking volunteers to note not just the type of items they find but what they are made of as well. Understanding what kinds of materials are on our beaches is important in order to advocate for product redesign or new policy solutions that would address the most problematic items and materials.

Every piece of trash that is picked up during the Cleanup should be a challenge for change. Trash simply shouldn't be in the ocean or on a beach. Questions we should think about for every item picked up: How did it get there? How can we prevent it from happening again?

Whether it is by changing your habits to create less trash, or pushing industries and governments to find alternative uses, we can work together to find a solution.

We have a responsibility all year long to reduce, remove and reinvent. From product development to disposal, we all have a role to play.

We can't do it alone. While solutions are built on individual actions of people, organizations and companies, it will take a collective movement to make the biggest difference. We need more volunteers than ever to join our movement and make a bigger difference. Here are three things you can do:

1. Be a part of the International Coastal Cleanup!
2. Pledge to fight trash: What would happen if 10,000 people decided not to make as much trash for one month? We could reduce the trash on Earth by over a million pounds. Take the pledge to help turn the tide on trash.
3. Download Rippl, Ocean Conservancy's free mobile application that helps you make simple, sustainable lifestyle choices.

There are uncontrollable events – like the Japan tsunami – that add to the problem of marine debris. That's why it's important to tackle what's preventable. The tsunami debris was unpreventable, but ocean trash is. Our ocean needs to be healthy and resilient when these unthinkable, uncontrollable events take place.

We hope data from our Cleanups in the past will be able to provide a baseline for the kinds of debris washing ashore on the West Coast and Hawaii. For 28 years, Ocean Conservancy has been organizing Cleanups – an opportunity to gather data and a snapshot of what is found on our beaches and coastlines. This will make it easier to compare with what will wash ashore in the months and years to come.

Our vision is for Trash Free Seas. This problem is human-generated and preventable. Keeping our ocean free from trash is one of the easiest ways we can make the ocean more resilient. From product design to proper trash disposal, we all have a role to play in keeping our ocean clean and free of debris.

In addition to the Cleanup, Ocean Conservancy-led efforts include building a Trash Free Seas Alliance® of industry, science and conservation leaders committed to reduce waste and supporting a working group at the world's leading ecological think tank, The National Center for Ecological Analysis and Synthesis (NCEAS), to identify the scope and impact of marine debris on ocean ecosystems.

YOU CAN MAKE A DIFFERENCE

CLEAN UP ARABIA

CLEAN UP ARABIA 2013

YOU MAKE A DIFFERENCE

Register your friends and families for Clean Up Arabia 2013 on the 22nd and 23rd of November and make the difference with us. Clean Up details and locations will become available soon. Become an EDA member today to receive all the EDA event updates!

EDA
جمعية الإمارات للغوص
Emirates Diving Association

EMIRATES DIVING ASSOCIATION | HERITAGE & DIVING VILLAGE, SHINDAGHA AREA, P.O. BOX 33220, DUBAI, UAE
EDA is a non-profit voluntary federal organization and is accredited by UNEP as an International Environmental Organization.
Tel: +971 4 393 9390 | **Fax:** +971 4 393 939 1 **Email:** diving@emiratesdiving.com, projects@emiratesdiving.com | **Website:** www.emiratesdiving.com

Join our group page on **http://www.facebook.com/pages/Emirates-Diving-Association/140646949296859?ref=ts** and share your thoughts and stories!

Follow us on **http://twitter.com/EDA_UAE** and send us your tweets!

UAE DOLPHIN PROJECT

IS IT THE DOLPHINS OR IS IT US THAT HAVE GONE ON HOLIDAY?

FEATURE **ADA NATOLI**

PROJECT UPDATE

The UAE Dolphin Project has just experienced its first summer! We had a very busy month of June, giving lots of presentations in schools to a great number of enthusiastic children eager to learn about dolphins and whales and finding out what they can do along with everyone else to help the local dolphins and the sea.

Overall, we reached over 800 students of all ages, from KG1 to Grade 13 and we see this as a great success! We are looking forward to the new school year to raise further awareness among the younger generation.

The UAE Dolphin project was again at one of Dubai's key environmental events: we celebrated World Environmental Day by participating in the Paddle for the Planet initiative which was a perfect platform to raise awareness among all sea lovers that gathered for such an occasion at the Kite Surf Beach in Umm Suqeim. Our wild dolphin population is slowly, but surely drawing the attention of local stakeholders. Halcrow, an engineering consultancy company in charge of drafting the Abu Dhabi Coastal and Marine Framework Plan, has asked our opinion on the potentials of a dolphin watching activity. In addition Trakhees, the Department of Planning and Development of Port Customs and Free Zone Corporation, has organised a workshop on cetacean and stranding responses. This was held in collaboration with Dolphin Bay, Atlantis who is taking an active interest in the local wild dolphin population.

SIGHTING UPDATE

After a surprising 27 sightings reported between March and May, only 11 have been reported to us between June and August. Is this an indication that dolphins dislike the warm waters of the Gulf during these months or that there are less of us enjoying the sea under the scorching heat of the Arabian summer?

Of the 11 sightings received, 6 were from Abu Dhabi, a sign that dolphins do seem to occur during the summer there. All 6 sightings were from a great new project endorser, the Park Hyatt Abu Dhabi Hotel and Villas. They have agreed to report all the sightings they witness! Thank you to Arabella and her team for all their support!

We have also received some great pictures and videos. Some of them are particularly interesting as they show individuals clearly marked and therefore can easily be used to recognise the same individual in the future.

Understanding whether dolphins in UAE waters show a seasonal presence is one of our targets that we are aiming to assess through the conduction of a research survey for one calendar year, to be able to equally sample all the seasons.

After a long and winding road, dotted with numerous tribulations, the beautiful 30ft Sportfisher – kindly lent to the project by Duretti Boat Manufacturing – is finally ready!

This is great news! It will be based at the Dubai Marina Yacht Club who have kindly agreed to host the boat for one calendar year. We are extremely grateful to our two great sponsors and we will hopefully start the field-work and data collection next month. The project is seeking volunteers that are willing to help with the data collection. No previous experience is required, but good health and positive attitude to work in a team is a must and some experience on boats and interest in marine life is preferred.

We would like to thank all the people that submitted their sightings, in particular to Brunella of the Dubai Outriggers Team, Pavilion Dive Center and Anad from Kuwait. Please keep posting!

VOLUNTEERS

If you are interested in participating, please email, **sighting@uaedolphinproject.org** and we will send you all the detailed information you will need.

REPORT YOUR SIGHTING

If you encounter a dolphin or a whale, dead or alive, please Report Your Sighting to: **www.uaedolphinproject.org**

ALTERNATIVELY, YOU CAN:

Text: 056 671 7164
Email: sighting@uaedolphinproject.org
Facebook: UAE Dolphin Project
Twitter: @UAEdolphinproje
INCLUDE: Date, Time, Location and a picture if you have one.

DOLPHINS ON OPPOSITE PAGE

This is a great photo from Report a Sighting! These humpback dolphins were sighted in Abu Dhabi from a Park Hyatt guest. The first individual has a clear notch on the posterior side of its dorsal fin that can easily be used to univocally recognize it if re-encountered. Photo by © Marcel Huppi

DOLPHINS ON THIS PAGE

These two bottlenose dolphins were spotted among a big group of dolphins and was captured in a video sent in by one of the Dubai Outriggers Team. They are clearly recognizable and now named by the sighting reporters as Paso (top) and Trigger (below). Keep an eye open for them and send us a picture in case you meet them!

AS WIDE AS IT GETS

FEATURE AND PHOTOGRAPHY **SIMONE CAPRODOSSI**

Here is a little photography feature to introduce a new lens that I believe creates great new underwater photography possibilities and gives us an excuse to have a few more shots from our amazing Sudan trip as the article featured on pages 42-57 was packed to the max.

My new favourite underwater toy is the Canon ES 8-15 fisheye zoom. I use it on a full frame Canon 5D Mark 3 in a Subal underwater housing with 2 Inon YS 240 strobes. It can be used with the same dome port that is used for the regular wideangle lenses such as the 16-35. On a cropped sensor SLR (anything different from Canon other than the 5D, 6D or 1D) it will lose some of the width and the full circular effect, but will still be as wide as it gets for your system.

It is not an everyday lens, but with the right subjects I really think it enables amazing new photo opportunities that neither the 16-35 or a 14mm or 15mm fix fisheye lens can. The beauty of having it as a zoom lens is that it allows you to play with the full circular fisheye at the 8mm end and get the circular image when the subject is right for it, but then you can swing it back to 15 and basically have a really wide wide-angle for more normal looking seascapes or fish portraits that will work for most of the dive. Unfortunately at the moment, only Canon offers a fisheye zoom, so to get the circular effect on other camera systems, you would need to use the fixed 8mm fisheye which means you will be stuck with the effect for the duration of your dive.

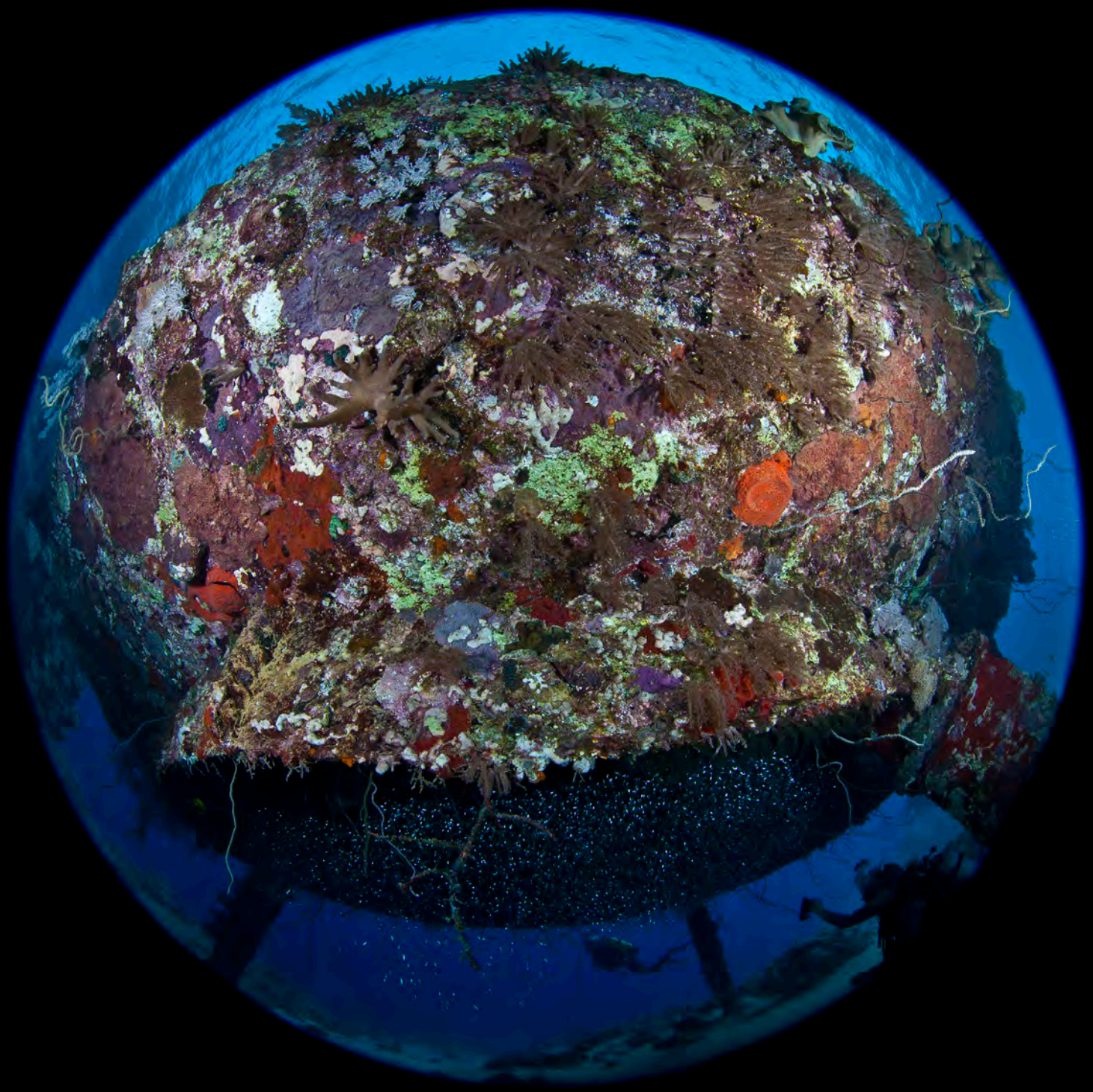
It took me several trials and errors to get it to work correctly, so here are 5 tips not to repeat if you have started using it or will start using it:

1. Remove the sun shade from the dome port or else at 8mm, you'll get a weird black shape instead of your nice circle.
2. Be very careful with strobe positioning. You need to stretch them well out of the field of view of the lens or you'll get light bursts in your photo, if not the strobes themselves.
3. Don't go too far with pointing strobes away to avoid issues made in point 2 above, because then you risk having heavily shaded areas where the back of the dome port shades the photo from the strobe lights.
4. Mind yourself, as you can easily get your fins and legs in as part of the bottom of the shot.
5. To readdress 2, 3 and 4, keep checking your shots after taking them until you know the setup is right as that's really the only way to be sure you have got it, especially at first. Trust me, I have trashed several sets of images due to skipping these points.

