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DIVERS FOR THE ENVIRONMENT

WWW.EMIRATESDIVING.COM | MAGAZINE | DECEMBER 2013 | VOLUME 9 | ISSUE 4

FINE DIVING IN LEMBEH'S CRITTER PARADISE

CLEAN UP ARABIA 2013 • A LIFE WITHOUT LIMITS • **REEF TO RESTAURANT** • KIDS SCUBA • **DIGITAL ONLINE 2014 CONTEST RULES** • OUR PLANET, OUR EARTH, OUR HOME

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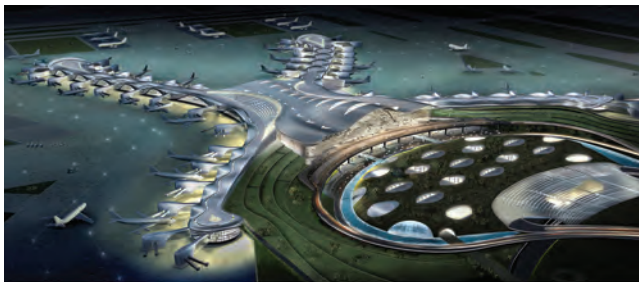
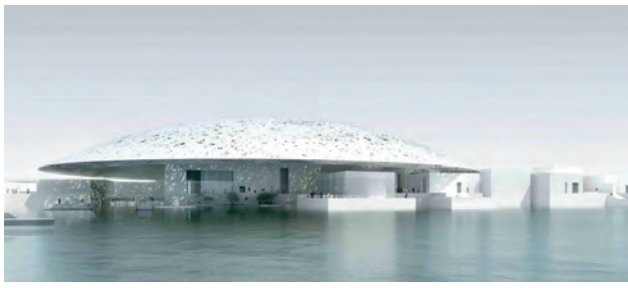

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EDA
جمعية الإمارات للغوص
Emirates Diving Association

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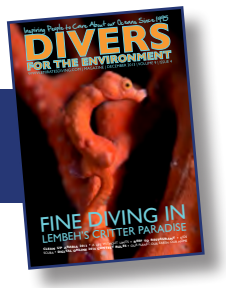
Please note that EDA's magazine, "Divers for the Environment" includes articles written by individuals whose opinions, whilst valid, may or may not represent that of EDA. It is hoped that the magazine can become a platform for individuals to voice their opinion on marine and diving related issues. You are welcome to submit an article for the next issue of "Divers for the Environment" released in March 2014. Send all articles, feedback or comments to: **magazine@emiratesdiving.com**

EDA COVER
PHOTO BY SIMONE CAPRODOSSI



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AGAIN, DIVERS ARE MAKING A DIFFERENCE

IBRAHIM N. AL-ZU'BI
EDA Executive Director

First of all, I want to wish everyone in the UAE a happy 42nd UAE National Day, and congratulate Dubai, the UAE and ourselves for winning EXPO 2020.

As I look back at all our events this year, from the rise in EDA volunteers, to all my discussions with the members and divers that I have sometimes randomly met while diving in the UAE and outside the UAE and reading the articles in this issue, the first thing that comes to my mind, is that divers are making a difference all over the world. I will try to summarize in this editorial some examples that I am sure you will read about in this issue.

I have no doubt that all divers want to protect and conserve the marine life, in simple words, we want to enjoy our dives and be responsible at the same time; without healthy corals or fish, dives would be boring! Our Reef Check Project is an excellent example of engaging divers to protect and study the marine life. EDA's marine biologist, Rita Bento has been busy diving with the Reef Check team, collecting data about our marine life in the UAE, she also made sure to share with us what other divers are doing in other parts of the world as part of our Reef Check Project coverage. We also make sure that we are updated with the latest scientific information about our marine environment. Our Projects Manager, Reema Al Abbas is sharing with us some of the things she learnt as part of the Arabian Gulf Workshop at the New York University in Abu Dhabi.

Making a difference goes beyond protecting the environment, although as you will read in this issue, our divers have been so busy organizing clean ups and awareness campaigns, I am very happy to see more activities for different stakeholders of the community such as the social movie nights at VOX cinemas in the UAE, cave expeditions in Zimbabwe, EDA's special coverage of the Kids Scuba Camp in Mabul/Sipadan in Malaysia, turtle awareness programmes championed by the Dubai Turtle Rehabilitation Programme which I have to say, how fantastic it was to share with the world that 562 turtles were rehabilitated!

The Disabled Divers Instructor's course in Dubai and the special coverage of EDA's dear friend Ernst Van Der Poll and his great work with disables divers in Costa Rica is great proof that diving is going beyond borders. Speaking of borders, I want to thank our members who shared their diving trip stories in Indonesia, Sudan, Reunion, Philippines, Maldives, Italy and Malta; what excellent passion for diving and marine life.

We are officially launching the Digital Online Underwater Photography and Film Competition 2014 guidelines in this issue. I want to wish everyone the best of luck in the competition, a big thanks to the judges and looking forward to seeing the amazing photos and footage.

Lastly but not least, I want to say a big thank you for a successful 18th Clean Up Arabia! We are grateful for the continuous support! Despite all the weather warnings this year, we had a fantastic turnout with great results. Thank you to our brilliant volunteers who always attend our events and give their time for the good of the environment. We were also very pleased to see so many new faces. We couldn't have done all this without all your hard work. A special thank you also goes to all our Clean Up Arabia 2013 sponsors; Arabtec – The Principle Sponsor, Coca Cola Company, Le Meridien Al Aqah, Dibba Municipality, Emirates National Oil Company (ENOC), Emirates NBD and our regular sponsor, Dubai Duty Free.

In Abu Dhabi, we would like to thank Environment Agency in Abu Dhabi (EAD), Al Mahara Dive Centre and GASCO and a very special thanks to the Clean Up Arabia Patron HH Sheikh Hazza Bin Hamdan Bin Zayed Al Nehyan and his brother, Sheikh Yas who joined our members in Abu Dhabi's clean up.

We would also like to thank Al Hamra Village who organized their clean up in Ras Al Khaima, The Al Fardan family who organized a dive clean up in Dubai, Nomad Ocean Adventures who coordinated the clean up dive in Oman, Qatar divers who organized the clean up in Doha and everyone else who decided to participate in Clean Up Arabia 2013!

Please read the results of all the rubbish collected during the clean up so you can be aware of what kind of waste we usually find underwater and on the beaches. You can also like us on our Facebook page as we will be updating it with Clean up photos and information. Become an EDA member to receive information about this event and our other future events!

I want to wish you all a Merry Christmas and a happy new year. I am definitely looking forward to 2014, which I'm sure will be as exciting, fun and rewarding as this year has been.

"The sea, the great unifier, is man's only hope. Now, as never before, the old phrase has a literal meaning: we are all in the same boat."
Oceanographer Jacques Yves Cousteau

EDA'S NOVEMBER MOVIE SCREENING WITH VOX CINEMAS

PLANET OCEAN

As part of our Clean Up Arabia 2013 campaign, we screened the powerful documentary, Planet Ocean, a 90 minute film directed by Yann Arthus-Bertrand and Michael Pitiot. in both Dubai and Abu Dhabi.

SYNOPSIS

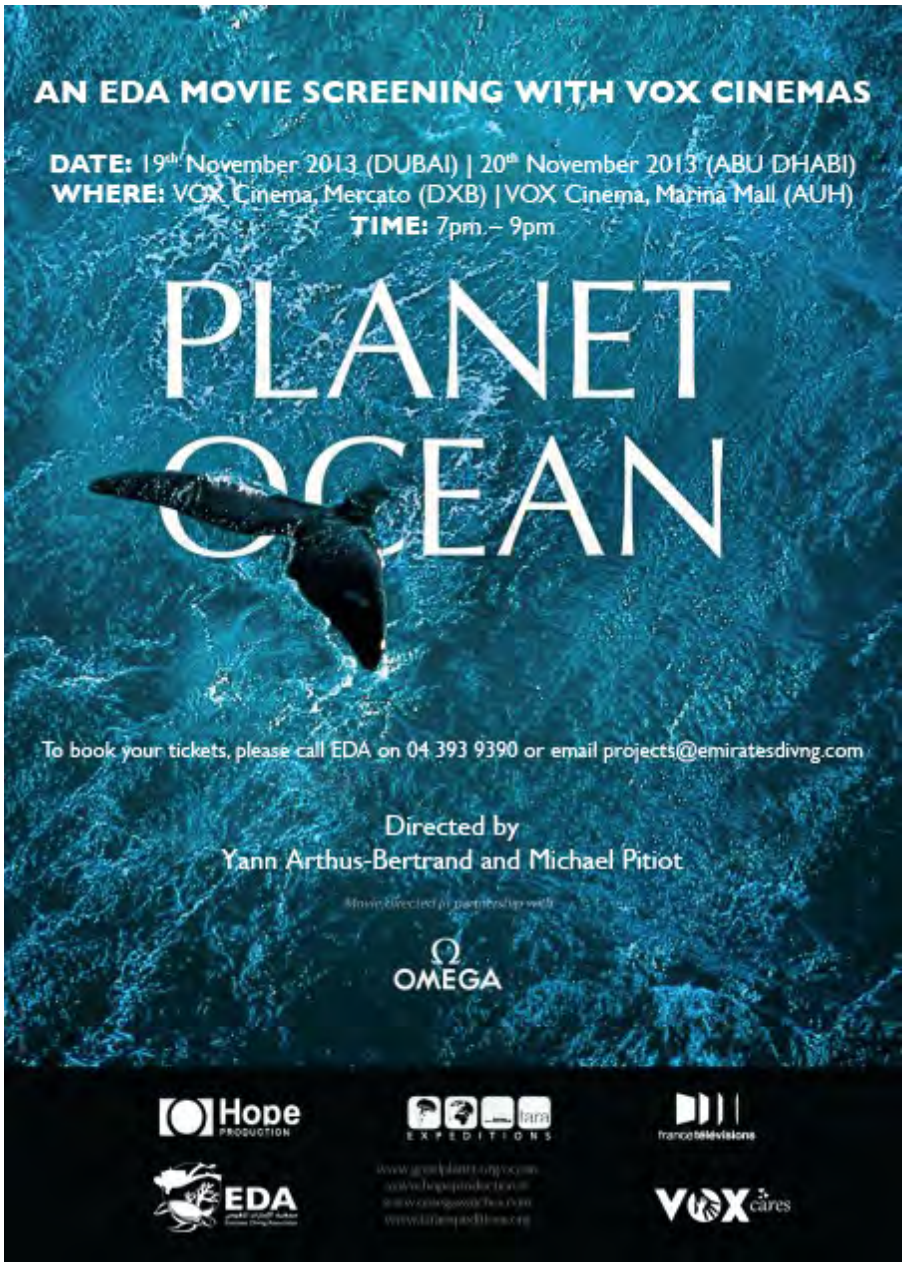
Can we imagine a film that would change the way people look at the Ocean? Can we explain simply, to everyone, the greatest natural mystery of our planet? And lastly, can we help our children believe in a better more sustainable world tomorrow?

This is a triple challenge of a new cinema adventure signed by Yann Arthus-Bertrand and editor-in-chief Michael Pitiot, who brings with him the scientific missions of TARA, a unique pool of researchers, oceanographers and biologists from several countries. Thanks to its astonishing photography, the film takes us on a magnificent and unprecedented journey into the heart of the least known regions of our planet.

The film narrates the most marvelous and also the most terrifying human experiences of our time. Filmed in extreme geographical conditions all over the globe, it describes the modern odyssey of people who go out to discover their blue planet.

This film is also a plea for humanity to respect the world in which we live.

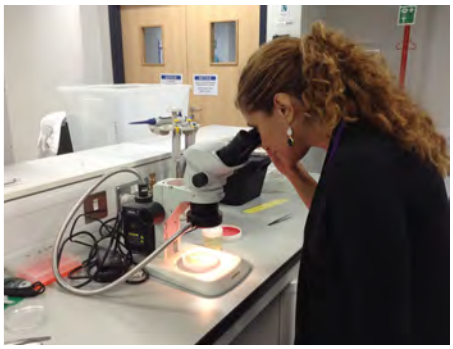
We would like to thank our Partner, VOX Cinemas for their continued support to host our movie nights and for offering the drinks and popcorn to our members. The Dubai screening was held on the 19th of November at VOX Cinemas, Mercato and the Abu Dhabi screening was held on the 20th of November at VOX Cinemas, Marina Mall.



CONSERVING CORAL REEFS IN THE ARABIAN GULF WORKSHOP

BY **REEMA AL ABBAS**





I was delighted to be invited to attend the Conserving Coral Reefs in the Arabian Gulf: A Capacity Building Workshop, which was organised by New York University – Abu Dhabi. The workshop took place in the Inter-Continental Hotel in Abu Dhabi from the 21st – 26th September 2013.

The workshop offered training in fundamental methods for surveying and monitoring coral reefs to a small group of GCC nationals from various Gulf countries who have active Reef Conservation interests. The training was given by a group of leading experts in Coral Reef Ecology who especially flew in for the one week workshop.

Various topics were covered; from Urchins to methods for Coral Reef Montitoring. The workshop had something for everyone, which was excellent as the attendees all came from different career backgrounds but were all connected to what the workshop offered.

ARRIVAL RECEPTION

Saturday 21st September

The evening before the workshop, there was an informal reception held at the hotel, where everyone had the opportunity to meet and mingle. There was a vast array of delicious canapes to nibble on whilst socialising at the same time. It was a great way to break the ice before the official workshop as I spoke to several of the presenters and participants and found out what they did, where they lived etc. It was an early night for most as we were starting early the next morning.

WORKSHOP CLASSROOM SESSION

Sunday 22nd September

The day started at 8.30am in one of the meeting rooms of the hotel. After the welcome coffee, everyone took a seat and the round of introductions began.

Dr John Burt began with the first presentation of the workshop by presenting 'Experimental Design for Baseline and Monitoring Surveys', which outlined how to survey, the objectives, data analysis, selecting your survey method and reporting the results.

Dr Burt's presentation was followed by Dr David Feary from the University of Technology – Sydney, whos presentation was all about Surveying Coral Reef fish communities. He asked questions such as why do we survey? He explained the various methods of surveying, such as transect lines and discussed proper identification of fish with the correct estimation of sizes (which is somewhat difficult underwater as everything is distorted!)

Dr Andrew Hoey, from James Cook University, followed with a presentation on Quantifying function of fish communities, which covered subjects on how every fish has a job like we do in our own lives, and how each depends on the other, so if one fish is removed, then there will be an imbalance in our underwater world.

Then our own fabulous Marine Biologist, Rita Bento spoke about Urchins as Bioengineers. She started by saying, not a lot of people give urchins the recognotion they deserve, which is true in a way. She spoke about the role of urchins in reefs, why we survey urchins, different urchins and why urchins are Bioengineers.

The session continued with a presentation by Dr Andrew Baird from James Cook University. His talk was all about Coral Identification. He asked 'What is a coral? He went on to explain the coral life cycle, coral identification, the structure of corals, etc.

There was a lot of information to take on at this point, but the presenters made their talks interesting by being engaging and interacting with the participants.

The next presentation was 'Methods for Coral Reefs Monitoring', presented by Dr Andrew Bauman from Nantang Technology University. This covered different ways to monitor coral reefs, why we monitor and data analysis of coral reef surveys.

Ed Smith from New York University and Ben Hume from the University of Southhampton both talked about data processing and analysis. This covered how to use a photoquadrat and how to process the photos after.

Dr Eli Meyer from Oregon State University and Dr Emily Howells from New York University spoke jointly about coral bleaching and how to measure bleaching.

Last but not least to end the long day, Dr Jorg Wiedenmann from the University of Southhampton UK, gave an interesting presentation on fluorescence analysis as a tool for coral reef monitoring. We noticed several postit notes around the room which he stuck up earlier, but the reason was revealed after his talk.

Dr Wiedenmann explained how, by using special equipment using the fluorescence technique, you can detect even the smallest of marine life.

After showing several picture examples, he switched off the lights and shone a torch covered with a special filter on the postit notes which turned them completely fluorescent.

He had some corals in a bucket of water which we were able to observe using goggles and the torch. This was a great way to end the classroom session!

After lunch we headed to a bus which took us to the Emirates Palace Marina where we collected our dive equipment for the next day.

The weather forecast didn't look too good, but we kept out fingers crossed as everybody was keen to get underwater to use the skills and surveys which the presenters spoke about. We all met for dinner afterwards where we had a chance to unwind after a long but interesting day.

FIELD SURVEY METHODS FOR CORALS AND CORAL REEF FISH

Monday 23rd September

Woke up early and after a light breakfast we headed to the Marina to get on the boat. The dive site we were heading to was Ras Ghanada.

The boat ride was quite long and very bumpy as it was quite windy. When we finally arrived at the dive site, we went in groups to give people the chance to finish the task before the next group began. We went in after about a 15 min wait. The visibility was not great, but we managed to count fish, and guess the size of some fish cutouts which were placed along the trasect line. We worked in groups of 3.

The second dive was about using the photquadrat. That thing is quite heavy, so it was a bit of a struggle to carry it, place it carefully down and snap a picture. We had to take a few pictures before the next person took over. They make it look so easy, but it wasn't!

The wind picked up after the second dive, so we headed back to the hotel, an even bumpier ride later, we reached the hotel where we had a chance to quickly rest before heading out again for a night dive. A few people joined the dive with the rest opting out. We were given filters to place over our masks and the special UV torches.

The weather was not on our side, however we made it safely down at the breakwater and quickly switched on our torches. The difference of seeing everything with and without the special equipment was phenomenal. I kept on sliding the filter on and off to see the difference. Fluorescent colours popped up everywhere, on rocks, on fish, corals etc. We were having so much fun that it was hard to finally make the ascent up. The waves were slamming us against the boat so we quickly boarded the boat and headed to the hotel for a well deserved rest.

MONITORING PROGRAM DESIGN

Tuesday 24th – Thursday 26th September

As the weather was not good for the next few days, the dives were cancelled and it was decided to carry on the sessions at the New York University CSE Labs.

The sessions included several presentations and a chance to ask the presenters questions as we were doing the practical work with our partners.

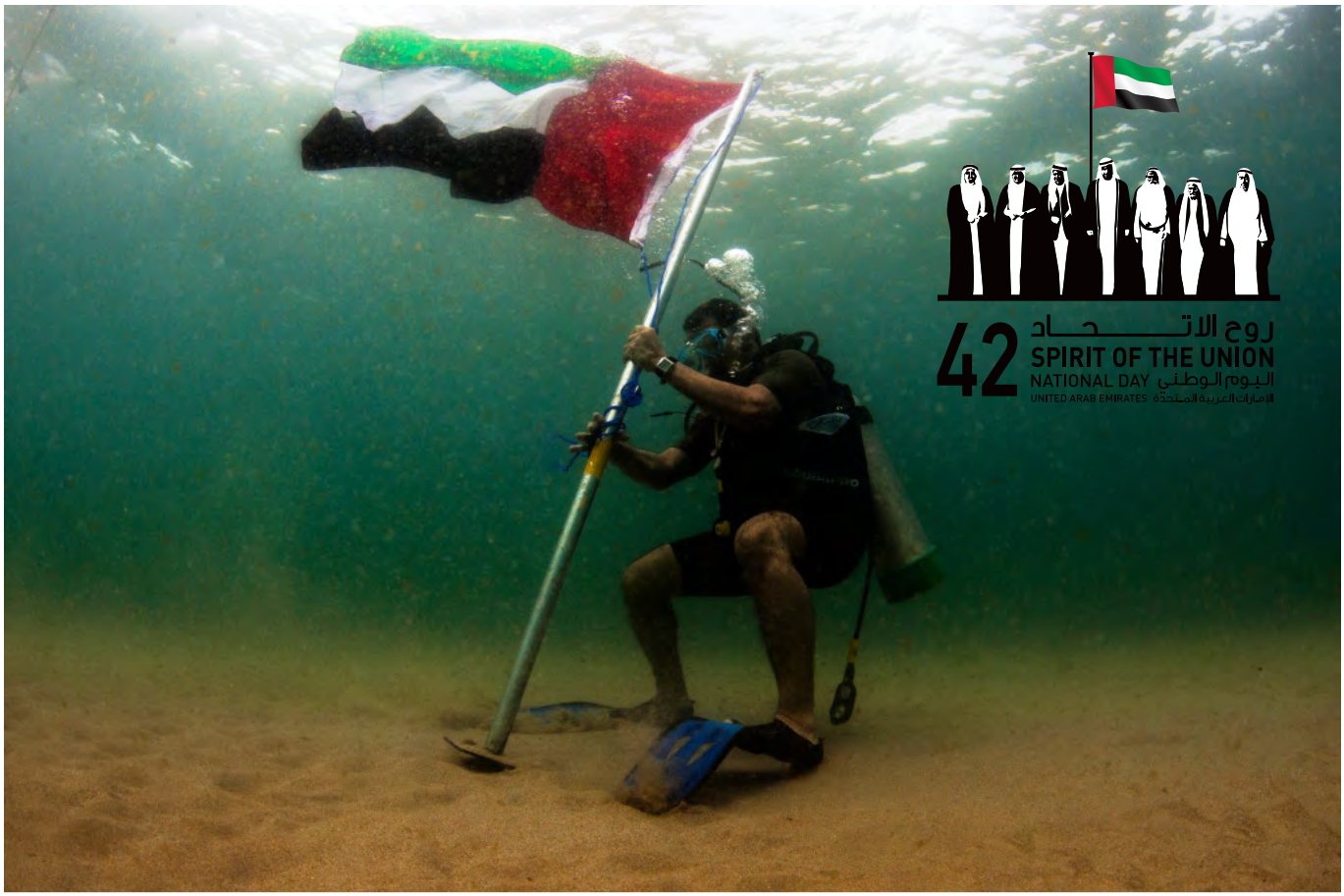
On Wednesday 25th September Dr John Burt gave a public evening lecture in the Inter-Continental Hotel which was titled 'Coral Reefs of the Gulf – A unique Ecosystem'.