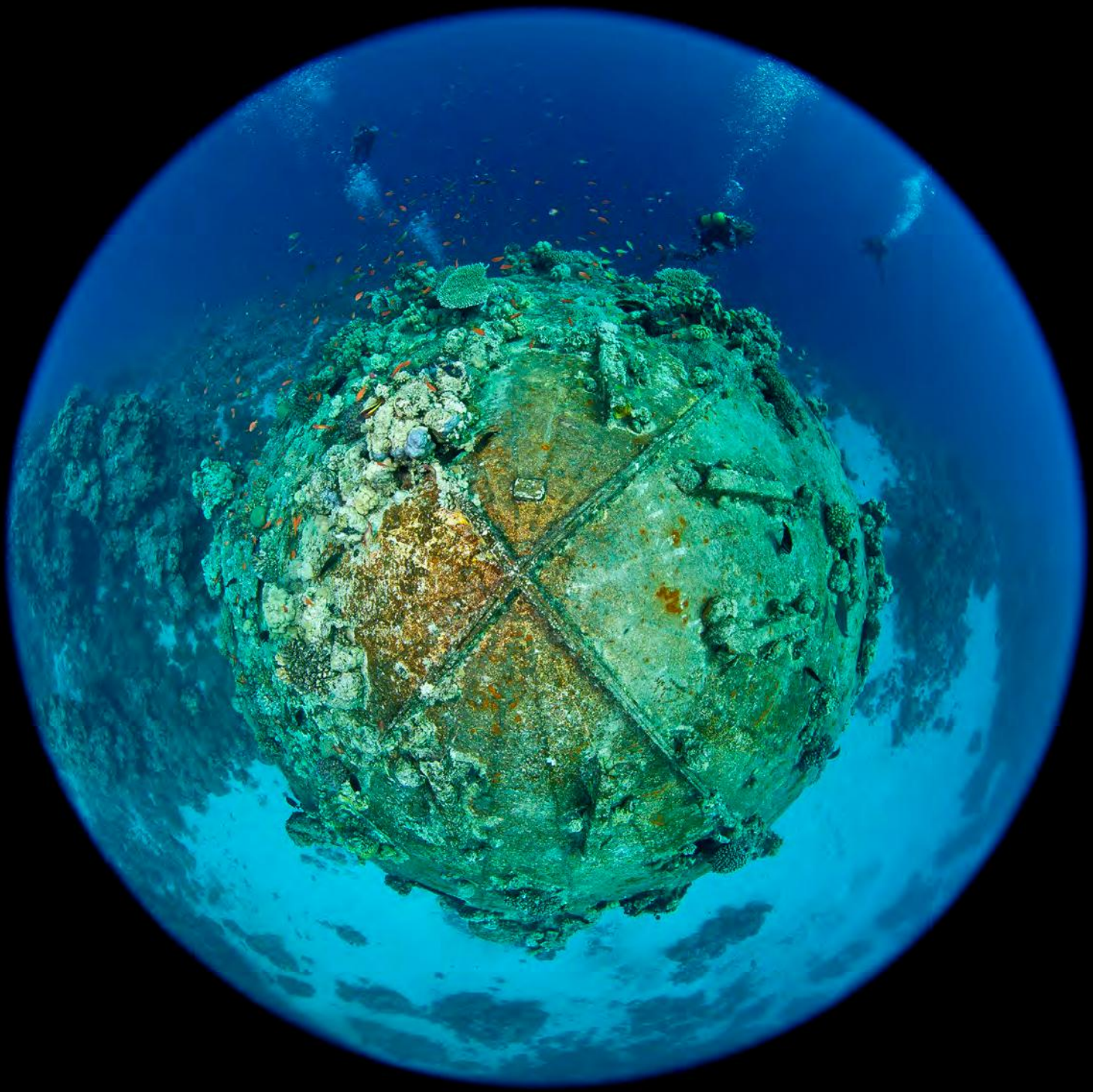
Within the pages to follow, you will find examples of some images I like most that exemplify subjects I believe this lens works really well for.

A first great subject is a beautiful reef with plenty of fish, ideally at dusk or dawn as the 8mm with clear visibility allows you to capture all the way from the surface light, down to 25-30 meters depth. It is great to have a diver in the shot to get a sense of proportion and the grandeur of the reef.

SHAAB RUMI REEF: 8mm, F/11, 1/100, ISO 400, 2 strobes full power.



The Precontinent, part of Cousteau's underwater life experiment in the 60's, still sits on the reef of Shaab Rumi in Sudan. It was a perfect subject as it is large, does not move and is circular in shape, making it fit really well with the circular fisheye and free from any

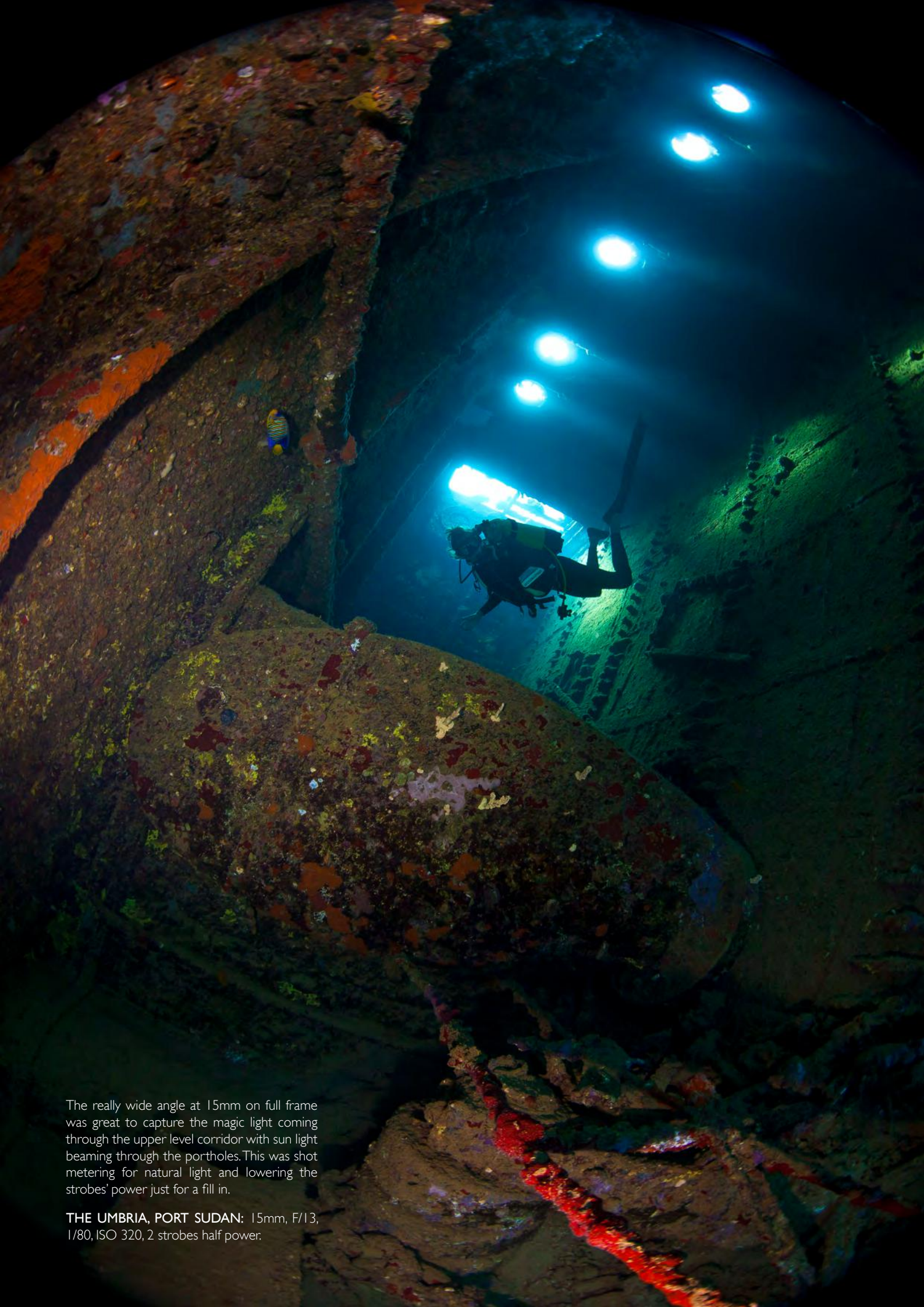


distortion of straight lines. No lens, other than the 8mm would have allowed to capture the entire bottom of the Precontinent and show how it hangs on the depth from above.

PRECONTINENT, SHAAB RUMI: 8mm, F/16, 1/100, ISO 400, 2 strobes full power.

Another great subject is a shipwreck. The Umbria sitting in shallow, crystal clear water opposite Port Sudan, with 30 meters visibility and plenty of natural light is the perfect wreck. It is great to capture the overall wreck at 8mm, but it would be really boring to only have circular shots if one had a fixed 8mm. Moving back to 15 allows to get great images of the interior and exterior as shown on the right and the following page.

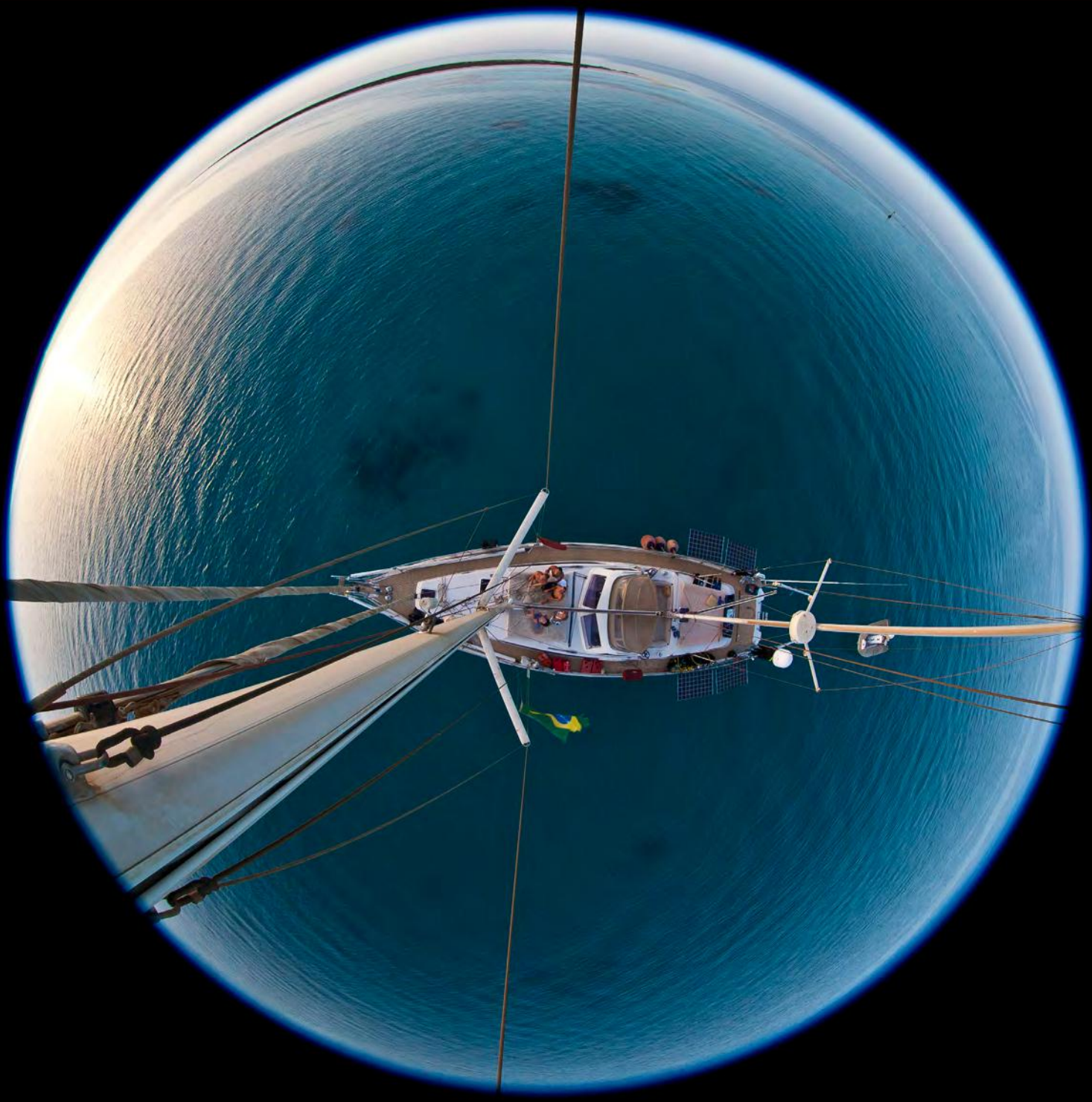
THE UMBRIA, PORT SUDAN: 8mm, F/13, 1/125, ISO 320, 2 strobes half power.



The really wide angle at 15mm on full frame was great to capture the magic light coming through the upper level corridor with sun light beaming through the portholes. This was shot metering for natural light and lowering the strobes' power just for a fill in.