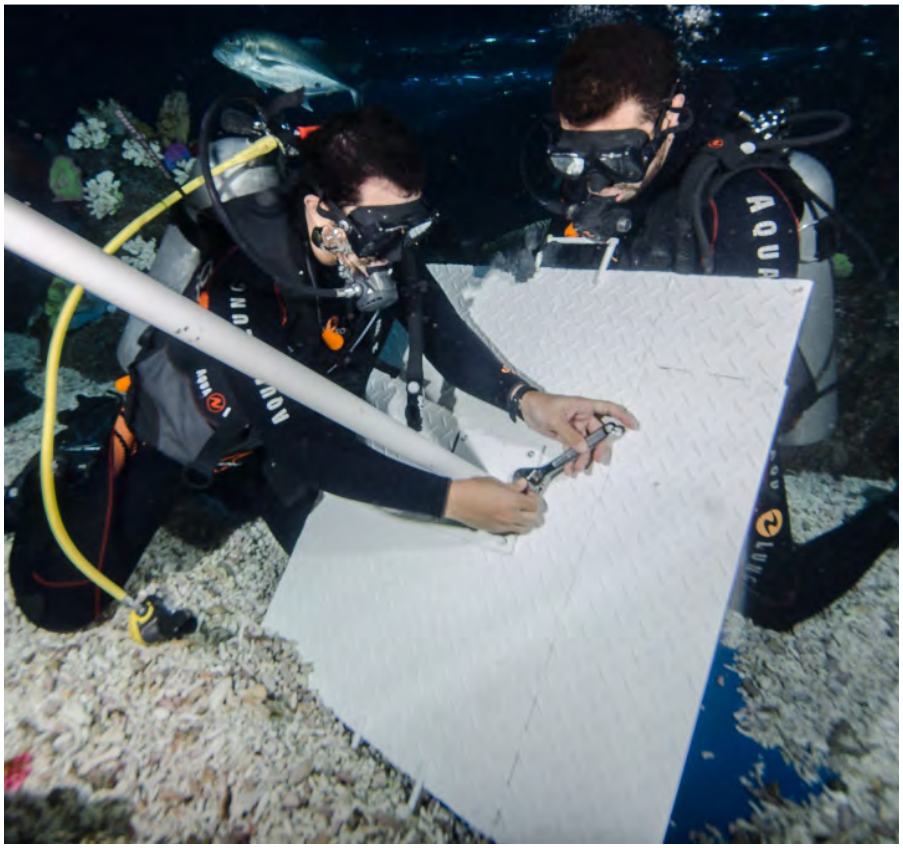
Thursday was the last day of the workshop which was held at the NYU labs. We went through everything we learnt, and spoke about the next step of doing more surveys, research and joining forces.

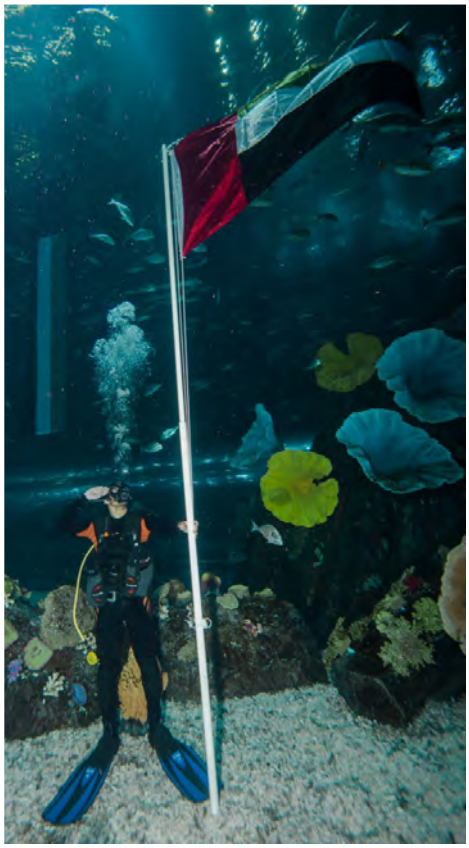
I certainly left the workshop with more knowledge and a wider understanding on the research that scientists do for the good of our marine life.

THE UAE'S 42ND NATIONAL DAY

To celebrate The UAE's 42nd National Day and The UAE's Flag Day, Abdullah Husam, an Emirati EDA member and avid diver, managed for the first time, to bring down a UAE flag attached to a post underwater in the sea and in the Dubai Mall Aquarium. What a proud moment it must have been to hold the flag of this wonderful country! Happy 42nd National Day UAE!







DEBRIS MONTH OF ACTION MOST UNUSUAL DISCOVERIES

PHOTOGRAPHY **IMAD KHASHFEH** AND **CLIFF KIRBY CORAL WATERSPORTS**

What do a skateboard, Ganesh statue, golf clubs and fake teeth all have in common? They were all odd items found by Dive Against Debris volunteers during this year's September Debris Month of Action.

What else did volunteer divers find? More than 38,680 debris items including 3,935 plastic beverage bottles, 2,152 cigarette filters, and 2,363 cigar tips. Shocking? Wait until we tell you what the most bizarre and unusual discovery was: a "makeshift toilet" found in the murky depths of the Sheffield Canal in the UK.

We're continually inspired by the passion and commitment of our global volunteers. From the United Arab Emirates to Canada, Egypt to Australia, South Africa to the UK, divers are making their dives count for conservation one dive at a time.

"The message we highlight is the negative impact of debris in our waters and the fact that it comes from the land, not just from ships", explains Kathleen Russell, committee coordinator for Emirates Diving Association (EDA) and owner of Al Mahara Diving Centre in Abu Dhabi.

"We have a responsibility to bring awareness to the community and invite anyone to join the fight against the ocean's silent killer – marine debris", she added.

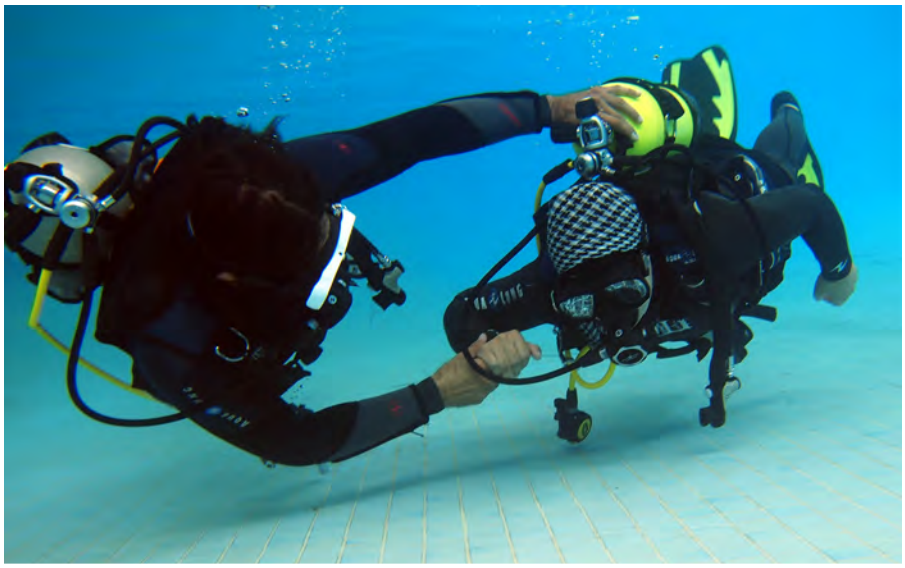
All Debris Month of Action volunteers are ocean heroes but this year nearly 155 Dive Against Debris Heroes deserve special recognition. They not only took the Debris Month of Action challenge but they also pledged to go the extra mile to remove and report harmful debris year-round. We look forward to working alongside these heroes who are making the fight against marine debris their number one priority. Armed with consistent information from their ongoing Dive Against Debris efforts, we'll have more evidence needed to address strong litter prevention policy actions for the future.

Thank you to each and every Dive Against Debris volunteer. Find the tools to make your dives count for conservation all year-round or check out a full list of all upcoming actions including Clean Up Arabia at projectaware.org.

BREAKING THE BARRIERS
DDI PRO TRAINING COURSE DUBAI 2013

PHOTOGRAPHY **SIV HARTVIGSEN**

On the 22-23 of November, a group of diving instructors from all around the UAE attended a special dive instructor training course run by Disabled Divers International (DDI) in Dubai. The course was organised by Royal Diving center and took place at the Dubai Sports Club for the Disabled. DDI Instructor Trainer Mark Slingo, came to Dubai specially to conduct the program.



Scuba diving has recently been considered to be a legitimate form of rehabilitation for people with disabilities. The feel of freedom being free from a wheelchair and other restraints that are encountered on land, can be of massive psychological and physical benefit to a person with disabilities.

The question of who can dive is easily answered by Mark Slingo. "As long as you can pass a medical to safely breath from a scuba unit underwater, then you can dive. In fact, in the past few years I have taken on diving courses for divers with various conditions including spinal injuries, amputations, cerebral palsy, Downs Syndrome and others."

Slingo has knowledgable insight to disabled diving as he is confined to a wheelchair himself after an accident in 2005 left him as a paraplegic. He did not let a disability stop him though and continued to teach diving, rising to PADI Course Director in 2008, the top teaching qualification a PADI instructor can have. Mark now spends a great deal of his time traveling around the world teaching fellow diving instructors to work with divers with disabilities.

The training itself consisted of one day of classroom training and another in a swimming pool, dealing with various simulations of disabilities to familiarise the trainee instructors with appropriate techniques.

The classroom training, as well as teaching the various techniques and considerations that are needed to work with disabled people, also provides an overview of the psychology of working with someone with a disability. "Although this can only be explained so far in a classroom, as every person is different so a specific set of rules cannot apply," says Mark. "The most important thing we can do, is give instructors a little preparation and background knowledge so that they can be as prepared as possible to help people with disabilities to go diving."

The rest of the academic training focuses on what types of medical conditions diving instructors may encounter when working with disabled divers and suggest adapting diver training programs in order that the divers can meet certification requirements.

The emergence of scuba diving as a rehabilitation technique for disabilities has been so successful that it has been adopted by military rehabilitation programs such as Soldiers Undertaking Disabled Scuba in the USA and Deptherapy in the UK. Mark would like to see as many diving destinations such as Dubai opened up to divers with disabilities for increased travel and activity possibilities for disabled people.

"The major problem you are confronted with when you have a disability," Mark explains, "is that there are not as many activities that you can take part in. Scuba diving is not only a sport that it is ossicle for disabled people to take part in, but also an adventure sport which puts disabled divers in the position of experiencing things that 90% of people will never experience."

The training was organised by Royal Diving Center who have also attained the rank of DDI training center, specialising in working with divers with disabilities. The redevelopment of the Dubai Sports Club for the Disabled has the ideal training facilities for working with divers in wheelchairs and Mohammad Essa Ali. the owner of Royal Diving, declares that they will be running frequent try dives for people with disabilities.

Taking part in the course were Imad Khashfeh, Bechir Chehab, Ahmed Fikry, Hanaa Al-Badawy, Ibrahim Jalmaani, Joel Parinas and Mohammad Essa Ali. Well done to all the new DDI Instructors and we are looking forward to hearing of your activities, taking divers with disabilities to experience the wonder of scuba diving.

For more information on DDI Pro Training courses, please contact Mark at:
scubaexperiences@diveproafrica.com
or visit the DDI website **www.ddivers.org**

Future pro training courses for instructors in the UAE and the surrounding region are planned for February next year and courses can also be run on request.

DISABLED DIVER INSTRUCTOR TRAINING IN DUBAI

FEATURE AND PHOTOGRAPHY **SZILVESZTER TOTH**

Getting ready for the pool session

Paraplegic diver with gloves

Blind diver simulation

I have heard about Disabled Divers International from several sources and I really wanted to be part of this excellent group. I felt like giving back to the community by assisting handicapped people to rehabilitate, to see and feel the wonder of our underwater world and to be able to move around weightless, painfree.

I have contacted several dive operators until my friend at EMAAR, Francis Uy got me in touch with PADI Course Director, Mark Slingo (Slinky) who is specialized in Disabled Diver Instructor trainings. After several email exchanges, Mark arrived to Abu Dhabi on the 28th of October. We headed straight to Dubai, and I was excitedly bombarding him with questions about the course.

On the next day we met up with Levente, another PADI Instructor participating in the course. We spent the morning watching videos, getting familiar with the history of DDI and learning about Mark's background. Mark is not only an excellent instructor, but he is also wheelchair bound due to an accident some 10 years ago, therefore he could give us first hand advice on how to deal with handicapped people, how to approach them, what goes on in their heads, what issues are sensitive and what are not.

After a quick lunch infront of the Burj Al Arab, we headed to the pool. This is when the reality of DDI hit us. How to get a blind diver into the swimming pool. How to assist him on kitting up and what are the best ways to get the person in the pool. Once in a pool, we are all used to visually signaling to each other; it's quite different for a blind diver. We discussed the different types of signals available – pressing on the hand, the shoulders, touching different locations of the arm, and then descend. The experience is amazing, you are diving without your sight, however all the other senses take over. Listening to your bubbles, the water around you, the people in the water create a fantastic, calm environment. Once I knew I could fully trust my dive buddy, I enjoyed every second of diving "the blind dive".

Next we practiced paraplegic divers, waist down or neck down. Trust me, this is when we needed all of Mark's expertise. How to get a diver in the water, how to get the diver out of the water and most importantly, how to make sure the diver has an unforgettable, safe diving experience moving around the pool with us constantly being around him/her, reassuring every second that we are there in case of uneasiness, in case of any emergency.

Mark has a very good sense of humor which helped us through the difficult parts, the parts where naturally everybody would be uncomfortable; as dealing with another human being who is not fully in control of his/her own body can be the least comfortable at certain times.

On the second day, we continued with the dive theory of standards and procedures and then finally concluded the day with a written test which both Levente and myself passed. We are both proud to be the newest PADI Instructors with the Disabled Diver Instructor certification.

Special thanks to Jimmy at the Pavilion for assisting us during the first day and to Mark "Slinky" Slingo for coming all the way to Dubai to conduct this amazing course for the two of us only. Cheers guys.

UAE DOLPHIN PROJECT – UPDATE
FIELD WORK: START AS YOU MEAN TO GO ON!

FEATURE **CRISTYN ASHLEY**


Bottlenose dolphin Paso re-sighted in October. This time in company of a mother, a calf and a juvenile.

The UAE dolphin team is thrilled that the first trips out on the boat were a success. Over the last few weeks we have been able to conduct the very first scientific transect surveys dedicated to dolphins in the Gulf! The first survey was carried out in early October. Our fantastic boat Harman, a Duretti Sportfisher 30ft, was ready with a full tank of fuel, GPS working and the route plotted, the weather was on our side and the crew was all prepared. As we left the Dubai Marina Yacht Club, it was still dark but we were full of anticipation (and coffee!) and eager to head off on what we hoped will be the start of many surveys on the water off Dubai's coast. As the sun came up, we began the first section of the transect and conditions were perfect. The sea was flat calm and there were no other boats on the water.

The team took their positions on the boat and we started scanning the water. Within minutes, we had a positive sighting of a pod of bottlenose dolphins off the bow, about 800m away. Surfacing in synchronization we could see that this was a large pod. We approached them slowly and begun recording data such as position, direction, behavior and photos of the dorsal fins. Dorsal fins may have scars and nicks that are unique to the dolphin and act as natural tags allowing us to identify individuals. Re-sightings of individuals over time allow to estimate the population size, residency of the population and understand their social structure. We were all ecstatic and incredulous to the fact that we had seen dolphins on our first day of survey. But as soon as we finished to collect the necessary data, it was time to leave and carry on with the transect to ensure we surveyed the route consistently.

Back on shore, it was time to review the data we collected. After examining the photos, we estimated that the pod contained 23 individuals including a calf, and a juvenile. But probably the most interesting data, was the re-sighting of Paso, one of the two individuals that were identified thanks to a video submitted through our "Report a Sighting" back in April (see Divers for the Environment – September 2013). A great result!

A second transect was conducted in November and produced equally exciting results, as this time we sighted a pod of about twelve humpback dolphins in the waters in front of Umm Suqeim. One calf and at least one juvenile were also present and some of the adults had clearly marked dorsal fins, which is of great help to build up our mark-recapture database.

As often, the results throw up more questions than answers. The re-sighting of Paso after 5 months let us suppose that at least this individual could frequent these waters quite regularly. However, the second individual identified back in April, Trigger, was not in the group. So the question is, what happened to Trigger? Other populations of bottlenose are known to have fluid relationships and move between groups, could this be the case here or was Trigger only visiting these waters?

The team is understandably enthusiastic to get back out on the water again and continue to carry on with the survey throughout the year to hopefully answer these questions and more. Watch this space!

If you encounter a dolphin or a whale, dead or alive, please Report Your Sighting at **www.uaedolphinproject.org**! Alternatively you can text (**056 6717164**) or email **sighting@uaedolphinproject.org** the information (Date, Time, Location and, if you have, a picture) or post it on the project Facebook or Twitter pages. Please make an effort to take pictures! You may also identify an individual!


One of the bottlenose dolphin clearly recognizable from the unique notch pattern of the dorsal fin.


Humpback dolphins showing the clear hump in front of the dorsal fin.

THE FRIENDLY WOBBEGONG

FEATURE **ANDREW ROUGHTON**

Just when you think you've heard about every fish in the ocean, a new dive location introduces a new and interesting aquatic character. For me the new location was Sydney Harbour and the new aquatic character was the Wobbegong.

The dive site was a marine reserve in Manly (a suburb of Northern Sydney) charmingly named Cabbage Tree Bay. I remember looking out across the bay before the dive and enjoying a typical Australian scene with sunbathers, swimmers, and surfers all enjoying the summer sun. However, with this amount of human activity in the water I was confident that any marine life would have long since been scared off. Even as we entered the water and our Dive Master guaranteed us at least five Wobbegong Sharks I remained incredulous. How wrong I was.

Virtually as soon as the dive started we started seeing Fiddler Ray,s Elegant Wrasses, Black Rock Cods, Blue Groupers, and even a submerged Motorcycle. Then, as we started getting a little deeper, as predicted, we began seeing Wobbegong Sharks, but not just five or six; more like nineteen or twenty.

Wobbegongs are strange looking animals. Although they are shaped like a conventional Shark, their skin is camouflaged against the rocks and they appear to sport a sort of unkempt beard. In fact, the name Wobbegong is believed to derive from an Aboriginal language and mean "Shaggy Beard."

However, despite their strange appearance, to see so many Sharks on one dive was truly amazing. Additionally, as they are bottom-dwelling Sharks and spend most their time relaxing on the ocean floor, Wobbegongs are an underwater photographer's dream come true. Thus, unlike many species of Shark, which constantly move, we were able to get close and take as many photographs as we liked. The only point our Dive Master made was that, although these are gentle giants, if they're startled and do bite, which is extremely rare, they bite and hold on like a dog with a juicy bone. With this point in mind, we all took plenty of photographs, but kept a decent distance safely out of biting reach. After all, although most species have a maximum length of 1.25 meters, the species we were diving with was the Spotted Wobbegong, which reaches 3 meters in length and is a big fish to have hanging off your arm.

Thankfully however nothing remotely menacing happened on this dive and we were all able to return to the surface to be amazed again by the activity on the beach. Can you imagine if we told the swimmers and surfers that they were playing ten meters above dozens of 3 meter Sharks? It would have probably led to something akin to the Amity Beach hysteria scene in Jaws. Consequently, I (along with all the other divers) kept the experience to myself and instead privately marveled at the eternal variety of friendly marine life in our endlessly magical oceans.

NEW DECREE ALLOWS 'AL GHAZAL' FISHING DURING HIGH SEASON

ABU DHABI, OCTOBER 7, 2013: The Environment Agency – Abu Dhabi (EAD) recently issued a new decree allowing the fishing of migratory fish using gillnets locally known as 'Al Ghazal'. Use of these nets have been permitted in the Emirate of Abu Dhabi from October 15 2013 until April 30 2014, which coincides with the optimum fishing season for these fish. The new decree is in line with the government's efforts to ensure the rights of fishermen to continue practicing fishing in balance with the need to conserve fish stocks.

The decree was issued based on the recommendations of the Fisheries' Organising Committee for Abu Dhabi, under the chairmanship of H.E. Razan Khalifa Al Mubarak, EAD's Secretary General.

Committee members include H.E. Ahmed Thani Murshid Al Rumaithi, Representative of the Diwan of H.H Sheikh Hamdan bin Zayed Al Nahyan, Eng. Mubarak Salem Madi, Director of the Western Region, Ministry of Environment and Water, H.E. Salim Ali Al Zaabi Director-General of National Transport Authority of the

National Transport Authority and Dr. Shaikha Salem Al Dhaheri, Executive Director of the Biodiversity Management Sector at EAD.

During the meeting, the committee members discussed a number of issues related to fishing in the Emirate of Abu Dhabi and agreed to set the fishing season within the Northern Emirates. The Committee also agreed to tighten control over the traditional and recreational fisheries in the Emirate of Abu Dhabi, to ensure that fishing activies remain productive but at the same time in line with environmental conservation goals.

The Committees recommendations were submitted to H.H. Sheikh Hamdan bin Zayed Al Nahyan, Ruler's Representative in the Western Region and Chairman of the Board of Directors of EAD for approval.

NEW PROJECT AWARE CARD

What if we told you the effort you put forth as a diver to complete a PADI certification course could also support ocean protection projects? These projects include protecting the planet's shark populations and preventing debris from entering our ocean.

With a small donation to conservation, you can select the Project AWARE version of your PADI certification or replacement card. 100 percent of your donation will support Project AWARE initiatives that impact the places you love to dive.

FACT: Of the nine Hammerhead shark species found worldwide, seven of them have been evaluated by the IUCN Red List. The Great Hammerhead is listed as Endangered with a decreasing population.

FACT: More than 260 species are reported to have been entangled in, or to have ingested, marine debris.

Bridge your passion for diving to underwater conservation work. The next time you complete a dive course, ask your PADI instructor for the latest Project AWARE certification card options. If you love this Hammerhead Shark card, our latest design, you can also visit **www.padi.com** to replace your PADI card with latest in a series from Project AWARE.

COSTA RICAN EXPERIENCE

FEATURE **JEN BRICKER**

Jen always had a passion for tumbling and gymnastics, despite being born without legs. She competed in power tumbling, volleyball, and softball…all against able-bodied athletes. Jen's achievements have been featured on Glee, HBO Real Sports, 20/20, Good Morning America, a speaker at TED talks, and a featured acrobat on the Britney Spears World Tour. Jen moved from her small town in southern Illinois to Orlando, Florida to work for Walt Disney World. That is where her life took an unexpected twist and she started performing as an acrobat/aerialist. She is currently living in LA pursuing a career in TV/film, public speaking, and fitness, along with her performing career. Jen hopes to inspire and motivate others to believe that anything is truly possible. Jen first got introduced to Scuba Diving at the Pavilion Dive Centre at the Jumeirah Beach Hotel where she started her PADI Openwater course as part of the Jumeirah Tawasul Adaptive Diver Training Program. She travelled to Costa Rica as a Keynote Speaker at the ConnectOcean "Sin Limites" Adaptive Diving event where she completed her training with the founder, Ernst van der Poll. This is a short account of her visit to Costa Rica:

From the minute I arrived in Costa Rica, I was taken away by the scenery. I was lucky enough to drive from San Jose to Guanacaste and see everything inbetween. I love the sense of community, the gracious welcoming spirit that is in the air and the overall happiness that seems to be in every Costa Rican's heart.

The moment we finally arrived at the Four Seasons, it was truly epic! Driving, driving, driving…the anticipation for the reveal was so exhilarating! From the moment we arrived at the Four Seasons, it was absolutely everything and more you would have expected. For me it wasn't just about "5 star" accommodation, which was amazing, it was the whole package! The "Pura Vida" lifestyle, the breathtaking views from my balcony every morning, the warm and welcoming staff, everything was perfect! The fact that the Sin Limites program was held in such a place, was absolutely over-the-top! Kayaking, volleyball, scuba diving, all in one of the most beautiful places with the most beautiful people inside and out. All the while, I witnessed people overcome and break barriers every minute right in front of my eyes. Working with the athletes and seeing how scuba diving could be used as a form of therapy in a sense, was such an intriguing, fascinating, and wonderful thing to experience. I was beyond humbled to be asked to be a part of such a ground breaking event. I myself had such a great experience and took away more than just a beautiful vacation.

Being able to spend an entire day in the "wilderness" horse-back riding, zip-lining, and relaxing in natural hot springs, was absolutely one of the best days of my life! They were so accommodating, gracious, and always smiling, the energy with the culture and people of Costa Rica is absolutely intoxicating! I am so grateful and appreciative for the opportunity to spend such a magical day with such great company! Our guides were very helpful, I was a little nervous about balancing on the horse and guiding him, so they just guided the horse for me, no problem, Pura Vida!

My time spent in Costa Rica was wonderful from beginning to end. I am so thankful and appreciative to everyone involved in making this trip fantastic. I love the people, culture, lifestyle, scenery, and food of Costa Rica, I can't wait to plan my next visit and hope to give back a little of what Costa Rica has given me!

Read Ernst van der Poll's article, 'A Life Without Limits' on pages 30-35 to find out more about the ConnectOcean "No Limits" Adaptive Diver Training program.

NITROX BUDDY BY DIVENAV

FEATURE **GORDON T. SMITH**

Further to DiveNav's success with Blue Buddy and Tech Buddy dive recorders, they have now produced a very small oxygen analyzer for checking the gas in your dive tank using your smart phone (operating on IOS or Android) to display and record data.

Like the Blue Buddy, the Nitrox Buddy analyzer has no display and uses the smart phone to show the data. This data is transferred to the phone via Bluetooth 4.0 (and above) using the Nitrox Buddy App. The data can be read and stored on the phone or transferred elsewhere.

The Nitrox buddy can also use oxygen sensors from various manufacturers so when it comes to replacing it, you can use whatever is available at the time, and no waiting for a specific sensor that limits what other Nitrox analyzers have to use.

As an iPhone user, I found it easy to download the App. Once this is done, the Nitrox Buddy can be paired to the phone and set up, allowing real time to be recorded when making the analysis and making it easy to track multiple analysis.

After switching on the Nitrox Buddy, it is paired with the phone and then calibrated. Once calibrated the real gas analysis can be made which generally takes around 20 seconds. MOD and EAD are calculated automatically.

Additional data such as tank size and pressure can be added manually.

Label your tank accordingly with the percentage and MOD and you are good to go.

www.divenav.com

PARAMETER	NOTES	NITROXBUDDY	NITROXBUDDY BASE	NITROXBUDDY DIY
Measurement Range		0.4 - 100%	0.4 - 100%	0.4 - 100%
Resolution		0.1%	0.1%	0.1%
Linearity	1	1%	1%	1%
Accuracy	2	Programmable	Programmable	Programmable
Operating Temperature		50F - 104F (10C - 40C)	50F - 104F (10C - 40C)	50F - 104F (10C - 40C)
Warm Up Time	2	Programmable	Programmable	Programmable
Response Time	2	Programmable	Programmable	Programmable
Calibration Gas	3	Any	Any	Any
O2 Sensor	4	Included	Not Included	Included
O2 Sensor Lifetime	4	Depends on O2 Sensor	Depends on O2 Sensor	Depends on O2 Sensor
Battery Autonomy	5	~1 Year	~1 Year	~1 Year
Measurement System		Imperial/Metric	Imperial/Metric	Imperial/Metric
Activation		Push Button	Push Button	Push Button
Smartphone Interface	6	Bluetooth 4.0 LE	Bluetooth 4.0 LE	Bluetooth 4.0 LE
Identification	7	Unique MAC Address	Unique MAC Address	Unique MAC Address
Size		2.7x1.6x0.6» (68x41x15 mm)	2.3x1.28x0.46» (59x33x12 mm)	2.3x1.28x0.46» (59x33x12 mm)
Weight		2.5 oz (70 g)	1.8 oz (51 g)	2.5 oz (70 g)
MSRP		$199.99	$129.99	$169.99

1 When using 2 point calibration with Air and pure Oxygen at constant temperature.

2 User programmable with the My Nitroxbuddy app.

3 Any gas with O2 content in the 0.5% to 100% range. For better accuracy we recommend to calibrate device using 2 point calibration method and using two gasses with O2 content close to gas being analyzed.

4 Nitroxbuddy can operate with any of the following sensors: Analytical Industries Inc. PSR-11-39-MD, Maxtec MAX-305 and MAX-305F, Teledyne R-22S or DiveNav Nitroxbuddy O2 sensor. The estimated lifetime in air of the DiveNav Nitroxbuddy O2 sensor is 12 months.

5 Nitroxbuddy uses a CR2032 3v battery that can be replaced by the user. Estimated lifetime is based on performing 10 measurements per month.

6 See list of supported devices.

7 Accessible via smartphone.

FEATURED CREATURES

FEATURE **IUCN RED LIST 2010-2013**

The IUCN Red List of Threatened Species™ is widely recognized as the most comprehensive, objective global approach for evaluating the conservation status of plant and animal species. From its small beginning, The IUCN Red List has grown in size and complexity and now plays an increasingly prominent role in guiding conservation activities of governments, NGOs and scientific institutions. The introduction in 1994 of a scientifically rigorous approach to determine risks of extinction that is applicable to all species, has become a world standard. In order to produce The IUCN Red List of Threatened Species™, the IUCN Global Species Programme working with the IUCN Survival Commission (SSC) and with members of IUCN draws on and mobilizes a network of scientists and partner organizations working in almost every country in the world, who collectively hold what is likely the most complete scientific knowledge base on the biology and conservation status of species.

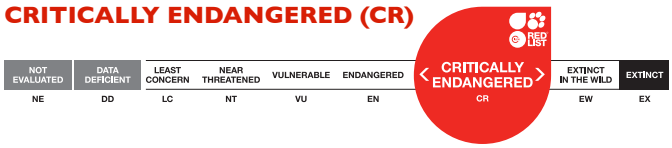
There are five quantitative criteria which are used to determine whether a taxon is threatened or not, and if threatened, which category of threat it belongs in (Critically Endangered, Endangered or Vulnerable). These criteria are based around the biological indicators of populations that are threatened with extinction, such as rapid population decline or very small population size. Most of the criteria also include subcriteria that must be used to justify more specifically the listing of a taxon under a particular category.

THE FIVE CRITERIA ARE:

A. Declining population (past, present and/or projected)
B. Geographic range size, and fragmentation, decline or fluctuations
C. Small population size and fragmentation, decline, or fluctuations
D. Very small population or very restricted distribution
E. Quantitative analysis of extinction risk (e.g., Population Viability Analysis)

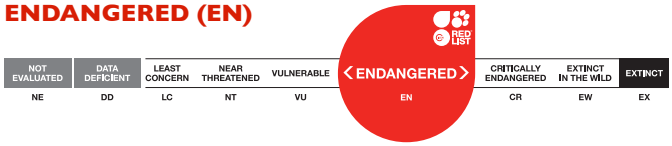
EDA has been publishing the IUCN Red List reports since 2010, showing mostly, species that we find in UAE waters. In this last issue of 2013, we've decided to recap some of our local species that are under the IUCN Red List by order of their IUCN rank, from "Critically Endangered" to "Least Concern".

CRITICALLY ENDANGERED (CR)



1. HAWKSBILL TURTLE (*Eretmochelys imbricata*)

ENDANGERED (EN)

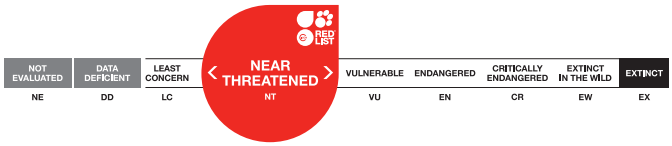


1. GREEN TURTLE (*Chelonia mydas*)

VULNERABLE (VU)

1. LEOPARD SHARK, ZEBRA SHARK (*Stegostoma fasciatum*)
2. DUGONG (*Dugong dugon*)
3. WHALE SHARK (*Rhincodon typus*)

NEAR THREATENED (NT)



1. SPOTTED EAGLE RAY (*Aetobatus narinari*)

2. BLUESPOTTED STINGRAY (*Taeniura lymma*)
3. BLACKTIP SHARK (*Carcharhinus limbatus*)
4. BLUE SHARK (*Prionace glauca*)
5. ORANGE-SPOTTED GROUPER; HAMMOUR (*Epinephelus coioides*)
6. HALFSPOTTED HIND (*Cephalopholis hemistiktos*)

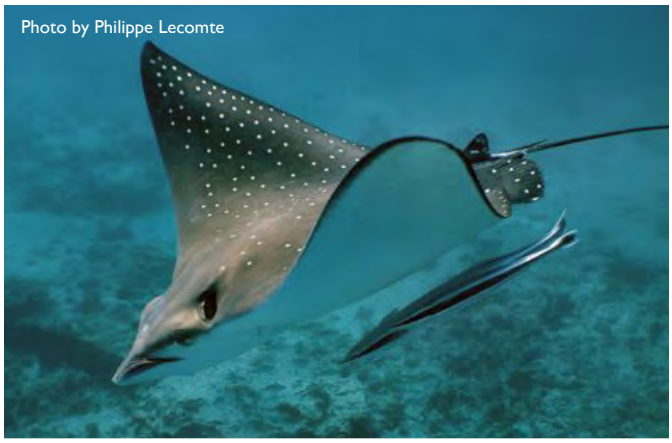


Photo by Philippe Lecomte


Photo by Philippe Lecomte

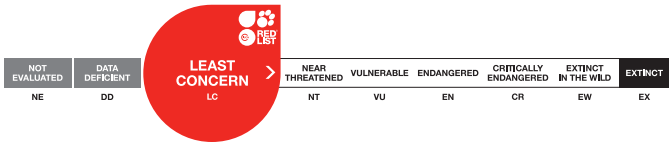

Photo by Philippe Lecomte


Photo by Karin Leonard/Marine Photobank


Photo by Philippe Lecomte


Photo by Philippe Lecomte

LEAST CONCERN (LC)



1. ACROPORA CORAL (*Acropora downingi*)
2. BANNERFISH (*Heniochus acuminatus*)


Photo by Philippe Lecomte

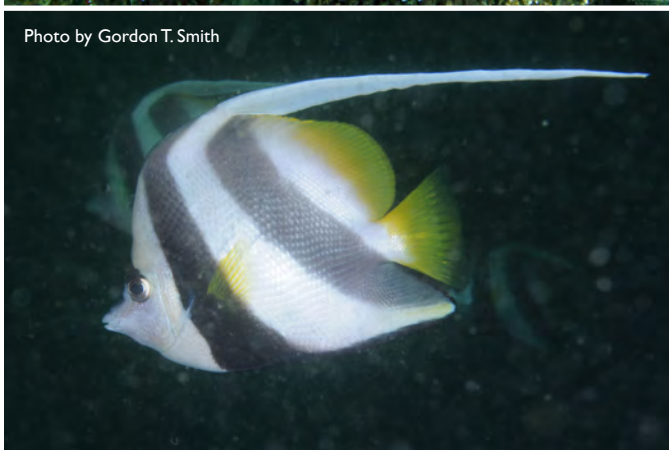


Photo by Gordon T. Smith

EDA'S CORAL REEF PROJECT

FEATURE **RITA BENTO** PHOTOGRAPHY **GAIL MUIRHEAD**

In 2011 EDA started a new project to help understand how elevated temperatures affect reef communities and their grazers. During these years, with the help of volunteers, we were able to do different surveys inside the Gulf, in the Musandam and in the Gulf of Oman. Every three months, benthic community diversity and percentage coverage were assessed visually, in order to develop an understanding of temporal changes in total cover of coral, algae, and other dominant benthic categories. Abundance of herbivorous fish and invertebrates were measured and species identified and classified by feeding types (i.e. grazers, territorial grazers and scraper/excavators). Finally, for the understanding of the importance of key grazers, herbivore exclusion and inclusion devices were also used in a manipulative study.

We are very thankful for all the volunteers that have helped in this project, especially to the three enthusiastic divers that helped this summer: Gail Muirhead, Raghda and Vincent Legoupil. This project has been supported by the Ford Motor Company – Conservation and Environmental Grants and Biosphere Expeditions. We would also like to thank our research partners in this project: New York University Abu Dhabi, in particular, Dr. John Burt and Grace Vaughan.

PROJECT SUMMARY

Grazing fish and sea urchins are essential for the maintenance of healthy reefs as their feeding removes fast-growing algae which competes with slow-growing corals for light and space. However, it is unclear how sea temperatures increase with climate change and may affect populations of these important species. The purpose of this study is to use the Arabian Gulf as a "natural laboratory" to examine how elevated temperatures affect reef communities and their grazers. The Arabian Gulf experiences sea temperatures in excess of 35°C each summer, well in excess of temperatures predicted for reefs in most global regions in the coming century. As such, it provides an ideal model system to investigate the potential impacts of climate change on reef communities. This project examines reef communities and their grazers on reefs in the Arabian Gulf and compare these with reefs in the Musandam Peninsula and the Gulf of Oman, where conditions are more benign. This allows us to understand how extreme temperatures affect these valuable ecosystems and to predict how climate change is likely to affect fundamental grazing communities on reefs elsewhere on earth in the future. Such information is essential to developing proactive management plans for the maintenance of healthy reefs on a local and global scale.

WHY ARE HERBIVORES SO IMPORTANT?

Coral reefs are indispensable biodiversity hotspots that serve as an unparalleled habitat for a multitude of organisms. In addition to their ecological importance, reefs also provide human populations with a variety of essential goods and services. Nevertheless, this valuable habitat is under increasing threat from climate change.

Herbivorous fish and sea urchins are known to be important for the maintenance of reef health as a result of their grazing activity while feeding, but there is a limited understanding how climate change will affect these key species. Arabian Gulf reefs are naturally exposed to the highest temperatures (>35°C) known for reefs worldwide, making it an ideal natural laboratory for the study of the effects of herbivory in extreme temperatures. The biogeographic connection of the Arabian Gulf with the Gulf of Oman, an area with a more benign environment (temperatures <31°C), provides an unparalleled opportunity to explore the impacts and alterations of climate change in coral reefs ecological processes. Being able to describe the differences in the herbivore community in three areas that are connected but that present such different oceanographic conditions (Arabian Gulf, Gulf of Oman, and Musandam) will provide valuable information on potential implications for climate change impacts on grazers and the implications of such changes for the health of reefs in the Arabian region and worldwide.

WHAT ENCOURAGED US TO START THE PROJECT

One of Emirates Diving Association's main projects, is Reef Check. In this project, data from different coral reefs of the UAE have been collected in order to understand the main threats these reefs are facing. Besides information regarding coral cover, fish and invertebrates were also collected. Preliminary results from this project indicated that there were significant differences in the number and types of sea urchins between reefs in the Arabian Gulf and Gulf of Oman. Given their importance in the maintenance of reef health through algal grazing, such differences suggest that there may be ramifications for the long-term maintenance of these reefs as a result of climatic differences between these areas.

LONG-TERM OBJECTIVE

Understanding the changes that coral reef ecosystems will face in the future under climate change is essential to ensure the preservation of this diverse ecosystems. Using the natural warm environment of the Arabian Gulf to understand how the increasing of the sea water temperature affects the grazing communities (fish and urchins) will also help to predict the implications for other regions of the globe. Identifying key species that have a vital role in the conservation of coral reefs in harsh environments, is necessary for the development of a dataset that can be used by government and regional managers. Recognising the potential changes in the ecosystem and the key species, is essential for developing specific regional and future international conservation efforts.

The local community enjoys the natural beauty of its reefs, but when a better understanding is developed on how different populations interact and influence the stability of a habitat, the dangers that a coral reef faces will be better understood by the community at large. Being able to open the experience of work in this project for volunteers from different nationalities and backgrounds, guarantees that the work that EDA does to protect and conserve our marine life does not remain only within our association and partners, but that awareness and concern is spread amongst those who benefit and enjoy our marine life, such as the local community.

BIOSPHERE EXPEDITIONS WELCOMES PROTECTION FOR UNIQUE MARINE ECOSYSTEM IN MUSANDAM, OMAN

PHOTOGRAPHY **KELVIN AITKEN**

In two secluded bays in the coral-rich waters of the Musandam peninsula in Oman, all fishing, except for fishing by local handline has been banned by a new ministerial decree. This significant step forward in the conservation of the beauty and resources of this relatively untouched marine area, has been welcomed today by the research organisation that has spearheaded the underwater research efforts and campaign towards greater protection, Biosphere Expeditions. Dr. Matthias Hammer, the founder and executive director of the organisation, today talked about the work that Biosphere Expeditions has been doing in the area since 2008. "This area has a high coral coverage at nearly 60 per cent of the underwater surface. This is greater than that of most reefs around the world, and the Musandam reefs are certainly the best in the region. The Ministry of Agriculture and Finsheries's (MoAF) decision prohibits the use of all kinds of nets and cages, and any other fishing equipment, except handlines. This is a wise and important step in ensuring the survival of this unique marine ecosystem and natural jewel in Oman's crown."

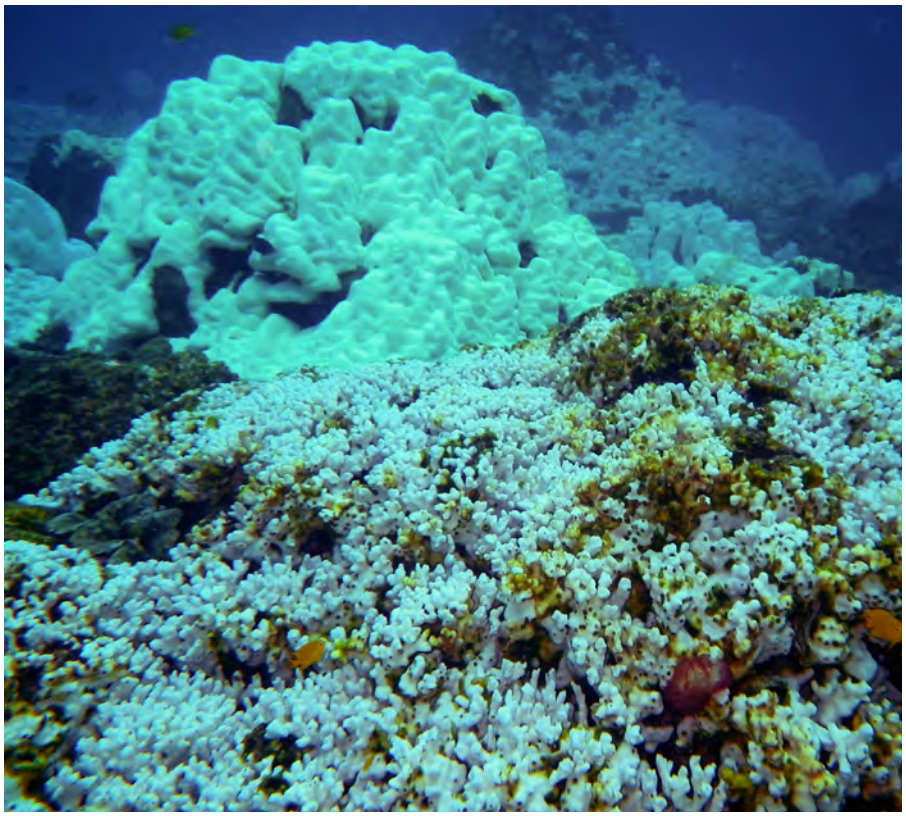
A senior official at the Marine Sciences and Fisheries Centre, on whose recommendations such decisions are taken, said that both the Khor Najd and Khor Hablain Bay areas are rich in corals, and fishing would end up destroying them. "The destruction of corals means severe damage to the marine life in the area. So this measure not only protects reefs, but also helps in sustainability of marine resources."

"We could not agree more", says Hammer, "and we are delighted that our voice has been heard, that our reports have been read and our recommendations have been heeded." But he also added a note of caution, saying that without further intervention, the low numbers of fish and invertebrate populations in the area could mean that any additional stress may lead to coral die-offs. "The general fishing ban announced by MoAF is certainly a progressive and welcome step in the right direction", says Hammer. "Moving forward, we recommend that a Marine Protected Area (MPA), or a network of MPAs, is created in north Musandam. We also urge rapid action as it is, at the moment still a unique natural treasure for Oman, before it is degraded and lost. If more habitat is lost or degraded before full MPA protection is implemented, there is a good chance that fish and invertebrates populations will not be able to recover from their current very low numbers and that the current high coral coverage will be lost. As a result, the decrease in some fish and invertebrate families is likely to have future negative impacts on substrate composition and the reef ecosystem as a whole. This in turn will threaten livelihoods and treasured lifestyles around the Musandam", warns Dr. Hammer.

The next stage, said Dr. Hammer, is to obtain formal support to extend protection from fishing bans to a full MPA. Biosphere Expeditions will continue its research, now including studying the effects of the fishing ban. Ultimately, given funding and government support, Biosphere Expeditions plans to extend its efforts to comprehensive surveys (including for example, fisheries landings, stakeholder consultations, etc) and a roadmap towards an MPA.

NEW STUDY SUGGESTS CORAL REEFS MAY BE ABLE TO ADAPT TO MODERATE CLIMATE CHANGE

FEATURE **NOAA** PHOTOGRAPHY **C. MARK EAKIN/NOAA**



A new modeling study shows that widespread bleaching events like this one in Thailand in 2010 will become more common in the future. However, the study also found signs corals may be adapting to warming – the question is if it can be fast enough to keep up with the rate humans are burning fossil fuels.

Coral reefs may be able to adapt to moderate climate warming, improving their chance of surviving through the end of this century, if there are large reductions in carbon dioxide emissions, according to a study funded by NOAA and conducted by the agency's scientists and its academic partners. Results further suggest corals have already adapted to part of the warming that has occurred.

"Earlier modeling work suggested that coral reefs would be gone by the middle of this century. Our study shows that if corals can adapt to warming that has occurred over the past 40 to 60 years, some coral reefs may persist through the end of this century," said study lead author Cheryl Logan, Ph.D., an assistant professor in California State University Monterey Bay's Division of Science and Environmental Policy. The scientists from the university, and from the University of British Columbia, were NOAA's partners in the study.

Warm water can contribute to a potentially fatal process known as coral "bleaching," in which reef-building corals eject algae living inside their tissues. Corals bleach when oceans warm only 1-2°C (2-4°F) above normal summertime temperatures. Because those algae supply the coral with most of its food, prolonged bleaching and associated disease often kills corals.