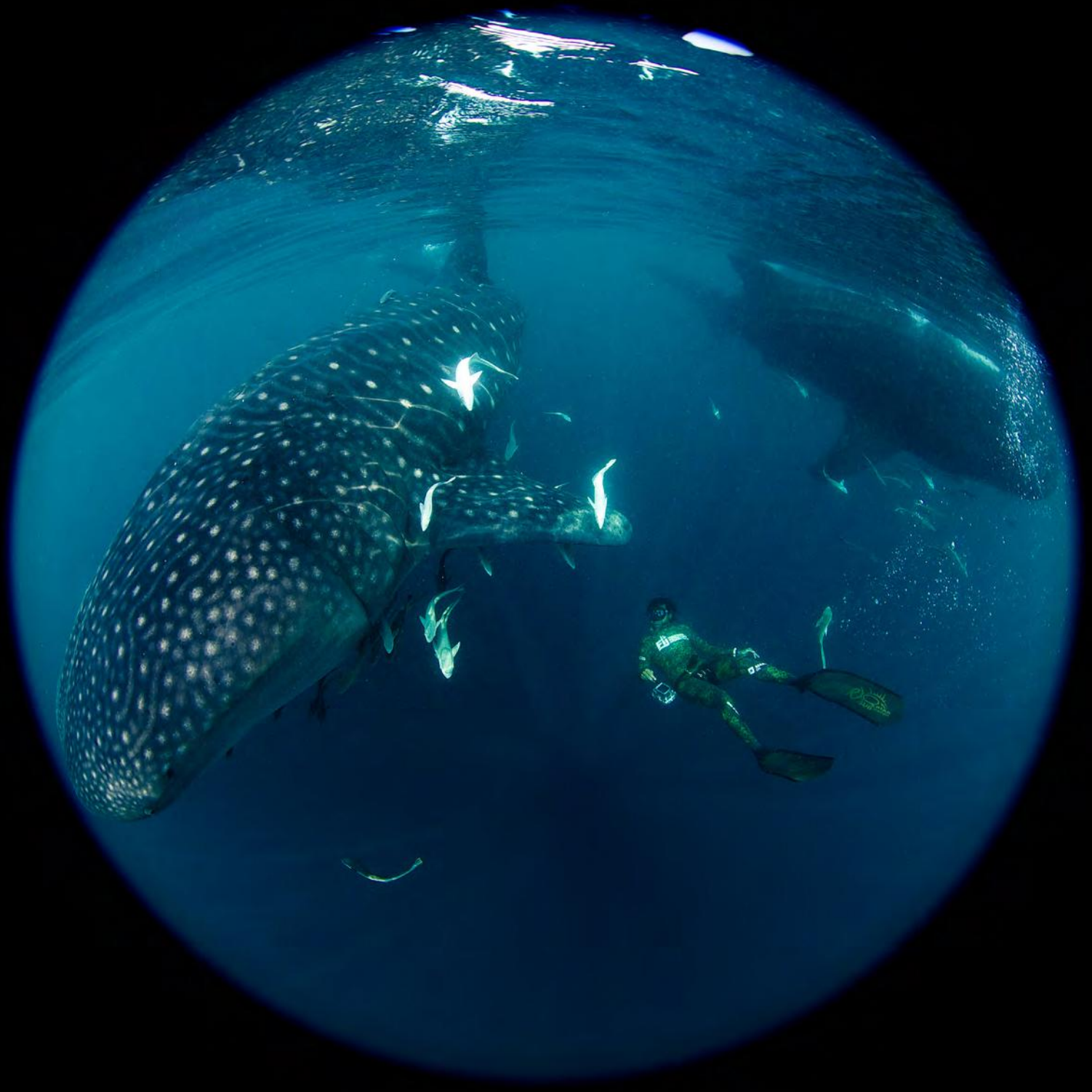
THE UMBRIA, PORT SUDAN: 15mm, F/13, 1/80, ISO 320, 2 strobes half power.

THE UMBRIA, PORT SUDAN: 12mm, F/5, 1/40, ISO 640, 2 strobes half power.



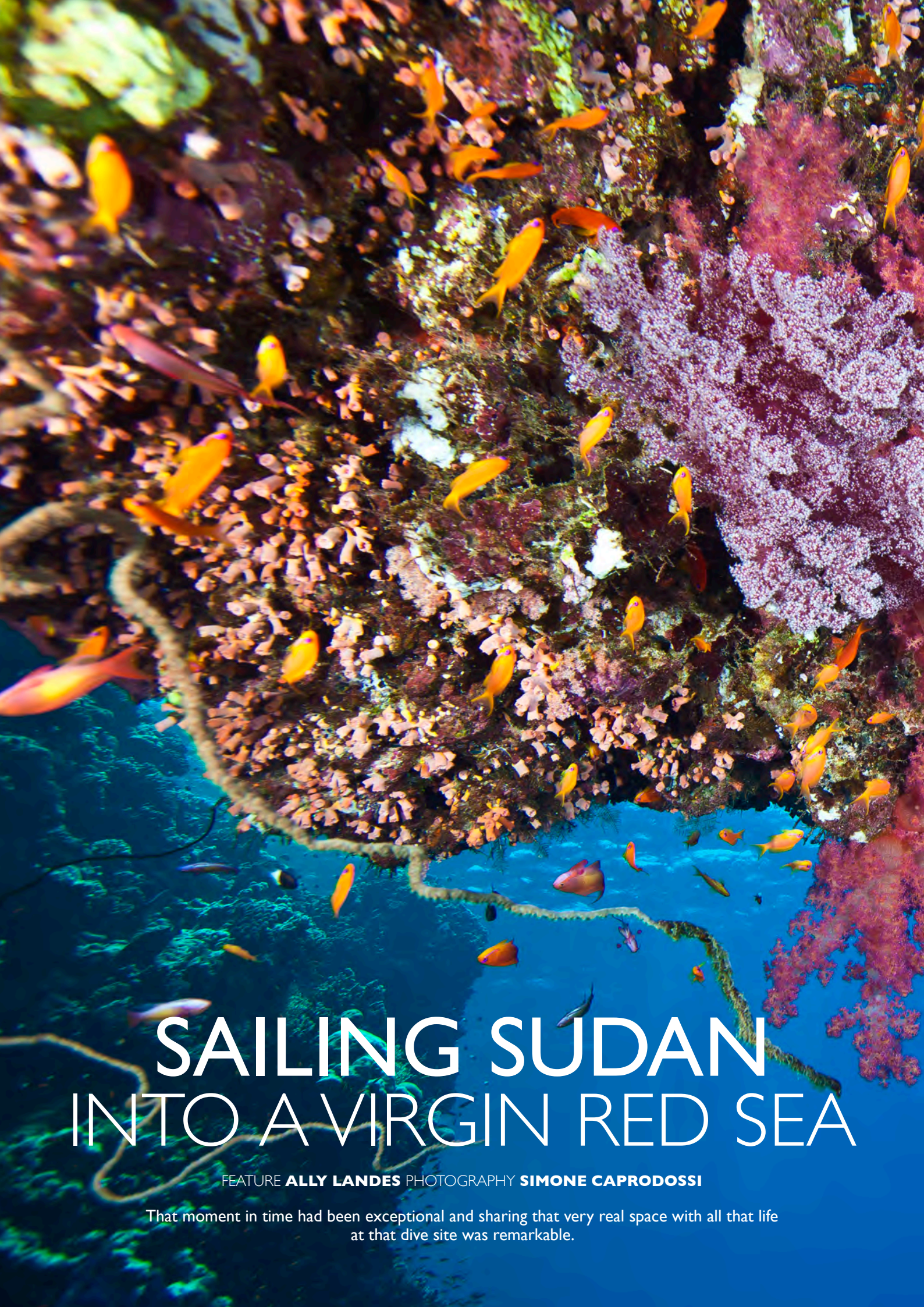
I don't normally like to use the fisheye topside as I am not keen on the distortion of the horizon, but there are times when I think it really works. As well as having to own this lens, you also need to not fear heights. I had to climb the mast of the boat to get this shot that can cause vertigo for some. The biggest challenge here was avoiding my hanging legs from getting in the way of the shot. I had to hold the camera below my legs in hope that the framing would work.

MESHARIFA REEF: 8mm, F/13, 1/90, ISO 640, no flash.



The other great benefit of this lens is when very large fish come up close to you. And it doesn't get any larger than whale sharks. With the 8mm, you can fit two whale sharks swimming in opposite directions and have a freediver in the middle. And then you can continue your shooting at 12-15mm for close up images without any black edges.

QATAR: 8mm, F/6.3, 1/250, ISO 320, no Strobes.



SAILING SUDAN INTO A VIRGIN RED SEA

FEATURE **ALLY LANDES** PHOTOGRAPHY **SIMONE CAPRODOSSI**

That moment in time had been exceptional and sharing that very real space with all that life at that dive site was remarkable.

PORT SUDAN

The Egyptian and Jordanian Red Sea is a favourite dive destination for many, especially for divers from this region, not only due to the quality of the diving available, but with the travel proximities being so close by. The Red Sea can get very, very busy during certain seasons though and it does not always make a relaxing getaway. It does of course depend on what you're going for. But, imagine diving the Red Sea completely and utterly alone! Just you and your 3 or 5 dive companions! Have you ever thought of diving the Red Sea within Sudan? There are now direct flights from Dubai to Port Sudan on Mondays, making this destination so much easier to get to. When having received an invitation to go and discover remote diving locations from Port Sudan for a week aboard 'No Stress', the sailing livaboard owned by French/Brazilian Captain, Jérôme Émilio; Simone and I immediately sent our paperwork off for our visas, packed up our camera and dive equipment and took that flight over to discover it for ourselves and give you the full lowdown.

THE YACHT & CREW

We were met in Port Sudan's airport by Chico, Jérôme's agent who arranged for our Sudanese visas and who also scheduled our bus ride to take us directly to No Stress, our new home for the week to follow. We were joined by two other fellow divers, Alexandra Sapicas and François-Xavier Patijaud who were great companions for the week to follow.

Jérôme has sailed the Red Sea for the past three years, building on extensive experience, resonating the joy of life on a yacht to form the cornerstones of good and positive seamanship. You will often find Jérôme catching up on some z's while you go out on your dives due to the fact he has been up most of the night sailing you to your next destination for your following day's venue, weather permitting.

Jérôme's crew is made up of two other seamen. Steven Surina who is a CMAS and PADI Instructor and No Stress's dive guide for the duration of the trip. As well as knowing his dive sites back to front, he is a shark guide specialist and we couldn't have done it without him. He has worked on several publications on the subject of sharks, and held conferences regarding this threatened species. He actually runs www.sharkeducation.com.

Abdallah Yagaop, is the third crew member and the Chef and Fisherman aboard No Stress. Abdallah is from Port Sudan and is accustomed to European cuisine. The man knows how to prepare a good meal from scratch! Every morning Abdallah prepared a stack of freshly made crêpes and there was always a large jar of Nutella to accompany them! We have missed those crêpes mornings!

The other great part of Abdallah's cuisine was the fresh fish he would catch for our lunch

and dinner. His fresh barracuda dishes were sumptious. He is also known to prepare a mean sushi platter and his sashimi rocks!

THE EXPEDITION

Maybe it is best to begin with the fact that we came to do our trip within the month of June. June is of course the last month of the season and with it, the larger fish move on to further depths of more substantial temperatures. Take note that the diving season in Sudan starts in October. The best visibility is from February to May where you can get viz as good as 60m. Our viz during the month of June averaged about 30m. Water temperatures start from 24°C in February to 32°C in October. Ours varied between 27-30°C. Within this realm of Red Sea in Sudan, the list of large species that one can expect to see begins a little something like this: Gray Reef Sharks, Silky Sharks, White Tip Sharks, Silver Tip Sharks, Hammerheads, Tiger Sharks, Dolphins, Dugongs, Manta Rays…4 of which on this list, we were not to expect during the month of June at all.

1. SHAAB RUMI (Southern Plateau)
Date: 11.06.13
Depths: 31.9m
Highlight: White Tips & Gray Reef Sharks

What an exciting introduction to Sudan's Red Sea. First dive in and we've already been introduced to 2 species of sharks. The White Tip (*Triaenodon obesus*) and the Gray Reef (*Carcharhinus amblyrhyncos*). The coral reef health is immaculate and booming with life and colour.

Shaab Rumi is 23 miles north/northeast of Port Sudan. Some say that this is one of the most beautiful dives in the world due to the great variety of species and colour found here.

2. SHAAB RUMI (Southern Plateau)
Date: 11.06.13
Depths: 23m
Highlight: Gray Reef Sharks, Napoleons, Small Manta Ray, Groupers, Schools of Bigeye Trevally, Titan Triggerfish, Moray Eels, Anthias everywhere. Spinner Dolphins at the surface.

This particular part of Shaab Rumi must have been my favourite dive of the entire trip. I have never seen as much ambience and colour all rolled in to one dive. The site itself was very beautiful and the parade of fish on display was mind blowing. It was so surreal that you imagined actually being in a man made aquarium to actually get the mix and size of species that were found in this vicinity. The Groupers, Napoleons (*Cheilinus undulatus*) and the Titan triggerfish (*Balistoides viridescens*) of enormous size and not far off from the proportions of the 7 Gray Reefs (*Carcharhinus amblyrhyncos*) that circled us. It was very difficult to keep up with all that was going on. Every other inch of reef was covered in splatters of orange coloured Anthias – Jewel fairy basslet (*Pseudanthias squamipinnis*) like little fire crackers bursting out as far as the eye could see.