The study, published online in the journal Global Change Biology, explores a range of possible coral adaptive responses to thermal stress previously identified by the scientific community. It suggests that coral reefs may be more resilient than previously thought due to past studies that did not consider effects of possible adaptation.

The study projected that, through genetic adaptation, the reefs could reduce the currently projected rate of temperature-induced bleaching by 20 to 80 percent of levels expected by the year 2100, if there are large reductions in carbon dioxide emissions.

"The hope this work brings is only achieved if there is significant reduction of human-related emissions of heat-trapping gases," said Mark Eakin, Ph.D., who serves as director of the NOAA Coral Reef Watch monitoring program, which tracks bleaching events worldwide. "Adaptation provides no significant slowing in the loss of coral reefs if we continue to increase our rate of fossil fuel use."

"Not all species will be able to adapt fast enough or to the same extent, so coral communities will look and function differently than they do today," CalState's Logan said.

While this paper focuses on ocean warming, many other general threats to coral species have been documented to exist that affect their long-term survival, such as coral disease, acidification, and sedimentation. Other threats to corals are sea-level rise, pollution, storm damage, destructive fishing practices, and direct harvest for ornamental trade.

According to the Status of Coral Reefs of the World: 2000 report, coral reefs have been lost around the world in recent decades with almost 20 percent of reefs lost globally to high temperatures during the 1998-1999 El Niño and La Niña and an 80 percent percent loss of coral cover in the Caribbean was documented in a 2003 Science paper. Both rates of decline have subsequently been documented in numerous other studies as an on-going trend.

Tropical coral reef ecosystems are among the most diverse ecosystems in the world, and provide economic and social stability to many nations in the form of food security, where reef fish provide both food and fishing jobs, and economic revenue from tourism. Mass coral bleaching and reef death has increased around the world over the past three decades, raising questions about the future of coral reef ecosystems.

In the study, researchers used global sea surface temperature output from the NOAA/GFDL Earth System Model-2 for the pre-industrial period through to 2100 to project rates of coral bleaching.

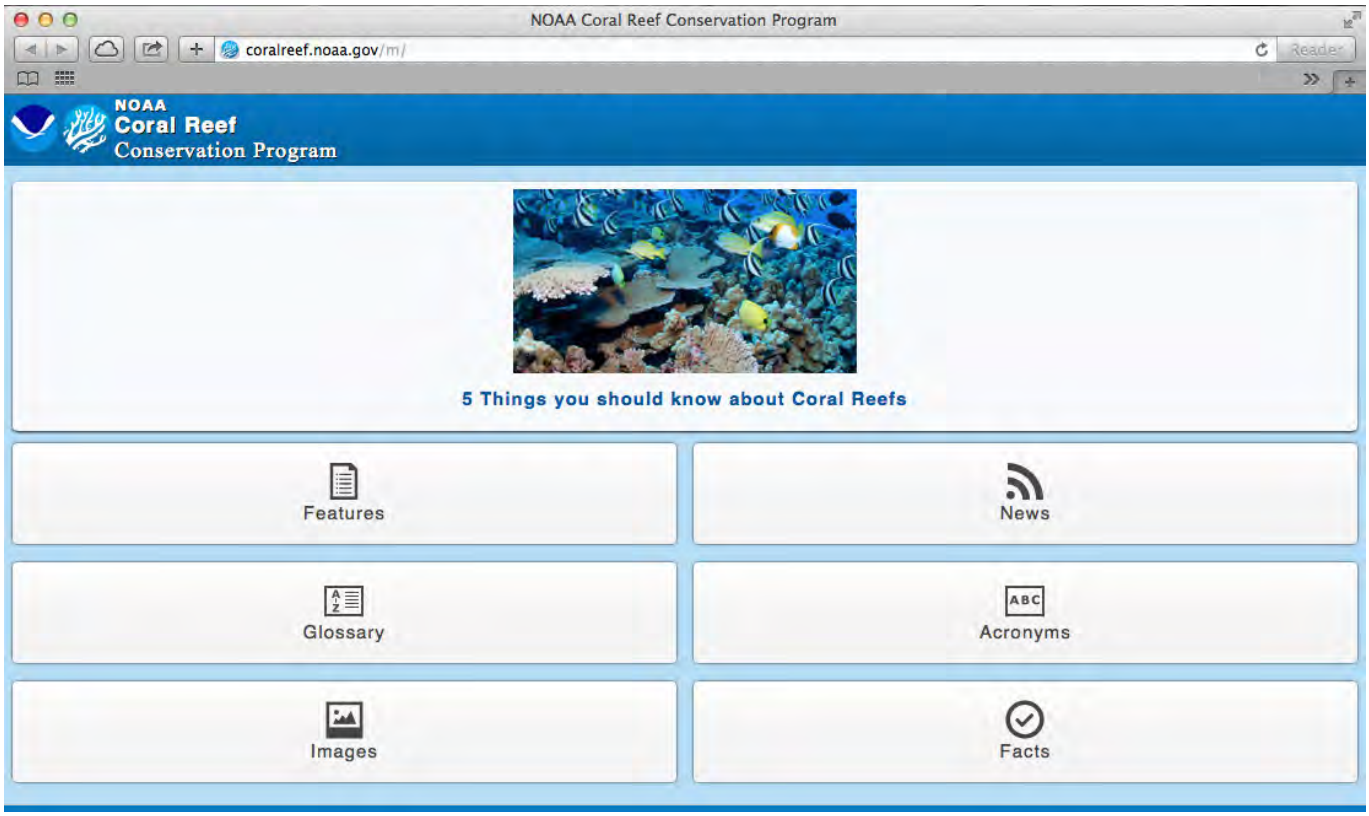
Because initial results showed that past temperature increases should have bleached reefs more often than has actually occurred, researchers looked into ways that corals may be able to adapt to warming and delay the bleaching process.

The article calls for further research to test the rate and limit of different adaptive responses for coral species across latitudes and ocean basins to determine if, and how much, corals can actually respond to increasing thermal stress.

In addition to Logan, the other authors of the paper were John Dunne, NOAA Geophysical Fluid Dynamics Laboratory; Eakin, NOAA's Coral Reef Watch; and Simon Donner, Department of Geography at the University of British Columbia. NOAA's Coral Reef Conservation Program funded the study.

NEW CORAL PROGRAM MOBILEWEBSITE

BY **NOAA**



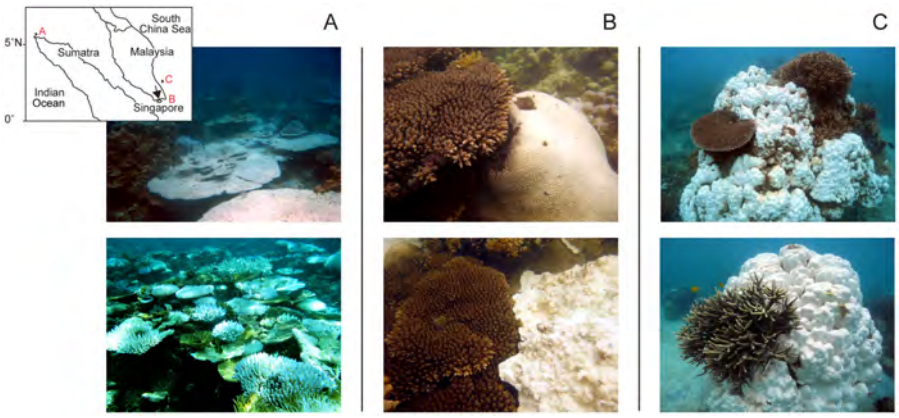
Mobile internet usage is projected to overtake desktop internet usage by 2014. Following from the NOAA Coral Program's Communications, Education and Outreach Strategy, in which we identify members of the 'conservation public' as a key audience who seek out science news and information via the internet, we have launched a new mobile version of the Coral Reef Conservation Program website. Check out **CoralReef.noaa.gov/m**. You'll find news, feature stories, coral facts, and more delivered straight to your smartphone. The new Coral Program mobile website also includes a mobile-optimized version of the Glossary and Acronyms from the NOAA Coral Reef Information System (CoRIS).

With the mobile platform development expertise of the NOS Technical Information Services Branch and Coral Program partners in CoRIS, the team developed this mobile website over the course of FY12. The Coral Program mobile site is the fastest and easiest way to get coral information wherever you go. Here's what you'll find at CoralReef.noaa.gov/m: Coral Reef Facts – quickly browse through the coral facts featured on the Coral Program home page; News and Features – browse through the latest news from the world of coral research and conservation and read Coral Program feature stories; Surf through the collection of coral images on the NOS Flickr stream.

CORAL BLEACHING UPDATE

REEFBASE: A GLOBAL INFORMATION SYSTEM FOR CORAL REEFS. NOVEMBER, 2013. **WWW.REEFBASE.ORG**

A recent study shows that some coral species may be able to adapt to warmer oceans. This finding comes from a study published in PLOS One journal which reports that coral populations had unexpectedly survived from massive bleaching in 2010, but had previously experienced severe bleaching in 1998. The study was conducted in three sites in Indonesia, Malaysia and Singapore. The coral had not bleached previously in Indonesia and responded to warmer water. There, fast-growing branching coral species, such as Acropora, suffered severe die-offs. But in Singapore and Malaysia where bleaching had occured in 1998, the pattern had reversed, with normally susceptible Acropora colonies appearing healthy, while massive slow-growing corals, such as Porites were heavily damaged.



To get more detail about this study, please read the report by: James R. Guest, Andrew H. Baird, Jeffrey A. Maynard, Efin Muttaqin, Alasdair J. Edwards, Stuart J. Campbell, Katie Yewdall, Yang Amri Affendi, Loke Ming Chou. Contrasting Patterns of Coral Bleaching Susceptibility in 2010 Suggest an Adaptive Response to Thermal Stress. PLoS ONE, 2012; 7 (3): e33353

AUSTRALIA WAKES UP TO THE MORNING AFTER THE NIGHT BEFORE

AS ONE OF NATURE'S WILDEST SHOWS HITS THE GREAT BARRIER REEF

FEATURE **SHELLEY WINKEL** PHOTOGRAPHY **BIOPIXEL TV**

Monday, November 25, 2013: The final leg of a massive marathon reproduction session ended last night as millions of boulders of egg and sperm exploded on Queensland's Great Barrier Reef for the annual coral spawning season.

For a few days each year, a vast area off the Queensland coast becomes an underwater reproduction city, witnessed by a growing number of divers and scientists eager to tick this bizarre spectacle off nature's ultimate bucket list.

Marine scientists believe this year's November 21st to 24th event was one of the best in years thanks to near perfect sea temperatures of 26°C and a late November full moon, which reduced tidal flow and allowed the eggs to float in calmer waters.

Two Cairns based dive operators, Tusa Dive and Quicksilver, ran special night time tours for a couple of hundred lucky divers, some flying in from all corners of the globe.

Richard Fitzpatrick, a Cairns-based Emmy award-winning underwater cinematographer was fortunate enough to be on Quicksilver's Silverswift and says it is highly unusual to see something that's an annual event and which goes for only a couple of nights.

"To be in the right place at the right time is a great thing. It is literally the greatest show on earth," Fitzpatrick said.

"(Tonight) We got to see the coral spawning, where all the eggs and sperm are released up into the water. It's an amazing sight. It's like an underwater snow storm, but backwards, going up. It's really weird, it's awesome."

Coral spawning requires almost perfect tides, ideal weather and top temperatures to happen. It also occurs at night while the plankton feeders are asleep. When a big boulder coral goes off, it releases an underwater snow storm and hundreds of bundles float to the surface.

Sheree Marris, a marine scientist also on Quicksilver's Silverswift vessel said lots of corals were starting to spawn during her dive.

"It's like fairy dust going up in the water. It was amazing and I feel incredibly lucky to actually see it."

Meanwhile Jill Gregory, a Cairns resident said the boulders looked like they were on fire.

"There were just streams of coral spawn coming off and then you had the hard coral and they looked like they were releasing little orange pellets. It was awesome."

Richard Fitzpatrick said this year's event was near perfect.

"It's a beautiful season this year, the water is clear, it's warm and it's really nice and calm; so as the eggs are released out of the coral, they were drifting up nice and slowly, up vertically.

"We had a lot of branching and staghorn corals going and also we had the biggest corals on the reef, the Porites. It looks like smoke when they release the egg and sperm into the water.

So you've got these massive boulders the size of a car that are just releasing this smoke into the water. It looks amazing."

Despite the phenomenon being known for just 30 years, coral spawning is not hard to spot. There's a slick on the surface and a pungent smell in the air. Meanwhile fish life sit on the bottom of the reef stomachs distended from massive protein hits.

It is like they have stuffed themselves with Tim Tams (Aussie cookies) or chocolate cupcakes.

For more information on Coral Spawning Tours go to:

- **www.silverseries.com.au**
- **www.divethereef.com/DiveTrips/-2069233108.asp**

EDA'S REEF CHECK TRAINING

BY **RITA BENTO** UNDERWATER PHOTOGRAPHY **GORDON T. SMITH**

This past November, EDA gave the last Reef Check training of 2013. Once again, a group of 8 enthusiastic divers joined us during four long days to learn more about our marine environment. EDA has been running Reef Check trainings since 2009 and we have since published the different training groups and how the training has been organised. This time, we were more curious in understanding why divers are interested to join Reef Check, what motivates them, and what they felt after the training. So here are a few questions we asked our last Reef Check students:

What made you take the Reef Check training?

GORDON SMITH: "I wanted to know more about the seas that I dive in. As a photographer, I find things that I have no clue about and this course has enhanced my knowledge. Additionally, I want to give something back and by taking this course it will allow me to participate in Reef Check and allow me to help collect information that will be useful to authorities in protecting the flora and fauna of our reef systems."

HARITH AL KHUDAIRI: "There is not an animal that lives on earth (both sea and land), nor a being that flies on its wings, but (forms part of) communities like you. Nothing have we omitted from the book, and they (all) shall be gathered to their lord in the end." Al Anãm 38, a versus from the holy Quran."

AWNI HATEDH: "Because I am an underwater photographer and I am very interested to understand how the underwater world works."

HUSAM EL ALQAMY: "I first knew about Reef Check from my fellow marine biologists when I was working for National Parks in Sinai. At the time, it was not on my priorities list but knowing more about it, I have seen it as a very productive way of sustaining the passion for diving. In addition to the recreation of diving, the beauty of the reef, useful data comes along with the activity to add to the accumulating body of knowledge about a particular reef or reefs. Knowing that training is available in Dubai, I didn't think twice and rapidly enrolled for the sessions at EDA. However, it was not an easy job getting the certification. I had to take the exams several times. EDA instructors are quite serious in making sure that they will get the right stuff out of the trained divers. Reef Check was a nice experience, learning something new and meeting new faces. I am looking forward to more action to get into my first real dive in Reef Check Surveys with EDA soon."

What did you enjoy most about the Reef Check training?

THOMAS BAILESS: "Learning about new components of reef ecology I was not previously aware of."

AWNI HATEDH: "I really enjoyed the way Rita presented the info in an informative, yet funny way, the overall atmosphere, and also the knowledge that every creature, no matter how small and insignificant, has an important impact on the Reef."

Tell us one surprising fact that you've learnt with the Reef Check training.

POURYA AMIRI: "I thought bleached coral was already dead; but I learnt that as long as polyps are there, the coral is alive and there is still a chance that zooxanthellae come back if the sea temperature decreases".

HARITH AL KHUDAIRI: "How these little tiny creatures can sometimes be hostile between themselves, just like the outside world."

AWNI HATEDH: "I didn't know that the corals beautiful colours comes from a micro algae that lives within the coral tissue".

How did the Reef Check training change you as a diver?

GORDON SMITH: "It has made me more aware of certain organisms and how to differentiate between similar looking substrates".

POURYA AMIRI: "To be more concerned about what I see in my dives and of course, to enjoy it more".

Would you recommend Reef Check training to your friends?

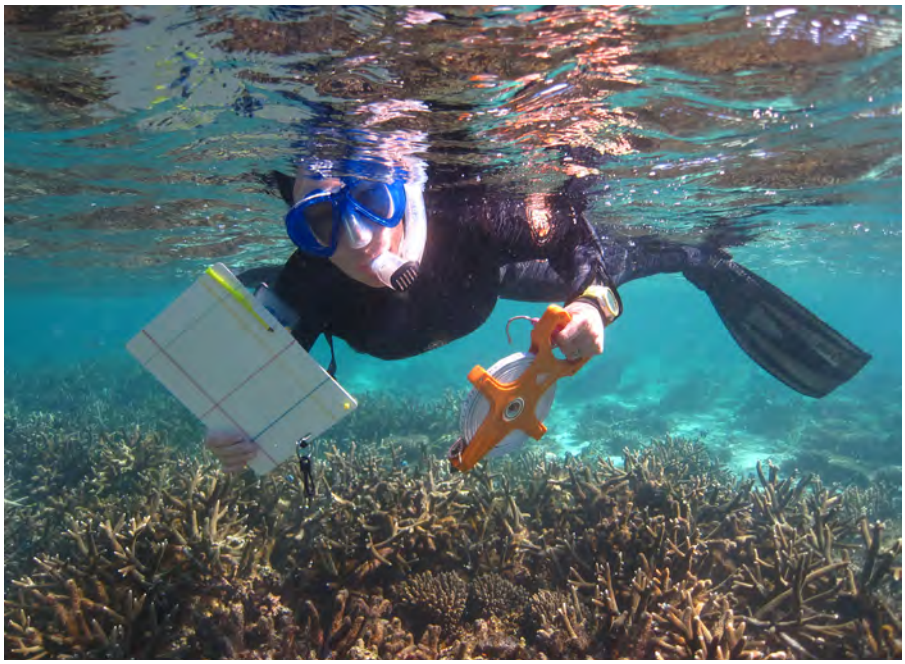
ROBBIE SMITH: "Yes, to promote awareness of the marine environment."

AWNI HATEDH: "I will definitely recommend the Reef Check training to any diver, to understand how important and fragile our marine life is."

REEF CHECK AUSTRALIA EXPANDS WEST

BY **REEF CHECK AUSTRALIA**

In June, the Reef Check Australia team spent almost 2 weeks learning, teaching, surveying, wildlife-spotting, and plotting in Exmouth on the Ningaloo Coast, Western Australia. Although Reef Check was started in Western Australia in the 1990s, this trip was a maiden voyage for the current Reef Check Australia team and an opportunity to work with new partners, stakeholders and volunteers to figure out the best steps to build a sustainable Reef Check program.



Ningaloo Reef is Australia's largest fringing coral reef and also the largest reef found on the western coast of any continental landmass. Tropical and temperate waters meet on Ningaloo Reef to create an amazing diversity of marine species, found hugging the edges of the arid coastline. Famous for their seasonal whale shark visitors, our team also had the chance to see dugongs, manta rays, humpback whales and turtles…not to mention plenty of coral communities just metres off the beach.

This special place certainly deserves to be included within the realm of Reef Check monitoring locations and the program was welcomed by the local community, Western Australia Department of Parks and Wildlife, tourism partners, reef researchers and newly trained snorkel volunteers! Reef Check Australia is thrilled to be helping local volunteers actively contribute long-term reef health data and support the efforts of other existing research and management initiatives in the region.

The team trained 9 dedicated and enthusiastic snorkel volunteers and established 5 new long-term monitoring sites on the beautiful fringing reefs around Exmouth. You can see images from the trip in the online Photo Gallery. The summary report will be available online soon.

This project is supported by Reef Check Australia, through funding from the Australian Government's Caring for our Country. For more information on Reef Check Australia, check out their website at **http://reefcheckaustralia.org**.

2014 ECOEXPEDITION IN THE PHILIPPINES

JULY 19 – 26, 2014

Worldwide Dive and Sail is once again partnering with Reef Check to offer an exciting expedition in the Southern Visayas of the Philippines.

Join Reef Check's Dr. Gregor Hodgson and the Philippine Siren team for a 7-night marine research diving trip including training as a Reef Check EcoDiver and first-hand insight into the development of Marine Protected Areas (MPAs) in the Philippines.

Greg notes, "I have been diving in the Visayas since 1980. What impressed me on our last trip was the success of the anti-blast fishing campaigns, and the resulting huge increase in abundance of small reef fish like Anthias, that used to be collateral damage." All materials and teaching provided will be sponsored by the Siren Fleet.

Departing from Cebu, the S/Y Philippine Siren will wend her way over 7 days to Moalboal following Worldwide Dive and Sail's Southern Visayas itinerary. Your first stop is at Cabilao where you can dive a mix of reef walls and sandy slopes. Hard corals at the Lighthouse are particularly stunning. Onwards to Balicasag to dive many sites but also review sites damaged in the 2012 Typhoon. Apo Island, still one of the most successful marine sanctuaries, is also on the agenda, after which the yacht moves to Dauin for some critter spotting. Pescador with its huge schools of sardines and steep reef walls will be your final stop before disembarking in Moalboal.

CONTACT

For further details contact the Siren Fleet reservations team by email at:
Philippines@worldwidediveandsail.com

REEF CHECK FRANCE'S GREEN CAMPAIGN TAKES THE PULSE OF SOUTH INDIAN OCEAN REEFS

BY **REEF CHECK REUNION COORDINATOR HAROLD CAMBERT**

With the support of the Quiksilver Foundation, Reef Check France was able to develop an ambitious program in the southwest Indian Ocean called The Green Campaign, which took place over three years from 2010 to 2012. Through this campaign, Quiksilver Foundation demonstrated its commitment to training new regional teams and supporting programs tracking reef health and restoration actions, as well as raising awareness.

Four Southwest Indian Ocean coral hot spots (Reunion, Madagascar, Mayotte and Mauritius) were studied at 30 Reef Check survey stations including 19 newly established monitoring sites. In all, 12,000m^2 of reefs were under surveillance, with more than 50 volunteers participating.

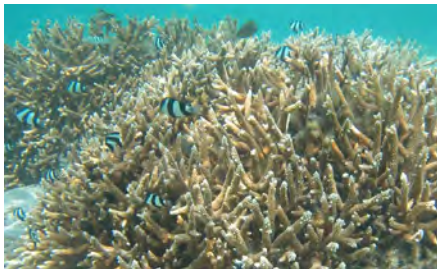
The results show that motivated teams with a project supported by all is a realistic solution for conservation, sustainable use of biodiversity, and is vital for the future of local natural resources. The final stage of the program will be the use and implementation of these results by managers and decision makers in future environmental management plans.

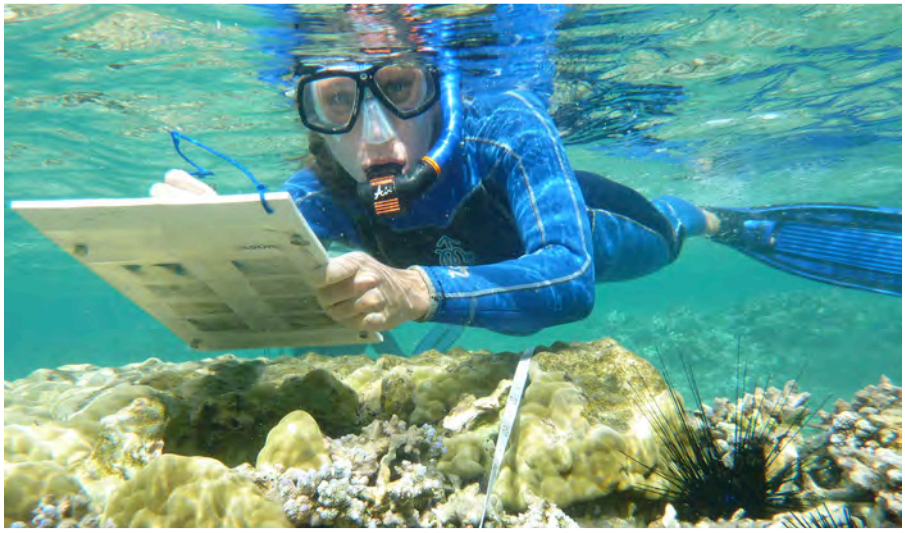
With its regional recognition in the Southwestern Indian Ocean, Reef Check France plans to sustain these cooperation initiatives in the coming years in several ways:

- Strategically, by relaying information from national observation networks to Reef Check France;
- Geographically, by spreading the formula to other ocean regions (e.g. Caribbean, Pacific);
- Specifically, by supporting projects that help transform the local economy and enhance non-interference with marine environments, as well as projects focusing on reef restoration.

Most importantly, the popularity and development of Reef Check in the Southwest Indian Ocean promises to introduce even more volunteers to our beautiful coral reefs.

For further information, check out the RC France Facebook page and **www.reefcheck.fr**.





REEF CHECK ITALY HIGHLIGHTS THE "BIODIVERSITY OF THE NORTHERN ADRIATIC" IN 2nd MEETING

BY **REEF CHECK ITALY'S GIANFRANCO ROSSI**

The Northern Adriatic Sea is the northernmost arm of the Mediterranean Sea. The western side, extending from the Gulf of Trieste to Ancona, Italy, is characterized by sandy shores that slope gently. The seabed consists of fine sand and silt, with an average depth of 35m. The ecosystem of the Northern Adriatic Sea is one of the most productive ecosystems in the Mediterranean because it is able to host an extraordinary variety of organisms.

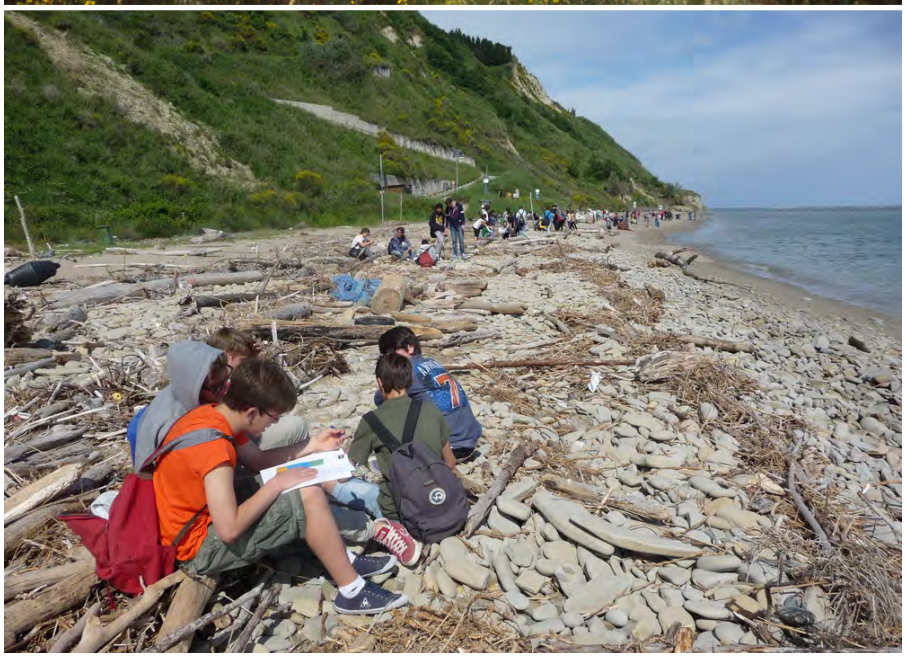
Except for the Marine Nature Reserve of Miramare (Trieste), there are very few marine protected areas along this coast. In June 2012, Europe had protected only 4.5% of its sea surface, less than half of the commitment made in 1992 during the United Nations Convention on Biological Diversity, which stated that Europe had to protect at least 10% of their sea surface.

Along the coast, numerous breakwaters have been created to protect the beaches from erosion. Over the years, these breakwaters allow many organisms to find the ideal habitat for their survival. These artificial reefs provide hard substrates in an environment that is otherwise characterized by a soft bottom. Due to the soft bottom, species accustomed to sandy bottoms co-exist with other species typical of rocky areas. This mix allows people to see representatives of all the major animal phyla in a habitat that has been as easily accessible as it has been misunderstood. In a stretch of entirely flat coastline, there are only two exceptions to this terrain – the Conero Promontory and the hill of San Bartolo in Pesaro, both terrestrial wildlife parks.

This unique region was the focus of Reef Check Italy's second edition of the "Biodiversity of the Northern Adriatic," held in the beautiful scenery of the Natural Park of San Bartolo (Pesaro). Over several days, a number of activities took place, including a traveling exhibit created with photos taken by the Subtridente Pesaro dive club and depicting the biodiversity of the northern Adriatic Sea.

A meeting was held at the headquarters of the Paleontological Museum of the Park at which Mr. W. Landini, Professor of Paleontology at the University of Pisa, described the geological and climatic history that for millions of years have affected the Mediterranean. Next, Professor Nicoletta Bedosti (University of Urbino) explained the fossil records that are preserved in the sedimentary rocks of San Bartolo. Then, Mr. C. Cerrano, President of Reef Check Italy and Professor of zoology at the University of Ancona, highlighted the necessity to improve the knowledge of marine biodiversity throughout the Adriatic Sea to promote and support the design of a new protected area in this region. The closing speech of Eva Turicchia, Northern Adriatic volunteer coordinator, highlighted the important role of volunteer divers and described a new monitoring protocol for the Northern Adriatic, developed by Reef Check Italy.

Photo by Adriano Gamberini



Students from six classes of Liceo Scientifico G. Marconi and Institute of Agriculture A. Cecchi of Pesaro have collaborated with biologists from RC Italy, contributing to the collection of monitoring data on the beach of San Bartolo's Park. The theoretical lessons and practical activities held on the beach helped to develop a new awareness for the value of a natural beach.

Finally, many divers of the diving club Subtridente Pesaro attended a day dedicated to monitoring the marine environment to collect data. The data collected by the volunteers was included in the online database and is now available freely to anyone who requests it.

In conclusion, the event was characterized by the significant involvement of Public Institutions, Schools, Local Governments, NGOs, Universities, Diving Clubs and the general public. Each individual came from a very different background; however, they were all united by one common goal: to promote and protect our marine environment.

We look forward to our 3rd meeting in 2014. To find out how you can participate, contact Gianfranco Rossi at **francodiving@libero.it**.

RED SEA DIVING SAFARI COMPLETES SUMMER REEF CHECK ACTIVITIES

BY **REEF CHECK ECODIVER COURSE DIRECTOR STEPHAN MOLDZIO**

For the past five years, Red Sea Diving Safari (RSDS) has been participating in Reef Check. In June, Reef Check EcoDiver Course Director, Stephan Moldzio was on site to give various courses and carry out surveys at ten survey sites, each of which are surveyed at two depth contours. The courses and surveys are fun and help guests of RSDS get involved with real life research, which helps to conserve the region for the future.

At the beginning of June, Stephan gave an introduction to the Red Sea Rangers, through the Discover Reef Check course. He taught them about the Reef Check methodology and indicator species, as well as shared the information gathered through Reef Check surveys on local reefs. The Rangers use many different methods for surveying coral reefs in the Southern Red Sea and are considering building a specific Reef Check team in the south. The introduction given by Stephan enabled them to increase their knowledge about certain species, as well as learn about Reef Check as an organization and the techniques used to collect and submit data. Stephan is looking forward to a closer collaboration with the Rangers in the future, in order to gather as much data as possible about the health of local reefs.

In addition, an EcoDiver course was held for six guests from the Czech Republic and Austria, plus Marsa Shagra instructors Cyril and Mohammed Mahdy. All the participants thoroughly enjoyed the whole experience and were able to complete full surveys at five of the ten survey sites – Marsa Shagra South, Marsa Shagra North, Marsa Nakari South, Marsa Nakari North and Sharm Abu Dabab. One of the highlights was being joined by two bottlenose dolphins on the final survey at Marsa Nakari North, which felt like an additional reward for all the team's hard work!

Finally Red Sea Diving Safari would like to congratulate RSDS' Environmental Manager, Sarah O'Gorman on becoming an EcoDiver Trainer. Sarah will now be able to offer Reef Check EcoDiver and Discover Reef Check courses on site to guests. Please contact **eco@redsea-divingsafari.com** for information on trainings.

You can read more about RSDS's Reef Check program at their Eco Effort page and view a collection of photos from the courses on their flickr account.

WEAR THE WORLD, CHANGE THE WORLD WITH SERENGETEE

Buy some threads for our cause! 5% of the purchase of every Serengetee fabric associated with Reef Check goes back to saving our world's reefs.

http://serengetee.com/

There currently are three Indonesian fabrics earmarked for donations to Reef Check: Flores, Maluku and Semarang.

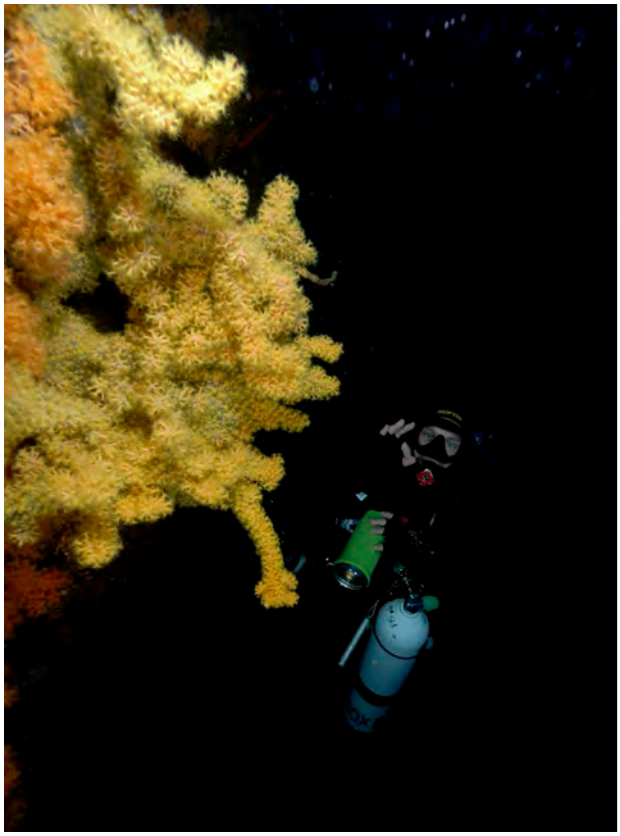
The idea for Serengetee came while three college friends were traveling the world on Semester at Sea, a floating campus study abroad program. They toured markets in over 15 countries picking out authentic fabrics and meeting amazing people in all corners of the globe.

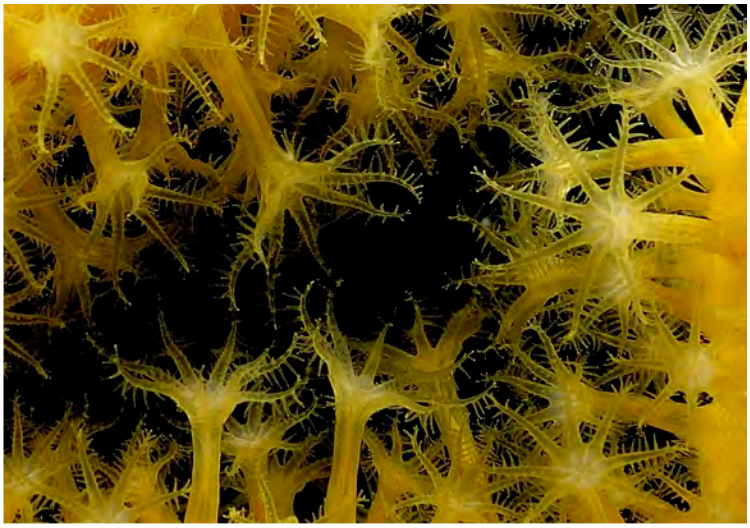
Upon their return, they set out to create a new kind of clothing brand with a simple mission: to connect people to the globe through fabric while giving back to the communities that inspire their products. Serengetee was launched out of their dorm room in 2012 using every last penny in their pockets.

Since then, Serengetee has come to support 32 causes and has become one of the fastest growing clothing brands in the world.

TRUE AND FALSE BLACK CORALS OF THE MEDITERRANEAN SEA

BY **REEF CHECK ITALY'S GIANFRANCO ROSSI** PHOTOGRAPHY **LUCA PUCCI**





In recent years, the development of new diving technologies has made it possible to dive deeper in what is defined as the mesophotic area or "twilight zone" – the deeper half of the photic zone, namely the zone between where solar radiation still penetrates and the point at which it disappears.

The mesophotic zone of the Mediterranean Sea is one of the most interesting areas of research. Due to advances in technical diving which allow divers to stay at great depths for long periods of time, scientists and underwater photographers have made extraordinary discoveries.

Among the most well-known organisms accessible at such depths are the true and the false black corals. Both belong to the subclass Hexacorallia, with the only other common characteristic being the production of a hard layered proteinaceous skeleton of black color.

True black corals, order Antipatharia, are very common in tropical seas. Many scuba divers, who dived in such waters, even at shallow depths, have had the opportunity to observe real forests of this coral.

As for the Mediterranean black coral species, the situation is somewhat different for two main reasons: the lack of knowledge about their distribution and the deep depths at which they grow, usually at over 50 metres. There are just a few well known localities along the Italian coasts where you can find long stretches of black corals. The most well known are documented off the coasts of Calabria, lying between 50 and 100 metres.

Several species of black corals are known, the most common in the Mediterranean is *Antipathella subpinnata*.

Upon observing a colony of black coral, what is most evident is that its appearance contrasts sharply with its name. It is, in fact, white in color, due to the polyps and the material that produces the lining of the skeleton, both of whitish color. Just below the outer layer of the living tissue is a thorny skeleton of black color. It consists of a series of concentric laminar layers, based on a protein substance called antipathin. Counting the polyp's tentacles, which are never able to retract completely, there are always six and arranged all along the branches.

Very different are the features of what is called false black coral, a Hexacorallian too, but with the number of tentacles being a multiple of six. Its name is *Savalia savaglia* and it belongs to the family *Zoanthidae*. The main similarity of *S. savaglia* with true black coral is only the color of the axial skeleton, in both cases black, while the density is different.

The possibility of confusing this species, though, increases greatly when compared with the yellow variety of the gorgonian *Paramuricea clavata*. The appearance is very similar, mainly because the lifeform is the same as the gorgonian, of which it's a parasite. The polyps of *S. savaglia* attack ramified organisms, overlying them completely, and assuming their form.

A more careful observation, however, highlights that the gorgonian's polyps are not only smaller, but counting tentacles it is easy to note that their number is always eight and they appear hairy as if they were feathers. *S. savaglia*'s polyps, are instead much bigger and have around thirty tentacles which are not hairy looking. Very large colonies of *S. savaglia*, with an estimated age of more than 1000 years, have been found in some sites of the Tremiti Islands from which these images come.

True and false black corals have both been heavily exploited in order to make jewellery. For this reason, they have been included on many lists of protected or endangered species.

S. savaglia is a species included in the CEM protocol of Reef Check Italy. Knowing its distribution – at the present moment, fragmented and uncertain – it's important to better understand its biology and ecology of which still very little is known.

Observations sent in by Reef Check Italy's volunteers are contributing efficiently to this purpose. Anyone interested in deepening their knowledge of this species may use this essential source of information, found at: **www.progettomac.it/rciwebgis.asp**.

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CLEAN UP ARABIA

THE RESULTS ARE IN FOR 2013

CLEAN UP ARABIA'S MAIN SPONSOR: **ARABTEC**

Emirates Diving Association hosted their 18th Clean up Arabia campaign this year under the patronage of HH Sheikh Hazza Bin Hamdan Al Nayhan and his brother HH Sheikh Yas Bin Hamdan Al Nahyan!

The young royals are an inspiration and loyal ambassadors to Clean Up Arabia in Abu Dhabi, voicing the message loud and clear to keep our oceans, beaches and waterways clean and healthy by retrieving as much harmful debris from our marine environment as possible.

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Emirates Diving Association hosted their 18th Clean up Arabia campaign this year! The annual, regional event was kick started into action back in 1995 with the support and backing of all the volunteers and loyal sponsors and partners.

EDA organizes Clean Up Arabia in collaboration with the UNEP YouthXchange West Asia (United Nations Environment Programme). It is backed by the Australian's 'Clean Up the World' campaign, the USA-based 'International Coastal Cleanup' and the Project AWARE Foundation. All these organizers have years of experience around the world, coordinating groups from all walks of life, joining together for the good of the earth.

FOR INFO: http://www.cleanuptheworld.org

Clean Up Arabia is an annual voluntary campaign that aims to clean up the dive sites and beaches of the UAE and surrounding regions. Campaign objectives are:

- Engage the community and involve people from all walks of life to make a difference.
- Rid the marine environment from pollution.
- Direct people toward positive attitudes in maintaining a clean and sound environment by practice and participation.
- Supporting continuous clean up activities.

The campaign is regional and this year covered the UAE, Oman and Qatar which is driven and mobilized by EDA and supported by our loyal sponsors. It is all about making a difference, and spreading awareness.

- Part of the campaign is to record the quantities and types of 'refuse' collected each year and to make comparisons with the previous data collections.
- Data collected is reported to the International Coastal Cleanup (ICC) and used in educating the public, businesses, industries and government officials about the marine debris problem.

CLEAN UP ARABIA ABU DHABI

60 divers joined Clean Up Arabia on the 22nd November in Abu Dhabi's Mina Port Zayed.

HH Sheikh Hazza Bin Hamdan Al Nayhan and his brother HH Sheikh Yas Bin Hamdan Al Nahyan teamed up together and donned their masks and snorkels and took the plunge into the fishermen's wharf to surface and haul the divers debris collections from below. In the oddities collected, 3 spring mattresses were brought up from the port's depths.

The young royals are an inspiration and loyal ambassadors to Clean Up Arabia in Abu Dhabi, voicing the message loud and clear to keep our oceans, beaches and waterways clean and healthy by retrieving as much harmful debris from our marine environment as possible.

CLEAN UP ARABIA FUJAIRAH

Le Meridien Al Aqah Beach Resort Fujairah, is one of Clean Up Arabia's main supporting partners and this year's event was again held from the hotel grounds for the 9th year running on Saturday the 23rd of November.

9 dive boats set off from the Al Aqah beach with 55 divers to designated dive sites and 272 participants battled out the heavy load of local beach debris.

The unpredictable weekend weather thankfully held out for another successful event and we had a much larger turnout than we had expected because of it. Thank you to all the volunteers (divers and beach cleaners) who took the chance and made their early drive over to the East Coast armed with the determination and enthusiasm needed.

EDA members, partners, families and friends got into their respective groups after the morning's registration, breakfast and opening by Emirates Diving Association's Executive Director, Ibrahim Al-Zu'bi. The divers headed to their assigned boats and dive sites and the other groups headed off to do the beach clean up.

Several hours later, the group leaders handed in the ICC cards with the total number of items collected and then everyone enjoyed a buffet lunch in Le Meridien's garden followed by group photos.

The annual volleyball tournament ended the day's event with teams played by Dubai Duty Free, EDA Members and Le Meridien. Congratulations to DDF for winning first

Clean Up Arabia held from Le Meridien Al Aqah Beach Resort Fujairah

place, followed by Le Meridien in close second and the EDA team falling into third place.

A big thank you goes out to all our fantastic volunteers and partners and to our faithful event sponsors and newly joined sponsors for all their support and concerns regarding our environment and backing up Clean Up Arabia! And most of all, thank you to our main sponsor for CUA 2013 – Arabtec and to our platinum sponsors – Dubai Duty Free, Enoc, Coca Cola and Emirates NBD.

CLEAN UP ARABIA AL HAMRA VILLAGE, RAS AL KHAIMAH

Al Hamra Village had an impressive 63 participants who collected a whopping 52 bags of rubbish! That's around 200kgs in total!

They chose to clean up fenced areas along Mohammed Bin Salem Road and one of their beaches within the village. To keep team spirits high, Al Hamra Village provided refreshments throughout the day and a community BBQ at the end to say thank you for all those who participated.

CLEAN UP ARABIA QATAR

A group of volunteers initiated the EDA pioneered Clean Up Arabia 2013 in Qatar. The drive was participated by various divers and beach-goers who support the advocacy for a cleaner and healthier ocean. Approximately 21,500 square meters of coast was covered as well as the mostly sandy underwater of the open Golden Beach in Messaeeid.

Clean Up Arabia's Dubai Duty Free Sponsor team.


Clean Up Arabia's East Coast beach clean up rubbish pile build up from afar before the divers collection was added.


DIVE
CREW


LUNG


AL MAHARA DIVING CENTER LL


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Thank you to everyone who filled out the ICC cards. This information is vital for the International Coastal Clean Up report which is compiled by the Ocean Conservancy. All our results are sent back to them each year and added to their database.

In comparing the results from last year, the numbers below show that 159 more items were collected in the underwater clean up, 107 more items were collected on the beach clean up, resulting to a total of 266 more items collected this year with 10 volunteers less. Cigarette filters still hold the highest number of an item found!

The photos on the opposite page are those from the Abu Dhabi dive clean up and pages 34-35 are those from the East Coast.