Steven had given us a breakdown of how this particular dive was going to work out, how to position ourselves and how the sharks would react during their entry to us at the site. He studies these animals, their habits, their interaction with us and he spends time drawing them to perfection in his sketch books. In order to summon the sharks to us, Steven uses an empty plastic Coca-Cola bottle in which he forces it to crinkle in his hand, making that particular sound which reaches out to the sharks and has them close in on our whereabouts.

That moment in time had been exceptional and sharing that very real space with all that life at that dive site was remarkable.

I did also see a small lone Manta Ray (*Manta birostris*) glide past us which also felt very special. It had been the only one seen that week.

The treat after getting back into the Zodiac was to jump straight back into the water with mask and snorkel to enjoy the company of a pod of Spinner dolphins (*Stenella longirostris*) at the surface. Shy, but still curious enough to come in close enough to have their photo taken. This was the first dolphin encounter, but this may have been due to having finally found calm seas. The way over had been forecast for some rough weather and the term "rock the boat" had taken on a whole new meaning. I learnt later on, that I could have been strapped into my bunk!

3. SHAAB RUMI

Date: 11.06.13
Depths: 16.3m
Highlight: Cousteau's base from the 1960's is still there.

This dive came in as my second favourite! To prepare us for what we were about to descend upon, Steven suggested we watch World Without Sun (French: Le Monde Sans Soleil) a 1964 French documentary film directed by Jacques-Yves Cousteau. The film was Cousteau's second to win an Academy Award for Best Documentary Feature and it ventures on to explain the life and research that went in to the 30 day project that tied in to this dive site. So as an after lunch 'digestif' and dive prep, we painfully watched a segment of this documentary until we could no longer bear to continue. I'll let those of you curious enough to find a copy make up your own. How far man has come since!

The submarine hangar, referred to as the "diving saucer" and the Continental Shelf Station Two, or "Conshelf Two", the first ambitious attempt to create an environment in which men could live and work on the sea floor, are the two structures that remain, but now clearly just shells. The submarine hangar does still have a pocket of air in it, which we were able to test out during a photo session. The exterior of the diving saucer is now beautifully covered in new life and splashes of colour and really is very grand. This dive site is every bit worth the visit.

4. QITA EL BANNA

Date: 12.06.13
Depths: 37m
Highlight: 2 Tiger Sharks and a Hammerhead. Silky Shark as we ascended to the surface.

Qita el Banna is a coral tower, 29 miles north and rises to the surface from a depth of 300m. This location is exposed to the open sea and does have strong currents which are great for Hammerhead encounters in season as well as other sharks and Manta rays. Very few dive Qita el Banna though as it is not on the standard diving route, but Jérôme had speculated rumours going around that Tiger sharks had been spotted via a fish finder and it was Steven's incentive for us to go and check it out.

Hammerheads we had not expected to see at this time of year at all as they stay close to the thermoclines and are found at 25m in March and at 50m in June, a depth we were obviously not going to search for them at. But with Steven's clickety bottle, he managed to summon up two Tiger sharks from the dark depths and a Scalloped Hammerhead (*Sphyrna lewin*) which I completely missed in all the commotion of our first ever Tiger shark sighting! Who would have believed it! To sum up the luck on our side, we were the only dive trip out in June to have seen both species! All the other dive operators were talking about it after Jérôme sent word out and the news made it back to Christophe at Nomad Ocean Adventures in Dibba – Oman!

Tiger sharks are very rarely seen and have never been photographed underwater on Sudanese reefs before…until now! It is very exciting to be able to show Simone's photos!

During our surface interval, we were stalked by a beautiful but mischievous looking Silky (*Carcharhinus falciformis*). Another species to add to the shark check list.

5. MERLO

Date: 12.06.13
Depths: 34.6m
Highlight: Shoals of Trevally, massive Barracuda, Gray Reef Sharks and very friendly Turtle.

Merlo is a square shaped reef. On the northeast corner, there is a pinnacle that reaches down to a 25m plateau with a wall that drops down into the deep blue. This area attracts a lot of marine variety especially when there are strong currents.

Simone found a lovely male Hawksbill Sea turtle (*Eretmochelys imbricata*) to photograph, enclosed in an alcove on one of the walls perched on top of some whip coral. At first we thought he was stuck when attempting to get out, but once free from his nest of coral, he tagged along with us, swimming by our sides for a long part of the dive until we reached the rest of the group. After a little play with Steven, he gradually got bored and went off in another direction.

We saw some more Gray Reefs (*Carcharhinus amblyrhyncos*), always a very welcome sight, but we only saw this one very big Blackfin Barracuda (*Sphyrnaena qenie*) during all our dives. We did not see any others throughout as we had so expected. The shoals of Bigeye Trevally found closer to the surface are always great to film and photograph, especially when they play infront of the light dispersed through the water.

6. ANGAROSH

Date: 12.06.13
Depths: 40.8m
Highlight: 2 Silver Tip Sharks and several Gray Reef Sharks.

Angarosh translated means, "the mother of sharks". You first arrive at a 30m plateau and then you reach a plateau at 45-55m deep. This is the part where you are most likely to see Hammerheads and Silvertips. We saw two Silvertip sharks (*Carcharinus albimarginatus*) and several Gray Reefs.

The Safety stop on this dive is lovely as there is a small inlet of crystal clear water, covered in beds of soft coral and anemones full of Red Sea Anemonefish.

7. ANGAROSH (Southern Plateau)

Date: 13.06.13
Depths: 40.4m
Highlight: 2 Hammerhead Sharks, Gray Reefs, Silver Tips, White Tips and small Turtle. Risso Dolphins at the surface.

This was an epic dive with regards to the number of different species we got to see in one dive! Angarosh leaves no room for disappointment!

It's also nice to find another species of dolphins once up at the surface. The Risso is very timid compared to the Spinner dolphins and they did not let us get close enough for photos.

8. ANGAROSH (Southern Plateau)

Date: 13.06.13
Depths: 36.4m
Highlight: None, we had headed in opposite directions from Steven who had gone in before us and we missed out on his shark encounters. It does happen every now and then.

MESHARIFA

After our second dive of the day, we went on to Mesharifa where Manta rays are known to gather to mate from August to November as there are no currents. We had no such luck in seeing any, but we did get to go on to dry land for a bit and run our toes through the sand bar and see the different bird species nesting

there. The reef of Mesharifa is 800m long and mainly orientated in northern direction, but we did not dive here. Snorkeling the area off the sand bar is really nice as it's very shallow and makes a nice change to see all the little life within all the hard coral.

Simone also got a fun shot in from the yacht's mast to give a little perspective on our surroundings. One must not fear heights in order to attempt getting up there as you really do get up very high, pulleyed up by what looks to be like an oversized baby's swing seat. You can see his photo result on page 40.

9. QITA EL BANNA
Date: 14.06.13
Depths: 38.6m
Highlight: Tiger Shark

Back to Qita el Banna and on the first dive we are met with a Tiger shark! Beautiful speciman, but I have to say, this was my dive to hate. The current was very strong on this one and for reasons still unknown to us, we dove against it.

10. QITA EL BANNA
Date: 14.06.13
Depths: 41.8m
Highlight: 4 Tiger Sharks, 2 Hammerheads and a Silky.

How is this not another epic dive? Not one, two or three, but four Tiger sharks and two Hammerheads on top of a Silky! Our reputation for shark spotting is growing within the diving community here. I dare say we have surpassed our luck of spotting Tigers and Hammers!

11. SANGANEB SOUTH
Date: 15.06.13
Depths: 45.3m
Highlight: 4 Hammerheads, Bumphead Parrotfish, shoals of Bigeye Trevally and Black Snappers to finish.

The Sanganeb reef lies 14 miles northeast of Port Sudan. This is a very popular site for divers and the most sought out part is the southwestern point. There is a plateau down at 30 meters full of life and colour. Further below the plateau where the current flows, there are chances of seeing Scalloped Hammerheads here and we got to see and spend time with 4 of them! We then stayed up closer to the surface for a good time on this dive photographing with Bumphead Parrotfish and shoals of Bigeye Trevally and Snappers. Golden Trevally hang out solo, closer to 5m. It's a beautiful site.

SANGANEB LIGHT HOUSE
After our first dive of the day and a hearty breakfast, we made another land stop, this time to the Sanganeb Light House which is 15 miles away from Port Sudan. The lighthouse was built in 1906 by the British to signal to passing ships of the dangerous reef as at that time, Sudan was protectorate of the British Empire. It had initially been a metal pyramid 55m high, then the metal tower was replaced by the present concrete one.

There was a school visit on during our arrival, but I don't think you are often going to see many visitors here as it is only accessible by boat. This is worth the visit for the 360° view you get from the top. Be mentally prepared to climb the 260 steps of the spiral staircase up to the top, it's a sweaty climb.

12. UMBRIA – Port Sudan
Date: 15.06.13
Depths: 26.1m
Highlight: The entire wreck is awesome and has a reputation for being one of the best in the world!

The Umbria is an absolutely awesome wreck to dive! She measures 153m long which is a lot bigger in comparison to her competitor, the Thistlegorm (128m). The cargo ship was built in 1911 and could carry 2,000 passengers and 9,000 tons of cargo. The ship sank as a result to the Umbria's Italian skipper, Captain Lorenzo Muiesan, scuttling the ship to avoid it falling into the hands of the British who were stationed in Port Sudan. Italy had just declared war and on the 10th of June 1940, the crew sunk the Umbria just outside Port Sudan by the Windgate Reef to avoid the enemy seizing their explosive cargo and using it against their country. She lies on her portside with the deepest depths being at 27m at the bow and stern and rises to 5m around the bridge area.

The cargo holds are easily accessible and in addition to all the munitions onboard, divers can see storage jars, wine bottles, cement bags, Fiat cars, pizza ovens and rolls of electrical cables. This wreck is in great condition and we only hope for it to stay that way. There is so much to explore in and around this wreck and the exterior is covered in soft coral making it a must for photographers.

13. UMBRIA – Port Sudan
Date: 15.06.13
Depths: 12m
Highlight: Night dive.

First night dive of the trip. Lots of sleeping Parrotfish about. This was also the first time we came into contact with other divers.

14. UMBRIA – Port Sudan
Date: 16.06.13
Depths: 27m
Highlight: Penetration dive

As with all wreck dives, make sure you have done a speciality course to give you the basics and understanding of how to go about diving a wreck as technique can be slightly different and make sure to dive this one with someone who knows it as it is huge. The Umbria has had one fatality a year due to solo divers going

in and not finding their way out. Never enter a wreck alone and/or without a torch, it only takes a second for something to go wrong. And always carry a second torch as a spare, you never know when you may need one.

DIVING CONCLUSION

Sudan's Red Sea was every bit, if not more than what we had anticipated, certainly in regards to what we could see during the month we had gone in to dive it. The reefs are so colourful, beautiful and serene and clearly untouched by man's selfish destruction. We encountered healthy sharks on all our dives and the number of different species that can be seen is wonderful. Dugongs are further still, so probably a trip with an extra week in will need to be made in order to attempt seeing them.

The Umbria is every bit worthwhile diving. Remember to take only pictures and leave only bubbles behind. Continue to allow others to be able to see all the cargo still left inside, it really does make it that more special to have all the history in place. I'm talking about the bullets, glass bottles and jars, etc, certainly don't pick up any of the explosives!

A GUIDED TOUR OF PORT SUDAN

You cannot come all the way to Port Sudan and not get a little guided tour of the town.

When Abdallah is not manning his hours on No Stress, he is living his life in his home town which is Port Sudan itself. There he runs a Tuc Tuc driving service and we got the chauffeur run tour with the man himself.

Our first stop was to the fish market and boat yard. The fish market is very different from that of the UAE's ones and there is a lot of hussle and bussle going on. The animation here is very vivid and fish are gutted and cleaned out on the spot with bits flying everywhere. If you don't like fishy smells, scales and guts flying at you then probably not the place for you. The boat yard really is just that.

Our next stop was over to see the vegetable market. There are two. One is the traditional outdoor market where they serve Sudanese Coffee if you fancy trying it (we politely declined) and the other is inside a giant refrigerator. Steven explained that people actually paid to spend a certain amount of time in there to cool off from the hot summer heat. The men working in there had obviously hit the jack pot in obtaining that job, receiving free airconditioning all year round. A luxury we take for granted.

Depending on how you like to plan your diving holidays, whether it be a very small group of 5-6 divers amidst a sailing boat or that in the company of 12 divers aboard a larger vessel, then we have another operator you can choose from. Le Baron Noir has been chartering dive trips in Sudan for the past 20 years.


EDA DIVERS
NO STRESS
LIVE SLOW

NO STRESS – Jérôme Émilio
TEL: +249 12 966 7520
EMAIL: jerome@divenostress.com
FACEBOOK: NS Exploring Sudan
www.divenostress.com

The sail boat provides two double bed cabins, 3 bunks and two bathrooms. There are flat screen TV's with DVD players in both cabins and in the galley/saloon, a satellite system and underwater cameras hooked up to both ends of the hull that are linked to the TV's. The boat is solar paneled, airconditioned, has a washing machine and dryer and has a desalination unit onboard as fresh water is hard to come by when you're out at sea. The boat also has two compressors on board for the 12 and 15L diving cylinders and the diving is done from a 5m Zodiac so you need to be quite fit to haul yourself into it.