EAST COAST (DIBBA, FUJAIRAH & AL AQAH COLLECTIONS (108 Volunteers)

ITEMS COLLECTED	UNDERWATER TOTAL	BEACH TOTAL	BOTH TOTAL
Bags (paper)	0	224	224
Bags (plastic)	83	374	457
Balloons	0	25	25
Beverage Bottles (plastic)	54	396	450
Beverage Bottles (glass)	38	245	283
Beverage Cans	79	259	338
Caps, Lids	2	724	726
Clothing, Shoes	5	88	93
Cups, Plates, Forks, Knives, Spoons	**255**	533	**788**
Food Wrappers/Containers	16	376	392
Pull Tabs	0	91	91
6-Pack Holders	0	44	44
Shotgun Shells/Wadding	0	26	26
Straws, Stirrers	3	181	184
Toys	1	43	44
Bait Containers/Packaging	11	36	47
Bleach/Cleaner Bottles	1	36	37
Buoys/Floats	3	10	13
Crab/Lobster/Fish Traps	7	31	38
Crates	0	2	2
Fishing Lines	20	46	66
Fishing Lures/Light Sticks	5	7	12
Fishing Nets	3	53	56
Light Bulbs/Tubes	1	9	10
Oil/Lube Bottles	1	31	32
Pallets	0	26	26
Plastic Sheeting/Traps	4	38	42
Rope	23	424	447
Strapping Bands	0	19	19
Cigarettes/Cigarette Filters	0	**1168**	**1168**
Cigarette Lighters	0	71	71
Cigar Tips	0	37	37
Tobacco Packaging/Wrappers	2	51	53
Appliances (refrigerators, washers, etc.)	0	0	0
Batteries	3	7	10
Building Materials	5	225	230
Cars/Car Parts	0	15	15
55-Gal. Drums	0	8	8
Tires	2	24	26
Condoms	0	11	11
Diapers	0	8	8
Syringes	0	4	4
Tampons/Tampon Applicators	0	6	6
Others	3	79	82
TOTAL	**630**	**6,111**	**6,741**

































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ABU DHABI (60 Diving Volunteers)	
ITEMS COLLECTED	**UNDERWATER TOTAL**
Bags (paper)	0
Bags (plastic)	48
Balloons	1
Beverage Bottles (plastic)	165
Beverage Bottles (glass)	142
Beverage Cans	**419**
Caps, Lids	1
Clothing, Shoes	2
Cups, Plates, Forks, Knives, Spoons	35
Food Wrappers/Containers	46
Pull Tabs	1
6-Pack Holders	0
Shotgun Shells/Wadding	0
Straws, Stirrers	6
Toys	21
Bait Containers/Packaging	1
Bleach/Cleaner Bottles	15
Buoys/Floats	1
Crab/Lobster/Fish Traps	10
Crates	0
Fishing Lines	1
Fishing Lures/Light Sticks	0
Fishing Nets	0
Light Bulbs/Tubes	2
Oil/Lube Bottles	5
Pallets	0
Plastic Sheeting/Traps	0
Rope	10
Strapping Bands	10
Cigarettes/Cigarette Filters	22
Cigarette Lighters	0
Cigar Tips	0
Tobacco Packaging/Wrappers	0
Appliances (refrigerators, washers, etc.)	0
Batteries	3
Building Materials	0
Cars/Car Parts	0
55-Gal. Drums	0
Tires	2
Condoms	0
Diapers	0
Syringes	0
Tampons/Tampon Applicators	0
Others	4
TOTAL	**973**

The clean up in Qatar





QATAR (27 Volunteers)			
ITEMS COLLECTED	**UNDERWATER TOTAL**	**BEACH TOTAL**	**BOTH TOTAL**
Bags (paper)	8	0	8
Bags (plastic)	30	45	75
Balloons	0	0	0
Beverage Bottles (plastic)	12	29	41
Beverage Bottles (glass)	3	11	14
Beverage Cans	21	43	64
Caps, Lids	0	8	8
Clothing, Shoes	2	10	12
Cups, Plates, Forks, Knives, Spoons	36	**97**	**133**
Food Wrappers/Containers	8	32	40
Pull Tabs	0	0	0
6-Pack Holders	0	0	0
Shotgun Shells/Wadding	0	0	0
Straws, Stirrers	0	0	0
Toys	2	0	2
Bait Containers/Packaging	0	0	0
Bleach/Cleaner Bottles	0	0	0
Buoys/Floats	0	0	0
Crab/Lobster/Fish Traps	0	0	0
Crates	0	0	0
Fishing Lines	0	7	7
Fishing Lures/Light Sticks	0	0	0
Fishing Nets	0	0	0
Light Bulbs/Tubes	0	0	0
Oil/Lube Bottles	0	0	0
Pallets	0	0	0
Plastic Sheeting/Traps	0	0	0
Rope	0	3	3
Strapping Bands	0	0	0
Cigarettes/Cigarette Filters	**48**	3	**51**
Cigarette Lighters	0	2	2
Cigar Tips	0	0	0
Tobacco Packaging/Wrappers	4	0	4
Appliances (refrigerators, washers, etc.)	0	0	0
Batteries	0	0	0
Building Materials	0	8	8
Cars/Car Parts	0	0	0
55-Gal. Drums	0	0	0
Tires	0	0	0
Condoms	0	0	0
Diapers	0	1	1
Syringes	0	0	0
Tampons/Tampon Applicators	0	0	0
Others	0	1	1
TOTAL	**174**	**300**	**474**







ABOVE: The East Coast Volleyball Tournament at Le Meridien Al Aqah Beach Resort Fujairah **BELOW:** Clean up Arabia in Al Hamra Village in Ras Al Khaimah.





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A LIFE WITHOUT LIMITS

FEATURE **ERNST VAN DER POLL** PHOTOGRAPHY **SEAN DAVIS** – SEANDAVISPHOTOGRAPHIC.COM

Our goal has been to make adaptive diving available to people with all abilities in Dubai and we have seen people as far as London and the USA come and participate in the program. Visually impaired, muscle dystrophy, autism, amputees, even a girl that was born without legs. All of them brought together with one thing in common… the healing power of the Ocean!


OAKLEY

The first time I met a person with a physical disability, was when I was 14 years old attending a volunteer program in Mozambique. They worked with children that got maimed by landmines that had been left after the civil war.

We spent the days on the program doing art and playing with little Mozambican kids not much younger that we were. One of the girls was called Miriam. She was about 10 years old and lost both her legs in a land mine blast. Her parents abandoned her, not being able to look after her and she was taken in by a volunteer organization working with children from war conflict affected areas.

Miriam was a quiet girl left in a catatonic state after her trauma. She never talked, she never smiled and spent her days sitting under a tree just looking into space. We spent an afternoon with her doing art, teaching her to write her name in big letters and then drawing things she loved inside the letters. We used lots of colors and paint and just enjoyed spending time with her. The woman who was in charge of the volunteer program came along and saw what we were doing and started crying. At first we thought we did something wrong and stopped what we were doing. She told us not to stop and explained that Miriam was with their program for 3 years already and this was the first time she saw her smile…

The experience really hit home because I was only a few years older than her. I remember thinking, I am also an African and that could have easily been me if there were a small difference in geography.

16 years later, I was reminded of this story when I got involved with the Palestinian Children Relief Fund (PCRF) – an organization that works with sick or injured children from conflict areas in the Middle East.

A number of amazing kids with different injuries came to participate in a diving program I set up at the Pavilion Dive Centre at the Jumeirah Beach Hotel. The program

was aimed at giving young kids from the Middle East with physical disabilities or amputations a chance to experience scuba diving while waiting to be treated as part of the PCRF's treatment program in Dubai. The reaction of the kids that came diving with us was unbelievable. To see the realization on their faces that they can move without crutches or a wheel chair was priceless. One boy in particular made a life changing impact on me. Khalil Al Jedali was 16 years old when he lost both his legs in a mortar attack. I met him not long after this life-altering episode that also claimed his 8 year old little brother. When I was told about him, I expected to meet a crushed and bitter teenager, instead I met a young man that lit up a room when he entered. Khalil had a twinkle in his eye, and a gentle spirit, yet he was confident and self-assured in spite of how his life had changed in an instant. Scuba diving was the last thing on earth Khalil expected to do. Like the other kids that came through the program, Khalil was amazed by the new found possibilities for movement in a zero gravity environment. Learning how to dive – something that even most able-bodied people could find daunting, taught Khalil a lesson he would never forget. It wasn't how to clear a mask, or how to master his buoyancy. Learning to dive caused a paradigm shift. It made him realize he could achieve the unthinkable, achieve things that previously he thought might have been impossible.

Today Khalil is back in Gaza. He is also back in a wheel chair. He outgrew his prosthetic legs to the stage where they simply were too painful to use. He is currently studying a business major with dreams to start his own business one day, to be able to provide for his family. He battles his way to university in his wheel chair. Some days he has a hard time functioning, like we all do. It is on days like this I would like to think that Khalil thinks back to the moments we shared under the water. Nothing but the sound of our breathing, the cool Arabian Sea wrapped around us and


ScubaMax


ScubaMax

the sensation of being able to move freely in zero gravity, with no restrictions…I would like to think that this is not just a distant memory, but a reminder of what he has achieved and what he can still achieve. We stay in touch with Skype. Every time we chat, we plan the next time we can get together to dive again. I know it will happen. It has to!

With the help of Fraser Bathgate, Disabled Divers International and Deptherapy's Founder, we managed to launch the Middle East's first Adaptive Diver training program as part of the Jumeirah Tawasul Adaptive Diver Program at the Pavilion Dive Centre. The program trained over 30 Adaptive Diving Instructors from different nationalities since 2010. Our goal has been to make adaptive diving available to people with all abilities in Dubai and we have seen people as far as London and the USA come and participate in the program. Visually impaired, muscle dystrophy, autism, amputees, even a girl that was born without legs. All of them brought together with one thing in common…the healing power of the Ocean!

On the 27th of September, history was made with the launch of the ConnectOcean "No Limits Adaptive Diving program", the first of its kind in Costa Rica and Central America. With the support of ConnectOcean and the ICT (Instituto Costarricense de Turismo) the region's first Adaptive Diver Instructor Program was hosted at the Four Seasons Papagayo Peninsula under the instruction of Fraser Bathgate. Dale Thompson and Mike Ceci, two very experienced Instructors from the Jumeirah Tawasul Adaptive Diver Program, travelled all the way from Dubai to assist during the event. The highlight of the event was 30 Paralympic Athletes participating in a PADI Discover Scuba Diving Experience. Most of the athletes were either part of the volleyball team or swimmers, and their injuries ranged from amputations to spinal cord injuries.

We had an amazing day on the beach playing seated volleyball, kayaking and doing breath

ConnectOcean
Discover · Connect · Protect

taking dives with ConnectOcean and BA Divers, the first Adaptive Diver Training facility in Costa Rica.

The event also had two guest keynote speakers that attended the event.

Tiffany Joiner broke her back and injured her spinal cord in 2008 when she fell from her balcony in Dubai and Jennifer Bricker, an acrobat and aerialist who was born with no legs. Both women started their training as part of the Jumeirah Tawasul Adaptive Diver program in Dubai and completed their PADI Openwater training with ConnectOcean in Costa Rica as part of the " No Limits" Adaptive Diver Training Program.

Tiffany is using her experience to share and help other individuals who had to go through similar traumatic and life changing events. She was told she would never be able to walk again but in spite of this, her strong spirit has motivated her to back pack around the world where she is focusing on her writing, documenting her travels in an exciting travel blog called, "A Tale of Two Legs".

The ConnectOcean "No Limits" Adaptive Diver Training program is also collaborating with MIT in Boston. In October, I travelled to Boston as part of a rehabilitation program to train up a husband and wife couple that survived the Boston Marathon Bombing in April. A lot of survivors from traumatic life changing experiences suffered from Post Traumatic Stress Disorder. Studies are being done at institutions like the John Hopkins University on the positive affects of diving on PTSD and TBI (Traumatic Brain Injury) that can also occur from motor vehicle accidents. Organizations like Deptherapy in the UK, who was founded by Fraser Bathgate, has been working with patients with PTSD and TBI with some profound results. In the majority of the cases, there has been a tremendous improvement psychologically and even documented pain relief of some of their injuries. On interviewing participants of these programs, a common thread can be found. The Ocean's ability to heal…

2014 will mark a year for great collaboration in Adaptive Diving. ConnectOcean and the Jumeirah Tawasul Adaptive Diving program will be joining forces with Deptherapy to roll out an amazing project and another first of its kind in the Middle East. The "No Limits" Diving program will be extended to Dubai and we will be training up a group of UAE Paralympians to dive and embark on an Adaptive Dive Adventure to Costa Rica!

Our goal is to engage corporate commitment and sponsorship for this adventure and to document it as part of a small documentary to outline strength of the human spirit to overcome and the Ocean's amazing ability to inspire passion in the hearts of people with all abilities.

With the help of Adaptive Diving Instructors at the Pavilion Dive Centre, a group of UAE Adventurers with physical challenges will start their adventure by completing their Openwater training before embarking on a life changing adventure to Costa Rica. The Costa Rican Paralympic Athletes will be welcoming the team for 2 weeks of adventure and diving, exploring the tropical rainforests, volcanoes and doing dives with majestical giant mantas and join our search to find the giant bull sharks of Bat Island. An Adventure to discover… connect…and protect, all part as a first step to a life without limits.

KEEP DISCOVERING WITH KIDS SCUBA CAMP, MABUL/SIPADAN

FEATURE **SARAH MICHAELSON-YEATES** PHOTOGRAPHY **NADHIRAH RAHMAN AND SAMIR AMIN**

Educating the youth of today is something that every individual has a responsibility to do, so when we were invited by Kids Scuba from December 7th until 11th to experience their end of year diving camp in Mabul/Sipadan we jumped at the chance. Not only do we support organisations who initiate activities where today's children are educated on the importance of marine conservation, but with it's crystal clear turquoise waters, soft white sands and its famous reputation for being one of the best places in the world to dive thanks to its incredible marine life and visibility, we were excited to see what Sipadan treasures would be found.

The story began in 2002 when passionate dive master Syed Abdul Rahman took his 8 year old daughter Sharifah Nadhirah diving. Having dived himself for many years in hotspots such as the Maldives, Australia, Sulawesi, Thailand, Sipadan and Layang Layang, Syed would take Nadhirah diving and most of the time, the only other children he saw diving were expatriates. Nadhirah became the youngest internationally certified kid diver in Malaysia at the age of 8, and realizing how much fun his daughter was having with the sport, Syed thought if she could do it, then why not other Malaysian kids. After some research, Syed took up the Scuba Rangers instructor certification in Singapore and set up Kids Scuba in March 2004.

Kids Scuba is a PADI Youth Diver Education Award Dive Center, and is in the near vicinity of Kuala Lumpur, Malaysia. Every Saturday, there is a pool session at the Maybank Training Academy swimming pool in Bangi, a 30 minutes drive from Kuala Lumpur where kids, teenagers and adults alike can learn how to dive. Aside from wanting to give Malaysian children the opportunity to experience diving, Syed also wanted to create a platform through Kids Scuba that had a family focus and which would create an opportunity for parents to do a sport with their children, as he himself had done with his own. As well as his daughter Nadhirah, now 20 years old, Syed's other children Hana, now 15, was 10 years old when she was certified and his youngest daughter 10 year old Najwa, is a certified open water diver. Syed's wife Nadia is also a diver, allowing

the whole family to enjoy the sport, and spend quality time together at the same time.

The scuba courses available through Kids Scuba are suitable for any level. From the PADI Seal Team course for kid's aged 8 – 10 years old, to PADI Junior Open Water Courses for teenagers and Open Water courses for parents and adults. Despite the family experience being the main drive of Kids Scuba, those without children are also welcome to do courses including Advanced, Rescue and EFR, to Dive Master and Open Water Instructor courses. For dive leaders and instructors who love kids and the underwater environment, Kids Scuba also have a specialized expert course for training kids by using special analogies through the theory and practical approach.

Kids Scuba are pioneers in training kids in the sport of scuba diving in Malaysia and since its establishment in 2004, have trained hundreds of children and teenagers through their regular Saturday classes – an accomplishment which was recognized by His Majesty the King of Malaysia, YAM Tuanku Mizan Zainal Abidin who awarded Kids Scuba "Most Successful Kids Scuba and Scuba Rangers Award in the World."

Syed wanted to take the education factor to the next level, and so in 2005, the first ever Kids Scuba Camp in Malaysia was organized at the Tioman Island. Following the success of how well the Camp was received by parents and children, each year since then, a Kids Scuba Camp is organized on every Malaysian School Holiday at various Marine Park Islands in Malaysia including Tioman Island – Pahang, Lang Tengah Island, Perhentian Island – Terengganu, Langkawi Island – Kedah, Mataking, Mabul and Sipadan Islands in Sabah. It was the latter that I had the pleasure of being a part of, and certainly an experience that I won't forget.

Being a convenient half an hour from the coast of Malaysian Borneo, Mabul is a small, oval shaped island covered in tall palm trees, fringed with soft white sand and surrounded by the turquoise water of the Celebes Sea. Organised like clock-work by Syed and Nadia, the total number of excited divers attending the camp was 40, with 16 of those being children or teenagers. The group was a diverse mix of nationalities, with adults without children also in attendance to complete the next level of their certification. We stayed at the Borneo Divers Mabul Resort which was only a short 20 minute boat ride from Sipadan Island. From the off-set, it was clear that safety was the number one priority, and in the debrief meeting, all divers in attendance were given clear

and concise instructions with the rules and regulations of diving in Mabul and Sipadan and to every child diving, there would be 2 or 3 dive instructors allocated to them. For the parents who were attending but not diving, the level of safety and knowing that their child is well and truly taken care of is one of the main factors that has kept them coming back to each camp organized by Syed and Nadia.

A previous resident of Dubai and one of the mothers in the group, Lin Phoon, who's teenage children Chee Wai Thong, 17 and Ching Yi, 15 were attending the camp, told me that the trip was equally as exciting for her as a non-diver as it was for her children. Having done 3 previous trips with Kids Scuba Camp, Lin wanted to do a family sport where she could spend time with her children whilst they were having fun and learning at the same time. For Chee and Ching, the trips with Kids Scuba are always much more than just diving. Similarly with the other children and teenagers that I spoke to at the camp, they love the trips and each one they attend is always different from the last and what they see and learn in each camp that they attend increases their knowledge, confidence and experience in not only diving, but also in recognizing marine life and learning about marine conservation in a fun way. For Lin and the other non-diving parents in the group, the camp is equally as fun, and a chance for them to snorkel, re-connect with the friends they made from previous trips and spend time with their children also. During the trip, one of the activities that the children and adults were able to participate in was the sinking of a small boat for the purpose of creating an artificial reef.

As the founder of Kids Scuba, Syed is driven to organize the camps in knowing that he is providing an experience that the whole family can enjoy and enables children to spend quality time with their parents through an educational diving experience. With a charismatic passion for diving and marine conservation that certainly cannot be missed, Syed sees the confidence in each of the children grow with every dive that they do, and every camp that they attend. Through educating the children at a young


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age, the skills developed are those not only for responsibility in conservation, but also teaches the children how to be responsible for themselves and also their buddies under water.

Being PADI Open Water divers and PADI Seal Team divers, as I was watching the children interact and get ready for a dive, I noticed that the social skills were far more advanced than many other children that I have come across, and which I put down to initiatives such as Kids Scuba where they learn that they have a responsibility for themselves and also a responsibility to each other. I saw confident 10 year olds easily making conversation, listening intently to their instructors and also ensuring that their dive buddies were comfortable for their upcoming dive.

After returning from their dives in Mabul or Sipadan, the children would regale the non-diving snorkelers with their reports of the abundance of large underwater exotic creatures they had seen, including white tip sharks, barracudas, pigmy sea horses, sea turtles, bumphead parrot fish and jacks to name a few.

After a full day of diving and a sociable dinner, the activities would continue and the nightly Kids Scuba quiz would begin with an educational video being shown, followed by a quiz which was suitable for children and adults alike and prizes for each respected winner. With individual, as well as group activities and competitions, the days were filled from morning until evening and it was easy to see why parents kept bringing their children back to the camps. At the end of the camp, Syed was already being surrounded by children demanding to know where and when the next camp would be. After a response from the parents of if they did well with their grades in school, that they would be able to attend the next trip, I have never seen so many children eager and excited about school – quite an innovative way for education to encourage further education.

It was an absolute joy to attend Kids Scuba Camp, and I'm looking forward to hearing the news from the next trip. The Kids Scuba Program is in line with Tourism Malayisa for the Visit Malaysia 2014 campaign, promoting diving destinations for kids and families in the country. Being only a short plane ride away from Dubai, I would definitely recommend the camp for families looking for a holiday where their children can dive or snorkel at some of the best sites in the world. Also, for those without children, as many in the camp were, you will experience some truly spectacular sites.

For more information on Kids Scuba please visit **www.kidsscuba.com**

Photo by Ibrahim Jaalmani

DUBAI TURTLE REHABILITATION PROJECT'S 2013 BIG JUMEIRAH SEA TURTLE RACE

SEVEN ENDANGERED TURTLES ARE NURSED BACK TO HEALTH AND RELEASED INTO THE WILD

FEATURE **DUBAI TURTLE REHABILITATION PROJECT** PHOTOGRAPHY **ALLY LANDES**

DUBAI TURTLE REHABILITATION PROJECT

Jumeirah HOTELS & RESORTS STAY DIFFERENT

THE BIG JUMEIRAH SEA TURTLE RACE

THE CONTENDERS

9am 5th December 2013 - in celebration of world sea turtle day!

Race rules:

1.)The race begins once the turtles have entered the water.
2.)The race will finish on 14th March 2013
3.)The winner will be the turtle which swims the most kilometers and not the greatest distance from the release point.
4.)If a tag stops transmitting before the end of the race, the contender will be disqualified from the race.

Contender 1 - NOOR sponsored by Jumeirah Zabeel Saray (JZS) - 12.1kg - Hawksbill turtle (Eretmochelys imbricata) IUCN Status: Critically endangered
Weighing in at 12.1kg and with a carapace length of 45cm, Noor is the smallest turtle taking part in the race. This juvenile hawksbill turtle is an outsider but not to be underestimated because of his size. Hawksbill turtles are omnivorous and frequent coral reefs, spending most of their days busily swimming around to find food. It is this constant movement in search for food that makes this animal a good contender for the greatest distance travelled. Noor was rescued on Jumeirah public beach with many ailments related to the cold winter months. Since then, Noor has built up lots of strength and is ready to swim!

Contender 2 - MASHUA sponsored by Jumierah Messilah Beach Hotel & Spa, Kuwait (JMB) - 13.7kg - Hawksbill turtle (Eretmochelys imbricata) IUCN Status: Critically endangered
Weighing in at 13.7kg and with a carapace length of 48cm, this juvenile hawksbill is the second smallest turtle in the race. Although Mushawa is the second smallest turtle, she displays considerable stamina, enthusiasm and swimming ability. Mushawa was brought in to the DTRP in April 2013, rescued by EMEG at their Ghantoot reserve and suffering from positive buoyancy. Since then, Mashuwa has made a full recovery and is now ready to show the other larger turtles that size isn't everything!

Contender 3 - SHADEED sponsored by Madinat Jumeirah (MJ) - 15.62kg - Hawksbill turtle (Eretmochelys imbricata) IUCN Status: Critically endangered
Weighing in at 15.62kg and with a carapace length of 52cm, Shadeed is almost into sub-adult hood and as such is going to be a strong competitor for the furthest distance travelled. Shadeed was rescued from a beach in Abu Dhabi in the December 2012 suffering from a severe blood infection. The DTRP team worked hard to bring shaded back to full health and Shadeed is now ready to show the other turtles how it is done.

Contender 4 - JAMEEL sponsored by Burj Al Arab (BAA) - 15.8kg - Hawksbill turtle (Eretmochelys imbricata) IUCN Status: Critically endangered
Weighing in at 15.8kg and with a carapace length of 50cm, Jameel is not as large in body length as his rival Shadeed but has a heavier overall weight. Jameel has a lot to live up to as in 2012 'Storm' swam to victory and won the Big Jumeirah Sea Turtle Race for Burj Al Arab. The heat is on for Jameel to keep the crown for Burj Al Arab, how will he cope under such pressure, we will have to wait and see...

Contender 5 - SEABISCUIT sponsored by Wild Wadi (WW) - 23.7kg - Hawksbill turtle (Eretmochelys imbricata) IUCN Status: Critically endangered
Weighing in at 23.7kg and with a carapace length of 63cm, Seabiscuit is the largest hawksbill turtle in the race and for the other hawksbills, he is the one to beat. Seabiscuit was rescued from Abu Dhabi in October 2012 and had a severe buoyancy problem which took a long time to rectify itself. He is well into Sub-Adult hood and is now ready to hit the ocean and get back on with his life in the wild.

Contender 6 - JOEY sponsored by Jumeirah Etihad Towers (JAD) - 50kg - Loggerhead turtle (Caretta caretta) IUCN Status: Endangered with extinction
Weighing in at a healthy 50kg and with a 75cm carapace length, this extremely feisty sub-adult loggerhead turtle is sure to be a match for all other contenders. Loggerheads are found in all oceans of the world so this turtle could surprise everyone with an amazing journey. Joey was rescued on Palm Jumeirah in January 2013 and was in a severely weakened state and suffering from positive buoyancy. Since then, Joey has made an amazing recovery putting on over 12kg, building up lots of muscle for the race!

Contender 7 - MOJAH sponsored by Jumeirah Beach Hotel (JBH) - 64kg - Loggerhead turtle (Caretta caretta) IUCN Status: Endangered with extinction
Weighing in at a massive 63kg and with a 82cm carapace length, this powerful mature loggerhead turtle is a good contender for the top spot. Loggerheads have powerful jaws that they use to crush their crunchy crustacean prey and tend to frequent deeper waters than other species. Mojah was rescued by the team at Emirates Marine Environmental Group and brought into the DTRP in November 2012 suffering from many ailments but, has now made a full recovery and is raring to go!

You can subscribe to daily updates of all turtles in the race: www.seaturtle.org/tracking/index.shtml?project_id=687

On December 5th, the Dubai Turtle Rehabilitation Project (DTRP) successfully released seven rehabilitated sea turtles, including two loggerheads and five critically endangered hawksbills, back into the wild as part of the annual 'Big Jumeirah Sea Turtle Race'.

The Big Jumeirah Sea Turtle Race is a fun initiative that aims to inform the public about the plight of sea turtles, while collecting valuable information about the animals after they are released. As part of the race, seven sea turtles that were rescued by members of the public and nursed back to health by the DTRP team, were each fitted with satellite transmitters. Every satellite transmitter was sponsored by a different Jumeirah property. The participating hotel sponsors included Madinat Jumeirah, Burj Al Arab, Wild Wadi, Jumeirah Beach Hotel, Jumeirah Zabeel Saray, Jumeirah at Etihad Towers and Kuwait's Jumeirah Messilah Beach Hotel & Spa.

Warren Baverstock, Burj Al Arab's Aquarium Operations Manager, said "From our tagging initiative we have seen that turtles can undertake massive journeys, one turtle once travelled an amazing 8,600km in nine months, almost reaching the coast of Thailand. This shows that our project not only affects these populations on a regional and national level, but also on an international level. This initiative enables us to investigate the success of our rehabilitation protocols and integration of the animals back into the wild. The tags also allow us to compare habitat, temperature choice and migration patterns for each species, information which is crucial for the formulation of conservation plans."

According to the International Union for Conservation of Nature (IUCN), the hawksbill turtle has seen an 87% decline in population over the last three decades with only an estimated 8,000 nesting females left in the world.

Since 2004, the project has successfully released over 562 rescued sea turtles back into the wild. In 2011 alone, over 350 sick or injured sea turtles were treated by the DTRP. Within that number, an impressive 21 satellites have been attached to sea turtles to date, making this a major commitment to sea turtle research in this region.

Whilst most sea turtle research projects around the world focus on adult post nesting females for data collection, this does not give an accurate representation of the whole population. The DTRP started tagging turtles in 2005 and have released and tagged turtles from several different species found in the region, including: the hawksbill, the green and the loggerhead sea turtle. The released animals were both male and female and, also from all different life stages ranging from juvenile to adult, which we hope will give us a good overall picture of Gulf turtle populations.

This was the second 'Big Jumeirah Sea Turtle Race' with the first taking place in 2012. Last year's event was won by Burj Al Arab's 'Storm'; this huge 100kg loggerhead sea turtle travelled a massive 5,098km clocking up the most kilometres of the six turtles released.

This year's race concludes after 100 days on March 14th 2014. Regular updates of the turtles' ecological escapades and distances travelled are provided by Burj Al Arab's aquarium team and shared on social media. You can find out what the turtles are up to by joining the DTRP page at:
www.facebook.com/rehabilitation.turtles

The race will conclude on Friday 14th March 2014 when the turtle having clocked up the most kilometres will be revealed as the winner.

The DTRP is based at the Burj Al Arab and Madinat Jumeirah and runs in conjunction with the Dubai Wildlife Protection Office. The DTRP is the only project of its kind in the Middle East and Red Sea region. Essential veterinary services are provided by the Dubai Falcon Clinic and the Central Veterinary Research Laboratory.

There are two turtle rehabilitation enclosures that are accessible to the public and are located at the Mina A' Salam Hotel near Al Muna and the new La Tortuga restaurant. These enclosures are for the turtles in their final stages of rehabilitation before they are released back into the wild. There are special educational feeding sessions located at the Al Muna enclosure on Wednesdays at 11am and Fridays at 1pm, which are free of charge and open to the public.

REEF TO RESTAURANT

FEATURE AND PHOTOGRAPHY **CHRIS MASON-PARKER**

Don't be afraid to ask questions, and by changing attitudes we can help to maintain healthy coral reefs for future generations.

Four-Saddle Grouper

Those of us fortunate enough to have dived on the coral reefs of Southeast Asia will be familiar with the amazing riches of the most biodiverse expanse of water on the planet. The coral triangle spans an area from the west of Malaysian Borneo to Papua New Guinea and the Solomon Islands in the east, and encompasses much of Indonesia and the Philippines, an area of almost 6 million square kilometres.

A longtime hotspot for the diving industry the reefs in the region have undergone a transformation over the years. The area is surrounded by a population of 120 million people, many of whom live and depend directly on the natural services provided by the waters around them. Increased pollution, sediment loading, global warming, and natural impacts such as tsunamis and typhoons have all impacted heavily on the reefs in the area.

In recent years perhaps one of the most noticeable characteristics of the coral reefs of the region is the decreasing number of top predators. It is not just the sharks that are disappearing but also many other large and predatory fish.

For years divers have campaigned for the plight of sharks around the world and rightly so. The shark fin industry is a cruel and unsustainable practice that is stripping the oceans of their top predators, altering the balance of marine ecosystems and depriving local people of valuable resources for the benefit of a wealthy few.

The tragedy is that overexploitation of predatory reef fish is also occurring unabated throughout the worlds oceans, and is particularly evident in Southeast Asia due in large part to the Live Reef Fish Trade? Last year a group of scientists from the International Union for Conservation of Nature (IUCN) Species Survival Commission, published a paper stating that 25% of all grouper species are currently threatened.

With this in mind, why is it that divers regularly visit the restaurants that sell these groupers and napoleon wrasse to dine on the very fish they admire so much when underwater? Is it ignorance or apathy?

A few years ago in Hong Kong, I was invited to have a meal at a Chinese restaurant by some friends. It was a normal mid priced restaurant in the heart of the city, one of thousands found throughout the region. As the evening progressed the waiter brought out one dish after another. Crispy pork balls and peppered crab Singapore style were followed by steamed coral grouper, a dish I politely declined. Next up was a serving of dumplings containing steamed vegetables, ginger, and as one of my hosts informed me, shark fin.

I could not believe what I was seeing. These people were experienced divers who had dived around the world and here they were ordering a dish of shark fin without a moments pause for thought. If this was their attitude towards sharks what chance did the groupers have?

I would like to think their choice of dishes that night was not typical of your average diver and seafood consumer, and as far as shark fin is concerned, attitudes are slowly beginning to change. However, when it comes to grouper you only need to pay a visit to your nearest seafood restaurant almost anywhere in Southeast Asia, where tanks crammed full of live specimens indicate a widespread and socially acceptable food choice.

The biodiverse waters of the coral triangle were once home to an abundance of large grouper and yet many areas are now virtually devoid of these magnificent predators. The reason for this is simply overfishing. Not subsistence fishing by local populations, but destructive overfishing, predominantly for the Live Reef Fish Trade.

The Live Reef Fish Trade is the practice of keeping fish alive up until the moment they are cooked and served to the customer. The main markets for live coral reef fish are Hong Kong and China; though live reef fish can also be bought at restaurants in Singapore, Taiwan, Malaysia, and throughout the region.

The demand for live reef fish began to rise in the 1990s and the reefs around Hong Kong and China were quickly depleted forcing fishermen to travel further afield to source their catches.

Today the live reef fish trade extends west into the pacific island nations and east into the Indian Ocean. Many countries are involved in the export of live reef fish with Indonesia, the Philippines and Malaysia currently the largest exporters.

THE PROBLEM WITH LRFT

Incentives to enter the trade are high, with fishermen able to command up to four times the price for a live fish as a dead one. So what is the problem with the trade?

Firstly, the species targeted by the trade are mainly long-lived, predatory fish such as grouper, which mature late in life. Often they form huge spawning aggregations at known locations, which are targeted by fishermen who can remove large portions of a population with unknown consequences for the ecosystem.

Although the trade may initially offer some welcome income to local people, the depletion of resources due to the removal of unsustainable yields inevitably forces the operation to move on after a short period of time, leaving the local communities without an income source and with a now degraded coral reef ecosystem. In countries such as the Philippines where 70% of the population depend on fish for their primary source of protein, this can have devastating consequences.

Local people are attracted to the trade as

In Chinese communities the Giant Grouper is believed to have a medicinal value as well as being considered to offer good luck.

The beautiful Coral Hind Grouper is often targeted by the trade in live fish.

there is the potential to earn much more than in other lines of work. However, such opportunities come at a price and fishermen have to deal with appalling safety standards. As resources become scarce, they are forced to dive deeper and further afield, regularly making repetitive deep dives without basic safety equipment and days away from medical facilities. Many surface with signs of decompression sickness and cases of paralysis are all too common.

One of the biggest problems with the Live Reef Fish Trade is the destructive fishing methods that are employed. The use of cyanide to catch fish is still widespread throughout the Indopacific. Cyanide solution is used to stun reef fish allowing for them to be easily collected before being transferred to tanks or holding pens for transport. Fishermen squirt cyanide into coral heads, causing bleaching or death to the coral and invertebrates it comes into contact with. Often the fish hide within the recess of the coral, which has to be broken to extract them.

Once collected, the captured fish may pass through several hands before arriving on your plate, including secondary buyers, transporters, wholesalers and exporters. One of the most highly sought after fish in the Live Reef Fish Trade is the Napolean Wrasse (Cheilinus undulatus). A favourite of divers throughout the indopacific, this curious giant of the reef can fetch over $200 a serving. Slow to reproduce and with a wide range, the Napolean Wrasse has become locally extinct throughout much of Southeast Asia. Outside well-established marine parks sightings of these remarkable creatures are becoming all too rare.

The reality is that consumer driven, size selective removal of sexually immature fish for the live reef fish trade, has lead to a major population reduction across its range and earned the Napolean Wrasse the unwanted accolade of being one of the first reef fish to gain an IUCN listing.

In recent years aquaculture has begun to play a part within the trade. However, this should be treated with caution, as over 60% of aquaculture businesses within Southeast Asia are grow-out operations. This involves capturing juvenile wild fish and fattening them up in tanks and cages until a time when they are ready for sale. In addition to removing any opportunity for these fish to reproduce in the wild, the captured grouper species are fed using wild caught fish, leading to increased resource depletion and further reducing the operations credibility.

Full cycle aquaculture is the process of growing fish from eggs to a marketable size but at present this process is still in its infancy with only a few species presently raised in this manner.

The Live Reef Fish Trade is a complex multilayered industry that is undoubtedly being conducted at an unsustainable level throughout Southeast Asia and beyond. The longterm impacts of removing top predators from coral reef ecosystems are still unclear though the implications of resource depletion for local people is already all too evident.

Those new to diving will undoubtedly marvel at the beauty of the underwater world when they enter it for the first time. They will gasp at the diversity of forms and the multitude of colours, but they will never know what some of us have been privileged to see. A coral reef depends on its predatory fish to remove the old and the sick and to maintain the equilibrium and ecological integrity of the underwater environment. Like the generation before us the baselines are shifting and ecosystems are becoming poorer, with many of us directly contributing to the problem.

Divers are experiencing first hand the changes occurring on coral reefs around the world. It is our responsibility to stand up and voice our concerns. It is no longer acceptable to plead ignorance, it is about time we started swimming with our eyes open.

As divers and consumers we have the opportunity to change attitudes by speaking out through our purchasing power. I for one, would much rather see a grouper where it belongs, on a coral reef, than crammed into a tank waiting to be fished out and served with steamed vegetables.

Divers are familiar with the saying, 'take only pictures, leave only bubbles' but this philosophy should not end the moment we leave the water, but extend to our eating habits, as the choices we make have a direct impact upon the reefs we dive.

It is not a case of no longer eating fish but rather being better informed about the fish we eat and making educated choices. The WWF Seafood Guide for Hong Kong ranks commonly consumed seafood items including reef fish into colour categories to indicate whether they should be avoided. Similar booklets are now being produced around the world and are a useful tool in educating consumers into making sustainable choices.

Don't be afraid to ask questions, and by changing attitudes we can help to maintain healthy coral reefs for future generations.

Humpback Groupers are a favourite with both photographers and the live reef fish trade.

A variety of grouper species on sale at a market in Hong Kong.

great moments
always better
with Coca-Cola

Coca-Cola

Meal Time is COKE time

CHINHOYI CAVES: AN ADVENTURE

FEATURE **SAAD DAWOOD**

THE INTERNATIONS CHINHOYI CAVE EXPEDITION (ICCE) BROUGHT TOGETHER TECHNICAL DIVERS FROM EIGHT DIFFERENT COUNTRIES: (standing L-R) Thomas Moor, John Pike, Simon Nadim, Glenn Campbell, Tammy Hein, (kneeling L-R) Ronald Rizk, Samer Issa and Craig Barnett. With the exception of Tammy and Craig who live there, everyone else travelled by air to Zimbabwe from the United Arab Emirates and Lebanon.

Some of the diving equipment that was shipped from Fujairah to Zimbabwe. The more remote and inaccessible the dive site, the more equipment an expedition needs to carry. Roughly 3000 kilograms of dive gear was packed and shipped from the UAE and Lebanon in order to properly equip the expedition's divers.

Glenn Campbell carefully examining, assembling and testing his rebreather. Meticulous preparation and checking of equipment is essential before each and every dive – especially when gear has travelled hundreds of kilometres. Expedition divers carry spare parts, and are capable of performing a variety of field repairs in case equipment gets damaged in transit.

The expedition's gas blending station – airy, clean and shaded. The large brown cylinders laying on the ground contain helium, while the black ones contain oxygen. Gases are blended together in very specific quantities to create custom mixes that technical divers can breathe safely at specific depths without the risk of oxygen toxicity.

Earlier this year 'Divers for the Environment' ran a feature on an upcoming cave diving expedition to the Chinhoyi Caves in Zimbabwe (see the June 2013 issue, page 38).

The expedition achieved all its objectives and was a fantastic success. This follow-up feature presents the expedition's highlights, and shows why there are still questions for future expeditions to answer.

On the morning of the 26th June 2013, Glenn Campbell and Simon Nadim start their final descent into the Sleeping Pool – the alluring gateway to the mysterious Chinhoyi Caves. The time is almost exactly 12 noon and the sun is shining brightly overhead. They will not surface for another eight hours. But when they do, they'll have returned from where no human beings have ever gone before. And they'll bring back astonishing news.

"The ICCE team, while conducting a survey dive to 191mfw (metres of fresh water), has extended the known parameters of the primary cavern and also discovered a new subterranean cavern.

The primary cavern (previously surveyed by other teams) has a ceiling reaching from 108mfw to 70mfw. Its width is currently unknown but ICCE can now confirm that it certainly exceeds 100m horizontally, with a narrowing to 30m at 158mfw approximately 77m into the cavern.

At this 77m mark a sheer vertical drop to 170mfw introduces a new and previously unexplored cavern as it starts opening to as yet unknown dimensions. The topography is then stepped to 191mfw where Simon laid line for a horizontal penetration of 200m. The cave then continues on a gentle slope to approximately 200mfw," announced Glenn Campbell, Expedition Leader, at a press conference the next day.

For starters, no one ever imagined that the Chinhoyi Caves would present such great depths. All previous estimates and explorations maxed out at around 170m. But the major discovery was not the depth achieved, but the sheer size of this fascinating underwater cave system.

Even after laying 180 metres of new line, Simon Nadim (Lead Diver) could not see the end of the massive cavern he was in. His powerful torch beam just disappeared into utter darkness despite the crystal-clear water. He became intensely aware of just where he was, and the incredibly immense space he was exploring. And then he reached the end of his planned bottom time – it was time to turn around.

Two years of planning and training, leading up to 16 unforgettable days, and culminating in an exhilarating push dive into the unknown – the Internations Chinhoyi Cave Expedition (ICCE) has reignited debate on this enigmatic cave system's real size and depth. There are now many questions that only future expeditions can answer.

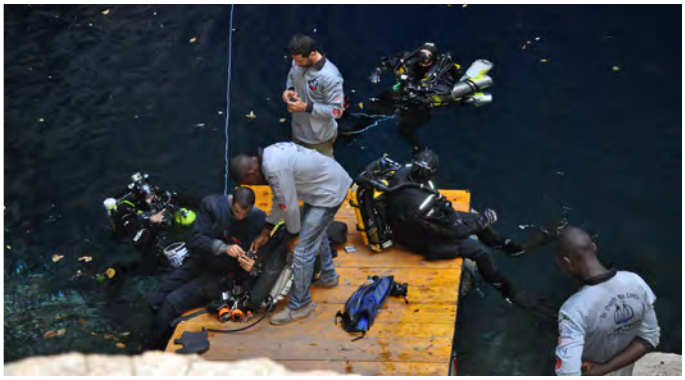
Blended, labelled and ready to go – Glenn Campbell's bailout cylinders. Although the expedition's deeper dives are all done on rebreathers, each deep diver needs to carry enough bailout gas in case the rebreather malfunctions. This bailout gas has to be breathable at different depths – hence the need for so many different cylinders.

Plan the dive, and dive the plan. Samer, Thomas and Craig join the rest of the team for a daily briefing session. Deep diving, especially over multiple days, requires a lot of pre-planning. Using sophisticated computer software, each dive is carefully staged, all risks are analysed, gas mixes are optimised, and personnel roles are assigned.

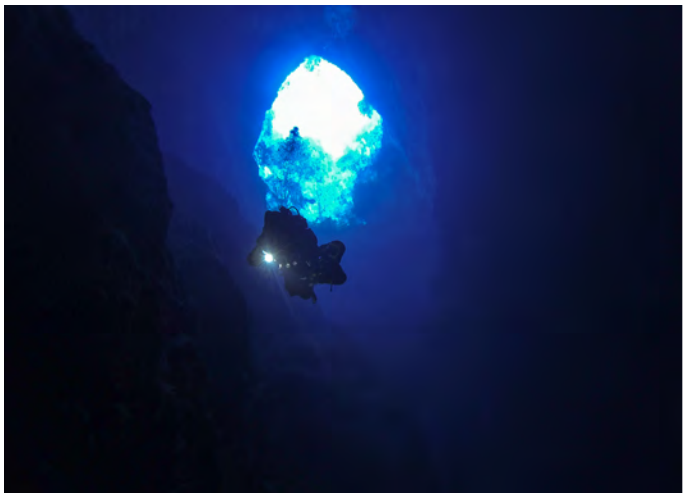
The tricky and steep climb down to the Sleeping Pool. One of the expedition's most physically-demanding tasks was to safely transport dive gear and equipment – by foot – down to the edge of the Sleeping Pool. The entrance is narrow and steep, making it difficult for more than two people to work together.

The Sleeping Pool – the awe-inspiring entrance to the Chinhoyi Caves. The Sleeping Pool is a limestone sinkhole and its sides plunge down a sheer 45m from the ground level. The expedition's dive platform can be seen floating in the background, while Tammy and Samer climb back up for more supplies.

Inside the Sleeping Pool. The rocky terrain down from the entrance can be clearly seen. It's difficult to describe how immense this sinkhole really is, or the intense feeling you experience when you are floating in it and looking up at the sky. The water is an incredible shade of blue, crystal-clear and refreshingly cool.



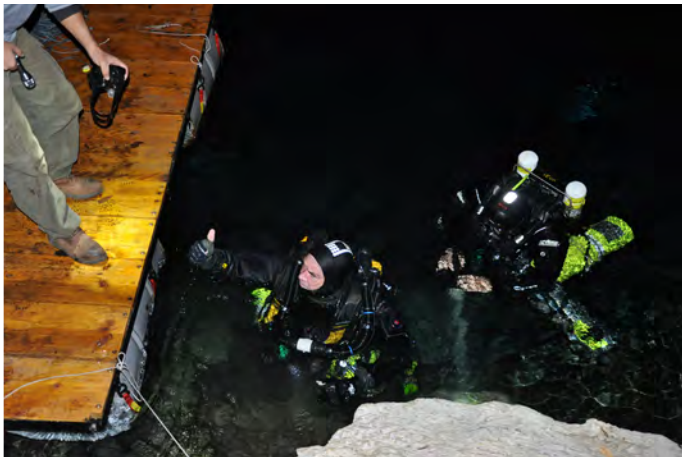
Pre-dive checks and adjustments before heading into the unknown. The expedition's dive platform allows divers to be assisted in entering and existing the water safely. Also, if the need arises, the platform can be floated into deeper water and in-water recompression (IWR) therapy can be efficiently administered to a diver.



A slow and silent descent to explore the depths of the Chinhoyi Caves. Notice how still and clear the water is. However, beyond this point the divers pass through a narrow opening and daylight quickly fades – the rest of the dive is conducted with the help of powerful dive torches.

Decompressing at the end of a deep dive. Simon Nadim's dive to 191m took just 15 minutes – but it required almost eight hours for him to off-gas and surface safely. Decompressing in the Sleeping Pool is a unique experience – no current, no wave action and no swells – you can actually go to sleep.