No Stress runs dive trips in Sudan from February to June and goes the distance to Merlo, Angarosh, Abington, Mesharifa or to the unexplored south in your weekly expedition. It is best to make bookings as early as possible to ensure your place aboard.

LE BARON NOIR – Franck Humbert
EMAIL: info-lebaronnoir@wanadoo.fr
www.lebaronnoir.com
This motor yacht at 22.25m long and 6.10m wide, can accommodate up to 12 divers max and takes you to dive Umbria, Sanganeb and Shaab Rumi. There are two cabins in the front, both fitted with bunk beds and 4 cabins in the rear, two with single beds, one with double bed and one with double bed and a single bed; all cabins are ensuite and the boat is air conditioned. There is a large saloon area with TV with multi media centre and library and separate dining area. The deck has a sun lounging area and a tarp cover.

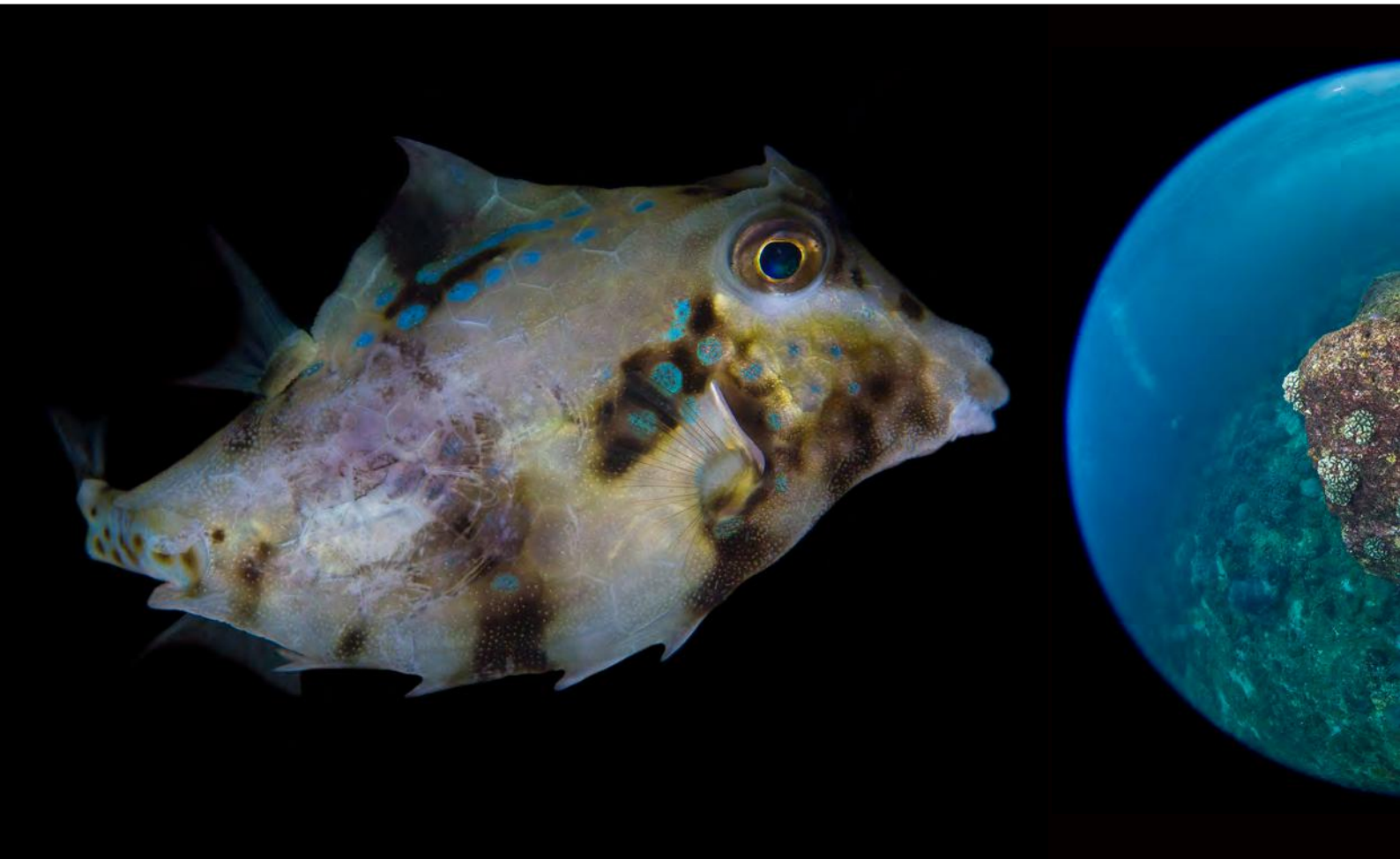
The boat is fitted with GPS, depths finder, radar, weather fax and a satellite phone. There are two instructors onboard and 4 Sudanese crew members. Nitrox 32 is available (they also offer Nitrox courses) and they can accommodate divers with Rebreathers. 12L aluminium tanks are found on the diving platform, it is possible to rent 15L tanks on request. The boat has two Zodiacs, 2 compressors and oxygen onboard.

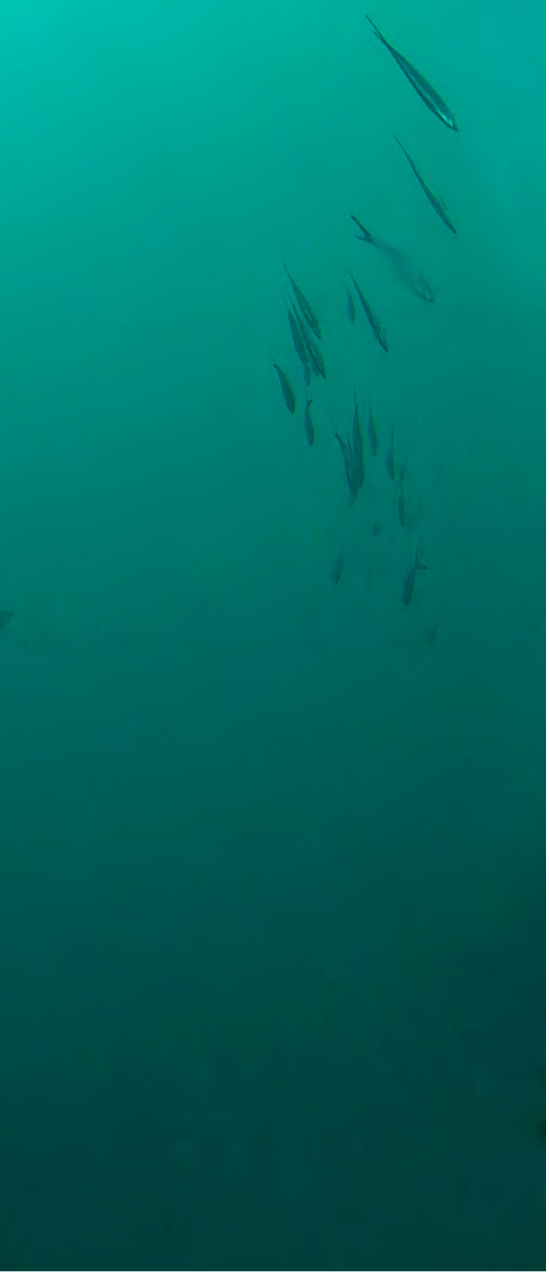
NOTE: Photos on pages 32-40 all relate to this article and show photos from some of the dives, the Umbria and No Stress.

WHO SAID AUGUST WAS TOO HOT?

FEATURE **ALLY LANDES** PHOTOGRAPHY **SIMONE CAPRODOSSI**

We couldn't believe it was August as we spent the entire part of our two days out on deck enjoying the fresh air when we weren't in the water diving the lovely cool waters of the Musandam!





EID MUBARAK

In celebration of 5 days off for August's Eid this year, an Al Marsa livaboard weekend trip away was placed on order for 4 dive buddies in search of some outdoor time and relaxation with a destination not too far away from home. Al Marsa put out some great deals for the hot summer months that we just couldn't ignore them. Knowing full well that the Al Marsa dhows are equipped with interior air conditioning, we did not shy away from the thought of August being the hottest month of the year. In actual fact, we couldn't believe it was August as we spent the entire part of our two days out on deck enjoying the fresh air when we weren't in the water diving the lovely cool waters of the Musandam!

AL MARSA MUSANDAM BLUE DHOW

We boarded the blue dhow from Dibba Port on the evening of the 8th of August and met our other 3 dive companions and the 5 Al Marsa crew members amidst a very overcast sky, but with a very pleasant air temperature. Robert our dive guide informed us that we would be eating dinner anchored at the port as the seas were a little rough and it would otherwise be too long a time to wait to eat. Happily obliged to follow the team's advice, we settled our things into our cabins and set up our camera equipment, sorted out the dive gear and then went up on the top deck to tuck into the chef's choices of our first meal onboard.

The chef's of Al Marsa's dhows always make sure you never go hungry and there is always enough selection of different dishes to choose from. If you don't like fish, there will also be a chicken or beef dish and there is always a vegetarian option for those following a vegetarian diet. Don't overeat though, as you will always get brought snacks and cake inbetween meals. Tea and coffee is always available in the saloon, along with a bowl of fresh fruit and biscuits. And if there are any special food requirements, let them know and Al Marsa will arrange it for you.

The seas were in fact a little rough on our way to Sheesa, but not at all unpleasant. The sun loungers up on the top deck are of great comfort and with the cool air blowing over us, we were rocked to sleep under the star lit sky and awoken a little later to make our way down to our cabins to finish the night due to being cold. The temperatures were so pleasant that Anneleen and myself had no need to use the AC in our room at all.

Our first dive on our trip's itinerary was to Ras Khaysah at 7am. The viz was around 15m and the best had of all 6 dives, but by no means did the other 5 dive visibilities decline our diving pleasures. Our second dive was to Ras Ahrous, our third to Ras Dillah and our fourth (night) dive was at Khawr Qabal. By the way, little warning for night divers: watch out for sea urchins! Always a throbbing experience if you get urched! Water temperatures started from 28°C and dropped to 26°C on our last dive of the day. Needless to say, I could have dived in a 5mm wetsuit and been more comfortable than my 3mm. Two of our other dive companions were happier in shorts and T-shirt, so it really does depend on what you are used to and whether or not you are a little mad!

The following morning, we had a lovely lie in and planned our dive for 8am at the wonderful dive site that is, "Octopus Rock". This has been and always will be my favourite dive site in the Musandam. Whether the visibility is clear or not, you have to be very unlucky to have a bad dive at this particular site. The amount of marine life and the colour here is unbelievable and always buzzing. The minute you descend below the surface's layer you are confronted with a highway of dashing fusiliers and the Red tooth triggerfish are absolutely everywhere you turn. The topography of this area is so beautiful, it is a must dive. Further along to the other side, we went over to visit with the 3 resident sea horses to get some photos of their progress and then continued on with visiting and photographing the vast and varied marine population that can be found here. A magical dive every time.

For our final dive of the trip, we headed over to Lima Rock. This dive turned out to be a fantastic drift dive and chillier than the rest as there were a few thermoclines. As Simone and I drifted along the wall a little behind the rest of the group, we were suddenly curtained by hundreds of batfish. It was a beautiful sight and one I had never seen in such large numbers before. They had been up against the sunlight so Simone didn't get the shot he had hoped for and I was so mesmerised by it all, I was too late to film it. It was a great moment in time and one I will remember from that part of the dive. To finish it all off, after having passed a garden of incredibly healthy yellow Teddy bear coral, Robert points out to a shadow coming in towards us during our safety stop. A beautiful juvenile male Whale shark comes sweeping in past us ever so gracefully and at a leisurely pace, allowing David to get some ID shots for Sharkwatch Arabia. If that's not the perfect ending to a perfect diving weekend, then I don't know what is. By the way, another little warning for drift divers: watch out for sea urchins!

After a thoroughly enjoyable weekend of dives, it was time to hose down the dive gear and leave it out to dry for the remainder of the journey back to port. The last lunch was all ready and waiting to accompany each story reminisced and then Chef comes up with a silver platter of Danette's for dessert! Nice touch!

Once everything was packed away, the anchor was reeled in and the blue dhow began it's voyage toward Dibba Port and it was snooze time during the 3 hour trip back – each on their sun lounger, with the sun shining down and the wind in our faces. Who said August was too hot?

SHARKWATCH ARABIA

If you get any whale shark photos or film footage, then report your sightings to www.sharkwatcharabia.com. Sharkwatch Arabia is a database that aims to collect sightings on whale sharks throughout the region. The initiative was started as a tool to collect information on shark abundance and movements in the region. The information collected will be used in David's personal Ph.D. project that is investigating the ecology of whale sharks in the Arabian Gulf and Gulf of Oman.

BORDER & VISA

Make sure to go straight to the coastal border in Dibba as the first border at the roundabout now turns you away and sends you there, this saves you time rather than queuing up to have to make a u-turn. And don't forget to print out the visa that Al Marsa emails you after you have sent them your passport and residency visa copies. It's all smooth sailing from there.

TIP IF YOU GET URCHED

As we discovered through one of the Al Marsa crew (due to personal experience – having been urched under both feet simultaneously), the best thing to do if you ever find yourself with a new pin collection of sea urchin spines amongst your person, then get yourself some warm water full of salt and bathe your targeted area for a while. The throbbing soon subsides and you can carry on as if nothing had happened. Tried and tested…twice!

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* Check out Al Marsa Musandam's article on page 10 in the NEWS section for further details on their the livaboards.

IN THE BLUE
WITH THE BLUE SHARK

FEATURE AND PHOTOGRAPHY **PHILIPPE LECOMTE**

As soon as we had jumped into the water, I started to search for the sharks. And then I saw one. Swimming motionless, its beautiful color making it seem almost invisible against the blue backdrop.

This summer I realized one of my dream dives, the Azores in Portugal, 1500kms west of Lisbon. The Azores, is a group of 9 islands found in the middle of the Atlantic Ocean. They were discovered during 1427 by Diogo de Silves. This group of islands is volcanic and has a very rich aquatic life. The Azores is the best place on earth to see and dive with the Blue shark, an amazing and graceful species. Our destination was to Faial Island, one of the 9 islands of the archipelago.

In order to see Blue sharks, my brother and I decided to contact Norberto, the best man recommended on the island that knows when and where to see them. The place with the best chance to see these sharks is the Azores Bank, 25 miles offshore of Horta, further south. So we booked our dates and were scheduled aboard a catamaran with 6 free divers and 4 other divers for this new adventure.

Two cool boxes were prepped for bait, full of blood and frozen mackerel. On the way to the bank, dolphins, petrels and other sea birds crossed our way along the journey. An hour and a half later, the boat stopped in the middle of the Atlantic Ocean and the crew began to prepare the bait by pouring some blood into the water and throwing a plastic tank full of mackerel in also. Less than 3 minutes after, 3 Blue sharks started turning around our boat. Everybody on board was hooked and the crew shouted out, "let's go for some fun".

My brother and I did our last equipment check, grabbed the GoPro and camera with the wide angle lens and jumped into the blue.

We had 200 meters below us. This is where the Blue shark gets its name. They live far from the coast, deep in the depths of the blue,

hunting and eating calamari and other small fish. We and the six free divers were the first group in the water, following by the 4 divers a few minutes later.

As soon as we had jumped into the water, I started to search for the sharks. And then I saw one. Swimming motionless, its beautiful color making it seem almost invisible against the blue backdrop. It came in from the left then turned 180 degrees within a second and then descended 10 metres. Coming back up by the right and brushing past our legs. This shark showed no aggression toward the divers and freedivers. My camera did not get a break during the first two hours. After that, my memory card was full and I was forced to get out and change it over to a new one.

After carefully opening up the housing and changing the memory card, I was quickly back in the water with 3 Blue sharks swimming around us. Freediving with Blue sharks is the best way to approach them when in the best conditions. Doing a dive at 5 meters also means that you get the best chance to see them turn around you without scaring them off with the bubbles from the regulator.

During this dance, 2 other smaller Blue sharks curiously came over from time to time, but quickly disappeared into the blue. It may have been because the other 3 were larger males.

My brother, one of the freedivers and I had stayed in the water swimming with them for up to 4 hours before we'd noticed the time and then decided it was time to get out. This has been one of the best days I've had with any shark. We were so happy and so amazed to have done this. The Blue shark is very beautiful and should be protected against the shark finning industry.

LEMBEH STRAITS

FEATURE AND PHOTOGRAPHY **GORDON T. SMITH**

After an absence of around 14 years, I found myself on a dive trip to Indonesia following an invitation to join a couple of friends from Oz who were traveling to Lembeh in Northern Sulawesi. The planned trip was based at Lembeh Resort, also known as Critters@ Lembeh on Lembeh Island itself.

Unfortunately, the short notice to arrange flights, the timing of my arrival and departure did not coincide with my friends and I ended up arriving two days before them and departing four days earlier, coupled with three days stopover in Singapore prior to flying to Manado.

The Singapore stopover was a pleasant break after a nine hour flight from Dubai (via Colombo), and it also allowed me to do some dive shop shopping as well as pick up my newly serviced D300 housing that I had sent to the Sea&Sea shop for replacing the strobe connection.

The flight from Singapore to Manado was delayed for 45 minutes due to a massive tropical downpour, and the flight itself took nearly 4 hours, so by the time the plane touched down I was already dismissing the thoughts of an afternoon shore dive to check out my gear.

Entry visa on arrival is IDR250,000 (USD25), payable in local currency or in USD/EUR/SIN$ …issue of the visa is not fast despite it involving three people. Next step is immigration and then pick up the bags. All trolleys had porters attached to them, and given that I needed one for all my dive gear which was split into two cases, it made my life easier, cost for tip was IDR2,000 (USD0.19). Too many zeros in this currency was confusing me!

The people from Lembeh Resort were waiting outside with smiles that never ceased during my entire stay and I shared a minibus with two other divers who were on the same flight who had traveled from Spain directly via Dubai to Singapore. The drive to the other side of that arm of Sulawesi took almost two hours, the roads are appalling and full of potholes. Once we reached Bitung, we transferred to a small boat at the police station jetty and ten minutes later arrived at Lembeh Resort.

There appeared to be dozens of staff all smiling waiting to greet us, and I was taken by a very charming young lady called Fitri to my room on the first floor of a four roomed building close to the main building. The bedrooms are spacious, plenty of storage space, plus a lockable safe and a huge bathroom/toilet at the back.

All the bags were carried up to the room by other staff, and after quickly freshening up, I was taken on a tour of the resort and given a video to watch on what was expected of regarding diving. There were the usual papers to sign too for the dives, plus checking Nitrox and cert cards, and then a quick aperitif before dinner.

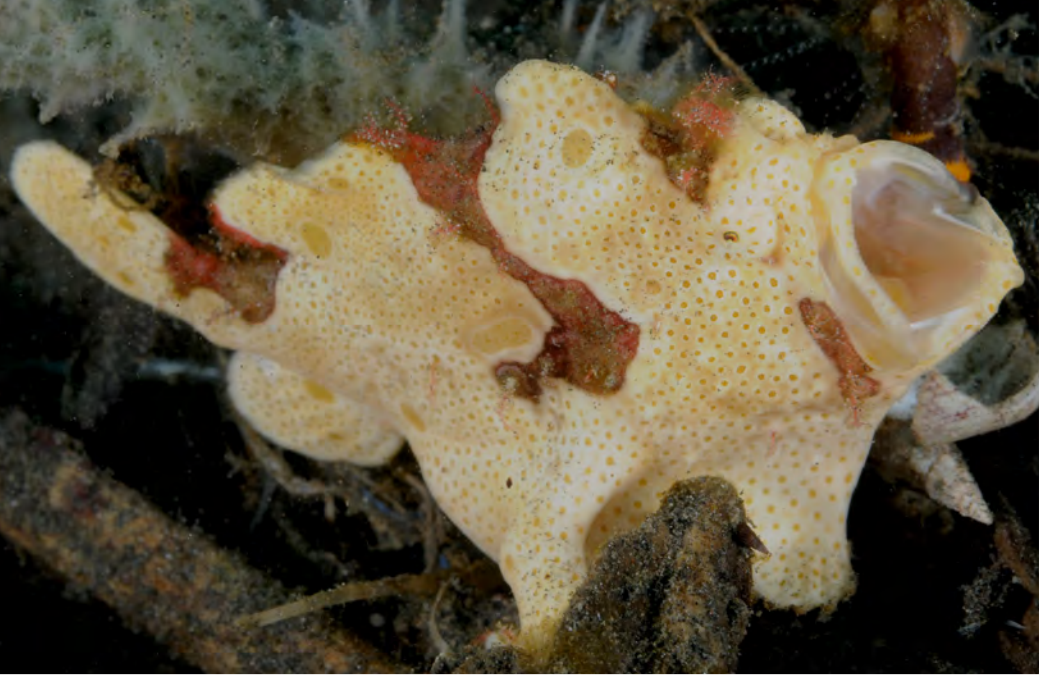
Breakfast and lunch are both buffet style, and in the evening, the dinner is a la carte with most meals offering a choice of both local and western style cuisine, to what I would say is a

reasonably high standard. I had no complaints whatsoever with the food quality during my entire stay, and the staff in that area are great.

The following day, I had arranged to do a house reef dive in order to check out my gear, a good choice as it happened as I had some issues with my newly serviced housing, which took three dives to resolve. There is also a resident photographer on site, Sasa, who is very helpful and ready to help with any technical problems.

Everyone is assigned a storage area for dive gear and it is labeled so that the boat crew can quickly locate it and take it on to the assigned boat. A whiteboard with all of the boats and who is on which one, along with dive locations is situated in this area. Mandarinfish dives and night dives are additional and have to be pre-booked, although you could do a night dive on the house reef for free.

On my first day, I hired a private guide and was assigned Agus, who proved to be pretty good at spotting critters. On the forms filled in



the previous day, there was a space for a wish list, and on the top I had put a Blue Ringed Octopus, which Agus found on my second dive with him. The dive resort IT coordinator, Lillian, had mentioned to him where she had seen a solar powered nudibranch and he found that too on the first dive, very impressive.

First impressions though of diving the house reef were not good as you have to wade through a lot of floating rubbish, but once under the water it was a better experience even though there still is a fair amount of plastic laying around, but that applies to many of the dive sites in Lembeh Straits.

There are three boat dives per day, at around 08:00, 10:45 and 14:30, dives are usually a minimum of 60 minutes, I certainly had none less than that, with my longest dive recorded at 83 minutes. Generally there is one guide to four divers, usually I was one of two photographers in the group, sometimes I was the only photographer, which was better for me.

There is coral as well as muck, but it is the muck diving that draws divers to this area and the strange critters that inhabit this environment. Although the nudibranch variety did not meet my expectations (could have been the time of year or just my luck!), there were plenty of other critters around that were a joy to watch and photograph. Certainly never seen so many frogfish in any area, although I never managed to spot the hairy one during my recent trip… next time.

On my last dive day, my friends and I hired our own boat and dive guide and split the cost three ways, which came to around USD58 each, well worth it in order to dive where we wanted to, plus get a bit more personal attention.

Certainly another destination on my "return to list" and although I was paying approximately $200 per day, this was a bargain considering that this included my diving (Nitrox), full board accommodation and a service that some five star hotels in Dubai would be hard pressed to match.


Putting The "Fun"
Back In Diving
Dragon
Divers
On Tour!!

THE RED SEA OR NOT THE RED SEA THAT IS THE QUESTION

FEATURE AND PHOTOGRAPHY **PAUL AND PAMELA WARWICK**

Divers have so many diving destinations within easy reach of the UAE, so why choose the Red Sea? As most seasoned divers know, the Red Sea is one of the best dive areas in the world, with warm (minimum 26°C), clear waters and an abundant marine life supported and nurtured by the geo-thermal heat, which also heavily influences the strength and direction of the currents. Sharm El Sheik, Marsa Al Salam, Dahab and Hurghada are all well known resorts which provide great shore diving and daily safaris to the more distant sites – but have you ever thought about a liveaboard – we did and it turned into a week long diving adventure.

The trip was organised by Mick Smith, the owner of Dragon Divers in Protaras, Cyprus who took over the Emperor Superior (Gold Class) from Emperor Divers for the week. You don't have to go through a dive centre as most companies will take individual bookings directly or through an active travel agent. Why Emperor and why Dragon Divers?

- Well Dragon Divers because Pamela and I continued our training up to Master Scuba Diver (MSD) with Mick and I started my PADI professional training with him. We have lots of friends still in Cyprus who were on the trip. They also run a Red Sea trip annually.
- There are lots of liveaboard companies operating from the Red Sea, providing more or less the same itineraries. Bottom line is, Emperor gave us the best deal on the itinerary which we were able to select because we had booked the entire boat. We received a fantastic quality of service.

Our boat was large (38 metres), well laid out with wet and dry areas and masses of space on the dive deck and dive platform as well as two supporting Zodiacs. The cabins were spacious and twins in general, although a few of our single brethrens had to endure bunks, which is great except if you are in the top bunk and the boat is pitching, rolling and yawing all at the same time, which it did on a number of occasions during our trip!

24 merry souls assembled in Hurghada on the Friday, arriving at the airport from different parts of the world and headed towards Emperor's Marina base at the Hilton. Some of us had never met before, but we all had one thing in common – a love of diving. As all our divers were PADI Advanced and BSAC Ocean Divers and above, we only had two guides, Lina and Ahmed, both of whom were excellent and allowed us to dive with relative freedom. Ahmed in particular was extremely knowledgeable about all the dive sites and despite some "dodgy" weather, ensured we dived safely every day of the trip. Enriched Air (NITROX) was free to anyone with the prerequisite qualifications and we would recommend it to anyone thinking of taking a trip with Emperor. Everyone on our trip was qualified and it certainly helped with tiredness when you were fitting in 3 or 4 dives a day. Don't forget your camera!

With final kit checks, a couple of spares and a good night's sleep, we set off on the Saturday morning of the itinerary to the "Famous Five", which although planned, would be subject to weather, sea conditions and of course the mandatory activity risk assessment. We were looking forward to getting up to 22 dives done over 6 days (flying times permitting).

THE DIVING

Our general route was to take us north towards the Sinai Peninsula and the Ras Al Mohamed National Marine Park before heading South to The Brothers in the open sea and then north again back to Hurghada.

DAY ONE. The first dive site was not far from Hurghada at Abu Al Nugar for a dive check before moving further north up to Bluff Point and The Barge.

DAY TWO. This was "Wreck Day", firstly on the Rosalie Moller a WWII wreck which was sunk almost at the same anchorage as the Thistlegorm, but two days later. Then the Kingston, a 19th Century Sail/Steamer which sunk in 1881 and then the famous Thistlegorm.

THISTLEGORM. No trip to the North Red Sea would be complete without a trip to the Thistlegorm. It's one of the top ten wreck dives in the world. Sitting between 17 and 34 metres, it is an easy recreational dive. We arrived in the early afternoon and managed to get an afternoon dive, a night dive and an early morning dive in and we were almost the only boat there – the day boats had left to get back to their home ports and we left before they arrived back the next day. Amazing is not quite adequate enough to describe the dive, literally going back in history 70+ years and imagining this cargo laden vessel with motorcycles, trucks, cars, spares, ammunition and a locomotive, (yes a locomotive) all destined for British troops in Alexandria during the Second World War and all still intact, including tyres and naval artillery shells the size of small cars.

DAY THREE. We went to the Ras Al Mohamed National Marine Park where we dived on reefs near Shark Island and Yolande Reef as well as

Anenome City. No night dives allowed in the Marine Parks, so it was a 12 hour overnight transit to The Brothers.

DAYS FOUR AND FIVE. These days were spent on Big Brother and Little Brother in the Ras Al Mohamed National Marine Park, mainly wall diving and looking into the blue for pelagic marine life where we saw Threshers, Hammerheads and reef sharks as well as some other big fish! In some difficult entry and exit conditions, (waves, surf, current, etc.) climbing back into the Zodiac proved to be somewhat challenging and entertaining.

THE BROTHERS – Two small outcrops of rock, 80 miles from the nearest piece of land in one of the busiest stretches of water in the world, supporting the lighthouse crew, (Big Brother) a mix of sea birds and the opportunity to observe pelagic marine life. Wall dives extraordinaire, dropping down to 180m and more, covered in marine growth and supporting a range of fish including some "big boys" and…the opportunity to look out into the blue in the hope of seeing sharks and rays. There is also a 120 year old wreck called the Numidia which lies on the northwest side of the island, almost vertical on the wall with the bow at 8 metres and the stern well below recreational depths.

Day Five was concluded with an afternoon transit to Shaab Sheer and a fantastic night dive.

DAY SIX. Took us to Panoramic Reef. The week's diving finished off on a gentle note, with two reef dives on a plateau on which we saw giant morays, barracuda, turtles and a huge Napoleon Wrasse as well as the customary candidates such as Triggerfish, Angel fish Soldierfish, Clown fish et al.

The trip does sound like it was all dive, dive, dive and there were early starts to fit in the morning dives before breakfast, but you didn't have to complete all the dives and many didn't. Also, there was lots of time between dives to relax, catch up on sleep, get some sun and exchange dive stories and photos. Still, we certainly could have done with another week ashore chilling afterwards.

Finally, a summary of our trip would not be complete without a toilet story – no not a smutty anecdote or embarrassing moment, although there were many of those. But every wreck we dived upon yielded porcelain bathroom items, the most impressive being the Kingston which seemed laden with them or alternatively, it is a dump site (excuse the pun) for Twyfords!

The Captain, Ahmed Saeed Ali Omran was a seasoned veteran who knew the entire Red Sea almost by heart. He was supported by a great crew who always had smiles on their faces and who were always willing to help. The hospitality crew headed up by Sameh Mohamed, were also fantastic and ensured we had everything we needed at any time. The chef, Atef was amazing and he and his assistant(s) conjured up excellent food from the tiniest of galleys and lots of it to provide the energy for the dives.

ENVIRONMENT AWARENESS

The key feature which stood out from the entire crew, apart from their absolute devotion to ensuring that everyone dived safely and had a good time, was their consistent and respectful treatment of all the dive sites. They all understood the "natural world gem" with which they had been entrusted, what it provided for them and their country and were resolute in their efforts to preserve this marine wonderland, whether it be in established marine parks or the open sea. Emperor's commitment to environmental protection and conservation was evident. They only used established moorings and minimised the impact of the vessel and its occupants on the marine environment at large. The PADI credo of "only take memories and pictures away and only leave bubbles behind", was certainly consistently applied and checked by the Egyptian Chamber of Diving and Water Sports (CDWS) in much the same way as EDA encourages the same behavior in the UAE. The oceans and seas are our inheritance from our forefathers and they are our gift to future generations – let us look after them and nurture the life they give and support.

TRAVEL TIPS

The Emperor website is very comprehensive and provides all you need to know, however:

- Make sure that you have your diving qualifications with you as Emperor will check.
- Make sure that you have adequate dive and personal travel insurance, again Emperor will check.
- Do take your own gear if you have it and don't forget your camera!
- Make sure that you take up the Nitrox option if available (only free on Platinum and Gold Class boats with Emperor Divers).
- Get your visa at Cairo Airport on arrival from one of the banks before hitting Immigration. Cost for single entry is US $15.00 per person, rather than AED270 per person in advance from the Egyptian Embassy here in the UAE.
- The Cairo Airport Transit train is easy to use to transfer between terminals and saves the hassle of getting a taxi in the melee outside.

So, would we recommend it and would we do it again? The answer to both is an unequivocal YES! We have already booked our next trip and looking forward to more diving adventures aboard a livaboard. So divers check out the websites, and even if you are not a seasoned diver or are not a diver at all – It is still a great trip.

SIMILAN ISLANDS & RICHELIEU ROCK THAILAND

FEATURE AND PHOTOGRAPHY **DIVERS DOWN**

Divers Down UAE has been running trips to this amazing dive destination since 2011 as part of their travel club.

The word 'Similan' in Malay means nine and there are nine islands in total covering an area of 128 square kilometres. This area was given Marine Reserve status in 1982.

As well as the nine islands, there are two others, Koh Bon and Koh Tachai which are geologically different from the other nine and are physically separate. These additional two islands also boast great dive sites and on Koh Bon Ridge, you are likely to see Mantas in season.

Just outside of the Similans Park, but within Surin National Park lies Richelieu Rock, a huge rock feature lying 12m under the surface and in the middle of nowhere. Richelieu is famous amongst all divers and is known for the Harlequin Shrimp that favour this particular site. Currents can be strong, however there are plenty of leeward walls in which to explore.

Some say Richelieu was named after a Thai Navy Captain who defeated the Spanish close to the area while another theory suggests that when Jacques-Yves Cousteau discovered the region, he claimed the rock looked like the cloak worn by Cardinal Richelieu. One thing is for sure though, The Similan Islands and Richelieu provide opportunities for experienced divers, photographers and beginners to tick many items off a diver's wish list.

It's no wonder then that Divers Down will be running another trip on November 29th 2013 to this beautiful area. As we are experienced diving all these sites, we send our staff to guide these trips and select the dive sites and tour leader, ensuring great diving for everyone.

Only 7 hours away from Dubai, with regular weekly flights and a favourable exchange rate, Thailand makes for a great dive vacation. There are a few spots left, so if you feel the ocean calling you, then contact us for further information.

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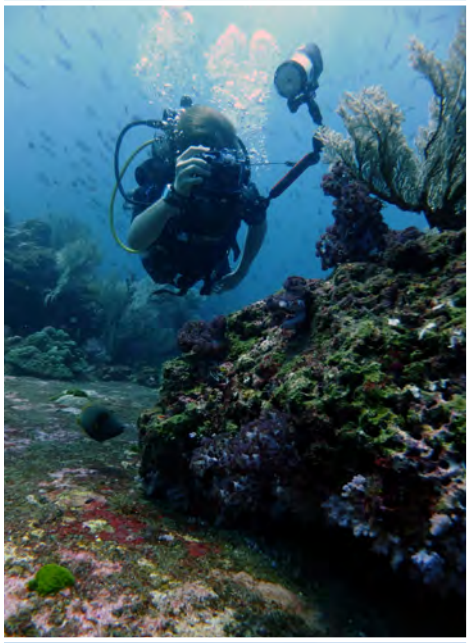

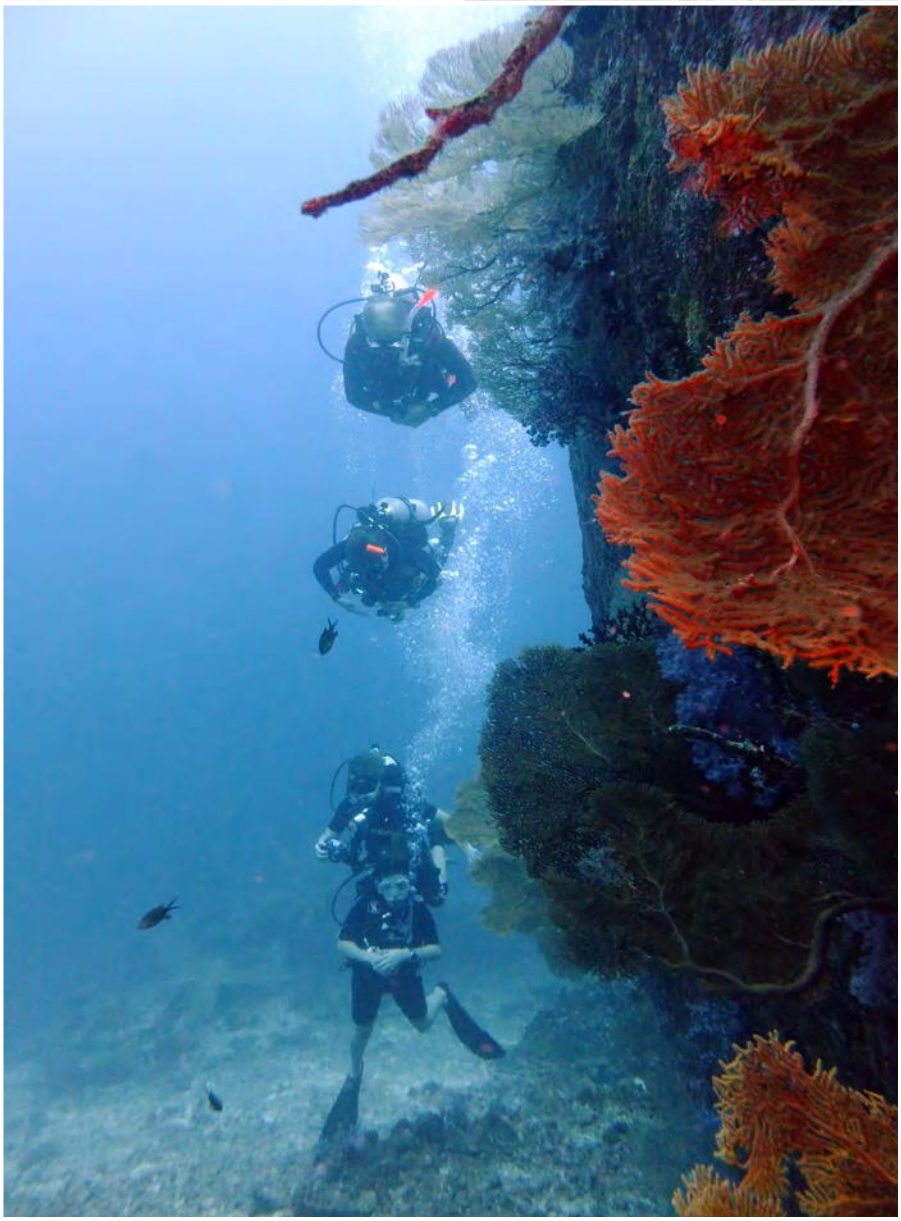

DECOMPRESSION ILLNESS IN A VEGETARIAN DIVER
A CASE REPORT

FEATURE **ROBERT A VAN HULST, MD, PHD** AND **WIN VAN DER KAMP, MD, PHD**

A 36-year-old Caucasian male dive instructor made one dive for 60 minutes at 18m and a second dive for 52 minutes at a maximum depth of 21m, with a surface interval of 2 hours. His dive computer gave a decompression stop for 8 minutes at a depth of 3m, which he accordingly made.

About 45 minutes after the dive, he felt tingling in his feet and left hand, weakness in his legs, pain in the elbow of the left arm and tiredness. During transfer to the hyperbaric chamber he breathed 100% oxygen and rehydrated himself by drinking 500ml of water.

On his arrival at the hyperbaric chamber 6 hours later, he was well orientated with normal speech, pupil reaction and a cardiopulmonary examination. The neurological examination was normal for cranial nerves, low reflexes in both arms, no reflexes in his legs, normal strength in arms and legs, abnormal sensory aspects for vibration and propriocepsis in his legs. Coordination was normal.

The patient was treated with a USN Table 6 and 4 daily HBO2 sessions (2.4 bar, 90 mins). His symptoms gradually improved during the treatment tables, but inbetween there was a relapse of his sensory symptoms and weakness of his lower legs. On Day 4 of his treatment, we heard about his vegetarian nutrition, so we performed additional hematological tests and found abnormal values, suggesting macrocytic anemia with a vitamin B12 concentration of 100 pmol/l (normal range 165-835), folic acid 10.9 nmol (9.2-38), iron saturation percentage 7% (25-50), serum-iron 4 µmol/l (12-30), ferritine 108 µg/l (50-300). The Schilling test performed to exclude malabsorption was negative. 1000 µg cyanocobalamin was administered intramuscular for 5 days, then weekly in the first month and monthly for 3 months. The patient was completely recovered within 4 weeks and was prescribed daily multivitamin tablets, including B12. Because of his career as a sport/diving instructor, we also screened him for PFO by TEE, which showed no shunt. His blood values restored after 4 months, and he resumed diving after 6 months.

DISCUSSION

After reviewing the medical literature, we believe this is the first published case of a vegetarian diver presenting a vitamin B12 deficiency in combination with DCS.

Vitamin B12 (cyanocobalamin) is abundant in meat, fish and most animal byproducts. However, strict vegetarians seldom develop a clinical deficiency, as only 2.0-5.0mcg (microgram) of vitamin B12 is needed a day and an adequate amount is available in legumes. The most common cause of B12 deficiency is malabsorption due to defective intrinsic factor production.

Vitamin B12 deficiency affects the spinal cord, brain, optic nerves and peripheral nerves. The onset of symptoms is gradual, with general weakness and paresthesias (tingling, "pins and needles" feelings etc). As the illness progresses, the gait becomes unsteady and stiffness and weakness of the limbs (mainly the legs), develop. Initially, there may be no objective signs; later on, examination shows a disorder of the posterior and lateral columns of the spinal cord. Loss of the vibration sense is the most consistent sign, noticeable in the legs and often over the trunk; position sense is usually impaired. Loss of strength, changes in tendon reflexes and clonus affect the legs.

In divers, spinal DCS usually starts acutely within a couple of hours after surfacing with numbness, weakness in the legs, progressing with sensory and motor deficits: symptoms suggesting involvement of the spinal cord with a predominance of the dorsal and lateral columns. In histopathological studies, both DCS and vitamin B12 deficiency present spongi changes and foci of myelin and axon destruction in the white matter of the spinal cord. The most affected regions are the posterior columns in thoracic and cervical levels, but there are also changes in the lateral columns. The pathological findings of the peripheral nervous system are those of axonal degeneration and significant demyelination. In acute DCS, bubbles cause vascular obstruction in the arterial and venous system and liberation of gas bubbles in white matter of the spinal cord with spongiosis, axonal swelling and myelin degeneration.

Monkeys kept on a vitamin B12 deficient diet for a long period develop neuropathological changes indistinguishable from those in humans, in a time comparable to the time required to deplete the vitamin B12 stores of patients with pernicious anemia. In this diver,

the Shilling test excluded the pernicious anemia.

The most immediate goal in the treatment of B12 deficiency is to saturate body stores and prevent relapse for as long as possible. The advice is to administer 12 doses of 1mg of vitamin B12 weekly as initial therapy, then follow a schedule of 1mg of vitamin B12 every 3 months. All neurological symptoms and signs improve mostly in the first 3-6 months of therapy and then, slowly, during the ensuing year or even longer.

We concluded that the diver in this case had DCS based on the acute onset of symptoms after a provocative decompression dive; he was at risk because of a vulnerable spinal cord due to a long-lasting vitamin B12 deficiency. We also suspect that some of his symptoms during post-treatment were manifestations of a B12 deficiency enhanced by DCS. However, we do not believe that vegetarians in general are at risk for DCS, but they should be aware of their nutritional status, particularly regarding vitamin B12.

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IN THE CHAMBER

HOW DOES A 60 METER DIVE ON AIR REALLY FEEL?

FEATURE AND PHOTOGRAPHY **CHRISTIAN SKAUGE**

The depth gauge reads 60.2 meters, and I sound like Donald Duck. My fingers are so numb, they feel like they belong to someone else and I get disoriented just by turning my head – it just keeps spinning.

These are symptoms you are likely to get while diving if you venture too deep, or have the wrong gas in your tanks. It goes without saying that it would not be a good experience under water, not to mention downright dangerous. Luckily, we are not underwater, but in the safety of the decompression chamber at the Ullevål University Hospital in Oslo.

SAFE ENVIRONMENT

I have never dived to 60 meters, not on air or anything else – and I will not try to do so after this experience, except maybe on trimix. For those wanting to be a deep diver, a trip to a decompression chamber is certainly a wake-up call. If your body functions this badly at depth in a warm, safe environment – how will you handle things when it's cold, dark, bad visibility, there's a current and you're stressed? I for one do not want to find out.

For those who want to feel the tug of the deep, Oslo-based dive shop Dykkersport, hosts trips to the decompression chamber at the Ullevål University Hospital. I was surprised when I got there – the room was full of people and it took three turns in the chamber for everyone to experience the deep and the effects of nitrogen narcosis, high pressure and air.

LIFESAVING TREATMENT

The decompression chamber at Ullevål is operated by the local fire department, and three of their rescue divers were present to serve as "tenders" – the person responsible inside the chamber when it is under pressure. The chamber was established in 1981, and since then, around 50 treatments a year have been conducted. About half of these are different kinds of medical treatments on regular patients, and the rest are divers who have had some kind of accident – the bends or regular decompression sickness, DCS. Most of the time, divers are put in the chamber as a precaution, but sometimes it is serious and the treatment is lifesaving or at least very important to avoid serious consequences after an accident.

DRUNK AS A SKUNK

Our "dive" in the chamber is luckily just a fun experience, and no-one has to worry about DCS. There is a loud hiss as compressed air is pumped into the chamber, and pressure on the ears is sudden and persistent. Equalizing immediately becomes a necessity! The chamber operator takes us down to three meters to make sure everyone's sinuses are clear and up for the dive – and then we drop to 60 meters in just 2-3 minutes. It felt just like being on a rollercoaster and seeing the top of the track getting closer…knowing that there is


Photo by Christian Skauge

a drop on the other side. Exciting!

On the way down you can feel the nitrogen narcosis taking effect, but it is when you hit the bottom (so to speak) the effects of air and depth really hits you: it is hard to breathe air that is seven times denser than on the surface – it feels more like a thin liquid. When you wave your hand through the air you can actually feel the density! Initially I feel pretty good, but when I turn my head to look at the guy next to me it feels as it just keeps spinning. I am dizzy, off balance and completely unable to think straight. Boy, am I glad I'm not in the water!

The pressure also affects your vocal chords, and the moment you speak you sound just like Donald Duck. Laughter is quickly spreading in the chamber, resulting in even more laughter because it just sounds completely ridiculous. Still, we are trying to discuss how we're feeling – but even quite serious narcotic symptoms like numb fingers, dizziness and complete lack of coordination is lost in a cascade of cartoon-like laughter. We are completely wasted! The party goes on, and it doesn't take long before the classic Beatles tune "Yellow submarine" reverberates through the chamber.

WHEN IT'S SERIOUS

If a diver has had an accident and needs recompression, the depth is naturally shallower than 60 meters. A normal recompression treatment takes place at 18 meters depth, and can last anything from a few hours to several days of repeated treatment, depending on the situation. The atmosphere inside the chamber quickly grows moist, dense and very warm, and I can only imagine the stress a real patient must feel in addition to these nuisances.

I don't know if I would be scared to death or relieved if it was me in the chamber – maybe a little of both. I would be scared of the consequences of DCS, but relieved to be under treatment and taken care of by seasoned professionals. Anyway, it is not a situation I want to be in – or want anyone else to have to experience. I will definitely keep this in mind on future dives, especially when the devil of the deep is trying to lure me down for a visit into his kingdom.

SLOW DECOMPRESSION

After about five minutes on the bottom, the operator takes us back up to 18 meters depth. We're doing the ascent nine meters a minute, and the temperature is dropping sharply. The moisture in the air condenses in large clouds, and every surface inside the chamber is dripping with moisture.

The fun is over, and now we're paying the price for our five minutes in the deep. We are being decompressed in several stages on our way back to the surface – 5 minutes at 18 meters, 5 minutes at 15 meters, 5 minutes at 12 meters. We're waiting. Time passes slowly, and we're starting to feel normal again. Only at 12-15 meters depth does the last of the funny Donald Duck voice go away, and I'm glad we don't talk much on normal dives – I would have laughed my head off as soon as we passed below 20 meters.

The two longest decompression stops are done at 9 and 6 meters. We're doing a full 10 minutes at each depth, and both stops are done breathing pure oxygen from BIBS (Built-In Breathing System) masks hanging from the roof. This is not done to shorten the decompression time, but to increase safety.

POST-DIVE STOMACH FATIGUE

Finally, the decompression is over and we can stagger out of the somewhat cramped confines of the decompression chamber. All our stomachs are aching, but this is just from laughing so hard and has nothing to do with depth or decompression. It was a fun dive, and a good learning experience. I hope all of us got even more respect for depth and air after this.

As I'm leaving the hospital, an ambulance helicopter lands on the roof. Doctors and nurses are standing by, ready to deal with whatever has happened. This is serious, this is the real thing. I just hope it is not a dive accident.

DAN® DIVERS ALERT NETWORK EUROPE

UPCOMING EVENTS

REEF CHECK TRAINING

September (dates TBC)

CLEAN UP ARABIA

22 November – Abu Dhabi | 23 November – East Coast

INTERESTING LINKS AND RESOURCES

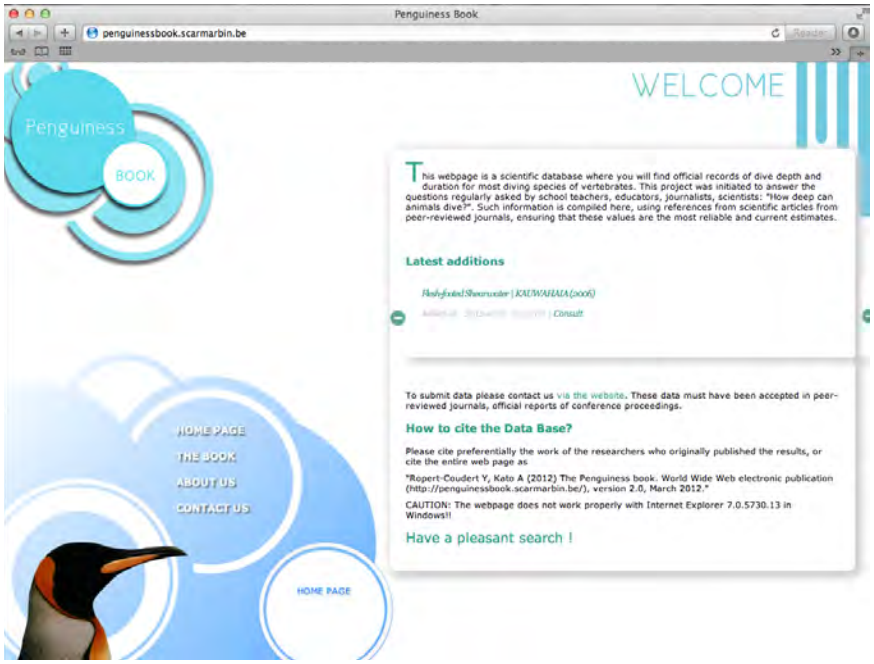
MARINE ANIMALS

Census of marine life.

- http://www.coml.org

A scientific database where you will find official records of dive depths and duration for most diving species of vertebrates.

- http://penguinessbook.scarmarbin.be



EDA
جمعية الإمارات للغوص
Emirates Diving Association

MISSION STATEMENT

To conserve, protect and restore the UAE marine resources by understanding and promoting the marine environment and promote environmental diving.

LEGISLATION

Emirates Diving Association (EDA) was established by a Federal Decree, No. (23) for the year 1995 article No. (21) on 23/02/1995 and chose Dubai as its base. The Decree stipulates the following responsibilities for EDA.

- To legislate and regulate all diving activities in the UAE.
- Ensure environmentally respectful diving practices in all EDA members.
- Promote and support the diving industry within the UAE by coordinating the efforts of the diving community.
- Promote diving safety in the commercial and recreational diving fields through standardization of practices.
- Promote and preserve historical aspects of diving within the gulf region and enhance environmental education to diving and non diving communities through EDA activities.

PUBLISHED BY

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PRINTED BY

Al Ghurair Printing & Publishing LLC

Direct flights
from Dubai to Port-Sudan
with FlyDubai

Photos Gilles Di Raimondo

The Sudanese Red Sea...

Inhabited islands, unexplored wrecks, uncharted reefs... Every live-aboard is an expedition like during the pioneer period, back in the 50's.

The adventure No Stress

THE BOAT

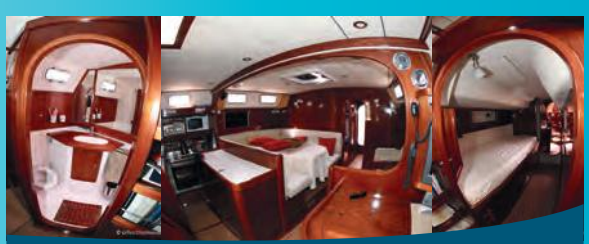
A luxury ketch with all comfort and modern technologies on board.
Especially designed and equipped for the practice of diving. Self-governing for long-run trip
Experienced captain and competent dive guide
Sudanese cook.

THE SITES

From the classic ones (Sanganeb, Shaa'b Rumi, wreck of the Umbria...) to the shark heaven of Angarosh, Abington and Merlo, the hardly dive archipelagos of the Suakins or even the virgin spots of the deep south... Sharks (many species including the famous hammerhead), manta rays, dugongs, turtles, dolphins and many more species are to be discovered.

THE DIFFERENCE

No schedule, no group. Just a handful of divers or explorers sailing to visit remote places, **rare spots and pristine reefs full of marine life.**
In total security.



General informations, specifications

- Web : facebook : NS Exploring Sudan
- Mail : contact@divenostress.com