Pushing man and machine to the limits. Simon Nadim poses with his rebreather and underwater scooter. Other equipment which accompanied him on his 191m dive included a spare scooter, four bailout cylinders, several dive torches and many reels. He also took water – to drink during his many hours of decompression.



Eight hours in the water and night has fallen at the Sleeping Pool. Glenn Campbell signals a victorious 'thumbs up' as he surfaces. Beside him is Ronald Rizk, who provided support during Glenn's ascent from the depths. Simon Nadim is still underwater, decompressing. He has another 20 minutes to go.

THE SCHEDULE

DAY 1
Clear Zimbabwe customs inspection, check and transport equipment to base camp.

DAYS 2 & 3
Meet the local authorities, and start assembling the IWR (in-water recompression) platform.

DAY 4
Assemble various equipment, and start gas blending.

DAY 5
Set shot-line, and conduct deep dives to deploy stage tanks at 110m.

DAYS 6 & 7
Finalise gas blending, and assemble full team for briefings.

DAY 8
Build experience with full-face masks and underwater voice communication, run mock IWR exercises, and train local team on using the IWR platform.

DAY 9
Conduct exploration dives to 60m, with cave mapping equipment.

DAY 10
Conduct further exploration and mapping dives, and then the big push dive to 191m.

DAY 11
Conduct cave mapping dives, with intermediate teams working in the 30m to 60m zone, and shallow teams working in the 15m to 30m zone.

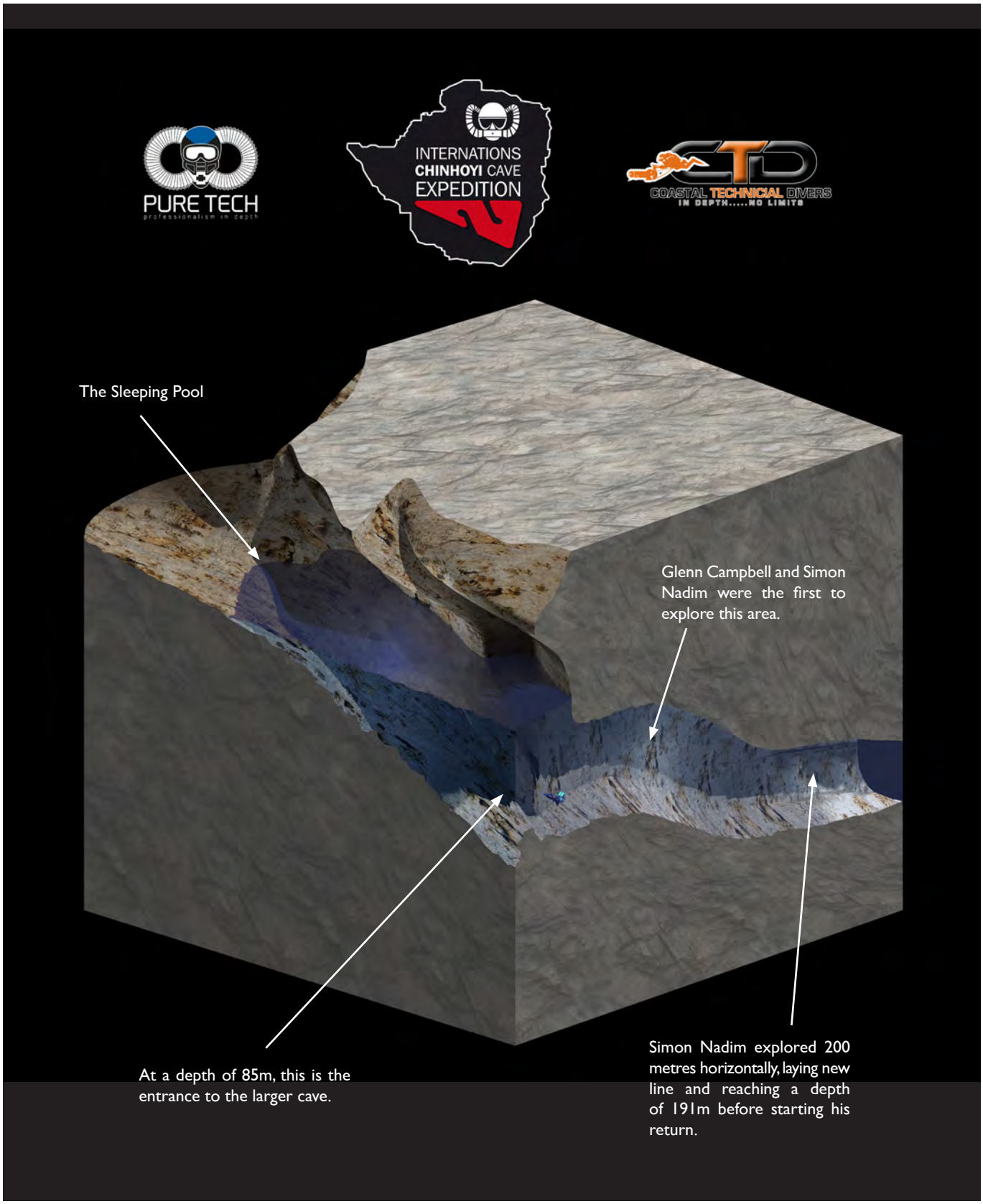
DAY 12
Allow deep and intermediate divers to off-gas and rest, while collating gathered data. Later, tour the park area or dive very shallow.

DAY 13
Conduct exploration and mapping dive to 110m.

DAY 14
Meet the press and local media in Zimbabwe to share and celebrate the expedition's success.

DAY 15
Dismantle all equipment, carefully pack and label everything.

DAY 16
Say goodbyes, disband team, and start the journey home.



VENTURING INTO THE UNKNOWN. This 3D rendering is carefully modelled on data collected by the expedition. Drawn to scale, it shows this cave system's astonishing dimensions. No one knows what lies beyond the 200 metres that Simon pushed through horizontally. There are many questions for future expeditions to answer.

WOULD YOU LIKE TO JOIN THE NEXT EXPEDITION TO THE CHINHOYI CAVES?

Get in touch with Coastal Technical Divers **www.coastaltechnicaldivers.com** to find out how.

Visit the ICCE blog for the official expedition video, team bios and other information: **www.coastaltechnicaldivers.com/icce/**

Follow ICCE on Facebook: **www.facebook.com/ICCExpedition**

A beautiful, healthy reef in Sudan's untouched Red Sea. Photo © Simone Caprodossi.

OUR PLANET, OUR EARTH, OUR HOME DO YOU EVER THINK ABOUT IT?

FEATURE **PAUL WARWICK**

In all the far reaches of space, our planet is positioned the perfect distance around the perfect Star (our Sun) to be able to support an atmosphere and the right mix of Hydrogen and Oxygen (H2O) in liquid form – Water. All in all, what are the chances that this would produce a hospitable environment which can support life – our life, our world, our home? Look at the rich diversity of life around each and every one of us. It is indeed as Sir Richard Attenborough put it, "A Living Planet". If that is the case, in all the far reaches of space with all its galaxies and its billions of stars, why are all the planets not considered "living entities or organisms" and the life they support, symbiotic in maintaining balance and harmony?

The concept of "Mother Earth" is not new and is found in almost all cultures and religions throughout the world in some shape or form, from the Frozen Poles to the Equatorial Forests and Deserts. The idea that our Earth is a Living Entity does carry some credence in scientific community, but do we as the "Intelligent Life Forms" live in harmony with "Mother Earth"? No, I would say that we are at odds with it, perhaps in ignorance, perhaps arrogance or perhaps we just don't care because it has no immediate impact on our lives? Whatever the reason, we continue rape and pillage our natural resources with no consideration for either our own future or that of future generations. Our natural resources are not limitless, nor is the ability of "Mother Earth" to regenerate and recycle – repairing the damage we are causing. We are on the "edge of a maelstrom", heading on a downward spiral because we cannot envision a future where fragile ecosystems are unable to cope with everything which is being thrown at them despite the overwhelming evidence.

Perhaps instead of thinking of our planet as "Mother Earth", we should think of it a "Life Boat" sailing through part of an endless sea of darkness and cold. As with any Life Boat, we have finite resources and eventually, we will have nothing left but a cold, contaminated dying world not fit to live upon. Anyone, in their right mind would look seriously at how to develop a sustainable future which continues to support life and preserves bio-diversity which is essential to health of our "Mother Earth".

OUR OCEANS AND SEAS

73% of our home is made up of that precious commodity water and of that only 3% is fresh water, most of which is "locked" in the solid form in the Polar Regions. The oceans and seas gave birth to all us land dwellers and it is our spiritual home. They continue to support us in all kinds of different ways from providing nourishment to travel and commerce and even energy. But, how long will it last before "Mother Earth" gives up on us completely as we place increasing demands upon her living and inert resources? What do we do to our oceans every single day in the name of progress? We pollute, contaminate, infect and destroy with no consideration for anything other than our immediate needs.

Our Oceans, Seas, Lakes, Rivers and Streams interact with and support every aspect of life on this planet. They shape the landscape, feed and succour all life, support our climate and weather systems and provide the primal energy which drives our planet. Without clean, healthy, vibrant and well managed water systems and the life they support, we have nothing and eventually ecosystems will

gradually collapse which have an exponential effect on other ecosystems until we have a terminally ill "Mother Earth". It need not be this way, our future could be brighter and we can live in harmony with all of nature by working with it, not against it.

WHAT ARE WE DOING?

Well, we are ignoring every sign and symptom of a growing illness, despite the best scientific advice and efforts of a brave committed few. You would not ignore these same signs and symptoms in yourself, then why ignore what is going on around you? Every single day species are disappearing – forever! Every day, we continue to make decisions which have a profound and lasting effect on the cohabitants of our planet, do they have a voice that speaks for them if not us?

Because we cannot or are not willing to manage resources effectively or in a balanced and responsible way, here are some of the things we are doing:

- **DESALINATION.** Across the world, we are desalinating seawater using huge amounts of energy to "Crack Seawater" and then bulldozing the residue salts back into the same sea we are using for desalination, thus increasing the salinity and thereby increasing the energy requirements to crack the saltier water. For what, to clean cars, water gardens and green areas and fill swimming pools that may be rarely used.

- **OVERFISHING.** Overfishing is destroying the natural balance in our oceans and seas and affecting not only the fish being targeted, but the predators that feed off of them and other vulnerable species, specifically:

- Sharks are still being hunted for their fins at a rate which might only be sustainable for 10 years more. After that who knows? These wonderful creatures are a measure of the health of our oceans, without them the fabric of our oceans and our world would collapse irrevocably.
- Trawling is destroying complete ecosystems, many of which are unique and cannot be replaced all in the name of cost!
- Reefs are being killed off as a result of poisoning to catch tropical fish. A very short term measure with huge long term affects. The reefs are the "cradle" of almost all marine life, to destroy them is to condemn the oceans to a barren future.
- Lost catches – Large industrial scale fishing captures all fish and does not just target the "catch". As a result all kinds of other creatures are caught and what happens, they are generally thrown back dead into the ocean.
- Whales, intelligent thinking mammals are hunted allegedly in the name of science???
- Dolphins are being killed in their thousands, out of tradition rather than need, even though their meat is contaminated with mercury above tolerated levels for human consumption.

- **POLLUTION.** We continue to "infect" our oceans, seas, lakes, rivers and streams with careless regard for the consequences, so much so, that many heavy metals (Mercury, Chromium, Cadmium etc and also exotic materials have now found their way into the marine food chain, contaminating the life which we and others feed upon.

- **PLASTICS.** Perhaps the biggest contaminant is plastic? It is in our oceans and seas, on land and in our food chain. We don't need corrective plastic surgery, we already have enough in our diet! Millions of tons of plastic is dumped in our oceans and seas each year, affecting everything it comes into contact with, from ingestion, absorption or just plain wearing it! We have all seen photos of sea life and birds whose stomach contents consist entirely of plastic, or the turtle which has died as a result of eating plastic bags which it mistook for jellyfish?

Were the science fiction writers and film makers of yesterday, the prophets of today, are we indeed the "virus" which infects our planet?

When is it going to stop and where do we take a stand? Well I would suggest that it has to stop now and that everyone on this "Life Boat" needs to take an active role in "turning back the tide" of uncontrolled, but knowing destruction if we and our Earth are to survive.

WHAT CAN WE DO?

All is not lost, but we need to help "Mother Earth" to recover and for biodiversity to reestablish itself. Sustainable living is possible and we can live in harmony with nature and especially our marine ecosystems, but it requires commitment, a change in attitude and a willingness to compromise to achieve real change. If we do nothing, then we face an exponential increase in the associated problems which will only get worse with time – we have to act and we have to act now. Well to begin with, this is not someone else's problem, it is everyones who lives on this planet of ours called Earth, otherwise what do we leave for future generations?

At the larger end of the scale, we need responsible, international and national leadership committed to doing what is morally and ethically right and not what is expedient. There is more to life than.

- International Bodies lack the "teeth" to act and rely entirely upon persuasion, rather than sanction and enforcement. This needs to be addressed and "we the people" need to empower these bodies to act in a responsible way and speak and act for those who cannot.

- Governments are elected to protect and serve the people. They are "failing" in that job because they lack the vision and leadership to make the hard and difficult choices now in order to provide for a brighter more sustainable future. Make your elected officials work for you and your children and your children's children in preserving our marine biodiversity.

- People, all people of all our world need to be educated about sustainable living, about taking a holistic view of our life here on our "Life Boat in Space". Make Governments and Corporate Businesses responsible for the damage they cause and make them put it right.

- Look at marine conservation and management as essential, not optional.

- There are always other options, we should discount none in tackling the key issues facing the next generation.

That is all well and good, but what can you and your family and your friends do to help change our world for the better?

- Don't put rubbish in the sea or anywhere else.
- Take your rubbish home when you have been to the beach or on a boat and dispose of it properly.
- Try to reduce your "footprint" in terms of consumption and waste.
- Think about recycling and reuse to reduce your "plastic footprint".
- Dispose of toxic, poisonous and corrosive materials properly. If you do not know how, ask the local authorities.
- Be aware of the "strain" on marine stocks and eat fish from either sustainable stocks or that which are not on the "Endangered" or "At Risk" categories. Most fish markets in the UAE will tell you which fish are in each category.

REMEMBER – We all have to live on "Mother Earth" and every single one of us creates an impact, try to minimize yours and those of your family. Every little helps and you never know, yours might just be the one that makes the difference and "tips the balance"!

A beach southwest of the Bin Majid Beach Resort, Ras Al Khaimah. Photo by Ian Trebinski.

DIGITAL ONLINE 2014 CONTEST RULES

EDA'S UNDERWATER PHOTOGRAPHY AND FILM COMPETITION

OPENS: WEDNESDAY, 1st JANUARY 2014 | **ENDS:** WEDNESDAY, 30th APRIL 2014 @ MIDNIGHT
EXHIBITION & AWARD CEREMONY: WEDNESDAY, 28th MAY 2014 | 19:00-22:00 | VENUE TBA

DIGITAL ONLINE'S MAIN OBJECTIVES ARE:

- To discover new promising underwater photographers in the UAE.
- To develop the human interaction with the underwater environment and highlight the beauty of its flora and fauna.
- To gather information on the number of underwater photographers in the UAE (both professional and amateur).

Digital Online is open to UAE Nationals and all people living in the UAE under a valid Residence Visa and of any diving qualification with a valid EDA membership status.

DIGITAL ONLINE
جمعية الإمارات للغوص
EMIRATES DIVING ASSOCIATION
PHOTOGRAPHY AND FILM COMPETITION

DIGITAL ONLINE

- Submit underwater photos and\or video for the 2013 categories, entering them in the Local section (UAE and Musandam) or International section (taken anywhere in the world).
- Winners choose their own prizes.
- Open to all photographers and videographers with a valid EDA membership status. Must renew EDA membership in order to take part.

PHOTOGRAPHY SECTIONS

Photographers will be classified into DSLR and Compact camera sections. Please state the camera used when entering your submissions.
DSLR SECTION: Digital SLR camera users with or without external strobes.
COMPACT CAMERA SECTION: Point and shoot photographers only (compact cameras).

Photographers can enter one photo into each category. You must choose either the DSLR or the Compact camera section; you cannot enter both.

PHOTOGRAPHY CATEGORIES

1. **MACRO LOCAL:** UAE and Musandam
2. **MACRO INTERNATIONAL:** Taken anywhere in the world.

Definition: Photographs taken with close up-equipment, portraying underwater flora and/or fauna. The photographer may not crop the original more than 20%. The original image may be requested.

3. **WIDEANGLE LOCAL:** UAE and Musandam.
4. **WIDEANGLE INTERNATIONAL:** Taken anywhere in the world.

Definition: Photographs taken with a wide-angle lens (or adapters that provide an equal field-of-view), with or without human presence, portraying the natural beauty of the underwater environment.

5. **MARINE LIFE PORTRAIT LOCAL:** UAE and Musandam.
6. **MARINE LIFE PORTRAIT INTERNATIONAL:** Taken anywhere in the world.

Definition: A portrait shot of an animal underwater such as a fish, shark, octopus, marine bird, etc. focusing on one subject. It could be a full body shot, or focus just on face/head.

VIDEO CATEGORY

1. **LIFE UNDERWATER LOCAL:** UAE and Musandam.
2. **LIFE UNDERWATER INTERNATIONAL:** Taken anywhere in the world.

Definition: Show off your creative editing skills showcasing life underwater. Macro, wide angle, wreck, etc are allowed. Maximum duration including credits: 5 minutes.

THE RULES

- By entering the competition, entrants declare that they own copyright of the submitted photographs and films and it entails an automatic acceptance of all the rules. EDA reserves the right to publish winning images in the 'Divers For The Environment' magazine, EDA's Facebook page and on the EDA website. Winning images will also be used in any future promotional material for EDA events and competitions royalty free, but copyright remains with the photographer. Use of images or video will require no additional written or verbal permission from the photographer or videographer.
- Competition organizers will take the utmost care in handling digital files submitted to the competition. However, competition organizers will not be held responsible for any loss of the submitted material at the time of uploading images. No media such as CD's, DVD's, memory cards and sticks will be returned to the participants.
- Images must not have already been submitted to previous Digital Online Competitions.
- Photos and film must be taken underwater.
- Manipulation is restricted to colour correction, brightness, contrast, sharpening and cropping. The Digital Online judges reserve the right to examine untouched images if requested.
- Removing backscatter is allowed to an extent, this does not include the removal of subjects such as fish or divers or cutting and pasting sections of images from one to another.
- Participants are obligated to follow environmental conservation regulations and to share respect for the underwater world during the process of taking their stills and film. Be advised that any damage to the protected underwater world, including the disruption of the natural habitat of the marine life, provocation through touching, displacing, feeding or annoying, is prohibited and will disqualify the images or the photographer/videographer.
- The final deadline for submitting images and video for the competition categories is Wednesday, 30th April 2014, at midnight.
- The finalists will be announced and their work displayed at the exhibition and award ceremony on Wednesday, 28th May 2014. Participants who do not make it to the evening of the event will be asked to collect their prizes from the EDA offices. Venue and prizes will be announced in March.
- We pledge to run this photography and film competition ethically and with integrity. Our judges have volunteered their time to help and to some it might be important to note that the photographers' details remain hidden to the judges during the judging process.
- All judge's decisions are final.

REGISTRATION & IMAGE UPLOAD

- Registration and submission is open from Wednesday, 1st January 2014 and the

deadline is on Wednesday, 30th April 2014, at midnight. Registration and submissions to Digital Online is free.

- The participant must be a UAE Resident and an active EDA member. To enter, send details, images and film via email to photo@emiratesdiving.com with the following information:
  - Full Name
  - EDA Membership Number
  - Camera Model
  - Mention where/dive site photos were taken
- Images must be submitted by email as high resolution jpeg files for final exhibition print purposes.
- File names should include photographer's name and the category. (eg. JSmith-M.jpg, JSmith-WA.jpg and JSmith-MLP).
- Video submissions must be in mp4 format and sent via Yousendit or Dropbox with file name of the Videographer.
- You will receive an email to confirm your registration and image/video upload. If you do not receive one within 24 hours, your email may not have come through and you may need to try again unless it has passed the deadline.

HOW PRIZES ARE AWARDED

Once the judging is complete, the winners will be able to choose their prize on their given list. Best of show, will get to choose first. 1st place winners will be able to choose before all other winners, 2nd place winners before 3rd place winners, etc. Winners can only receive one prize.

HAPPY SNAPPING AND FILMING

We look forward to receiving your entries between January 1st and April 30th, 2014. The venue, sponsors and prizes will be announced in the March 2014 issue of 'Divers for the Environment'.

EDA CONTEST JUDGES

REEMA ABBAS | EMIRATES DIVING ASSOCIATION
Projects Manager

Reema is a UAE national who has an insatiable passion for life. She paints, practices yoga and travels extensively in search of adventure. An enthusiastic diver; she quotes, 'Diving gives you a feeling of exhilaration as well as tranquility'. Her work with EDA as Projects Manager gives her a sense of fulfillment, knowing that she's with like-minded people working together for a positive cause.

ALLY LANDES | EMIRATES DIVING ASSOCIATION
Events Coordinator, Graphic Designer, Photographer and Videographer

Ally has worked with EDA since December 2004 as magazine Editor, when she created and introduced the quarterly magazine, 'Divers for the Environment'. She branded and helped foresee the development of Digital Online – The UAE's Only Underwater Photography and Film Competition from its launch in 2009 and has since managed the event. Ally keeps busy within her fields of passion always looking to fill gaps with new improvements, developing EDA's brands, designs and managing all the EDA media material and FAM trips. As a qualified PADI Instructor, she utilizes the experience within everyday life at EDA.

DIGITAL ONLINE GUEST JUDGES

Ali Khalifa Bin Thalith, Warren Baverstock, Jonathan Ali Khan and Nuno Sá will be judging Digital Online 2014 entries in addition to Ally and Reema. We're honoured to have such amazing people and photographers/videographers be a part of this event.

ALI KHALIFA BIN THALITH | DOCUMENTARY FILM PHOTOGRAPHER

Secretary General of 'Hamdan Bin Mohammed Bin Rashid Al Maktoum International Photography Award' (HIPA)

Born in Dubai, Ali Khalifa Bin Thalith Al Humairi is a professional documentary film photographer and he is the Secretary General of 'Hamdan Bin Mohammed Bin Rashid Al Maktoum International Photography Award' (HIPA). He holds diplomas in Documentary Photography (London Academy); and French and Literature (Montpellier University, South of France).

His career journey began in 1995, since which he has participated internationally in numerous exhibitions and specialized courses. He has collaborated in the coverage of many major events globally in: Heidelberg – Germany; Phuket – Thailand; Sipadan – Malaysia; Barcelona – Spain; as well as in the UAE.

In 2010, he won the 'Mohammad Bin Rashid Award for Young Business Leaders' for the best marketing and promotional project. Bin Thalith's rich portfolio of documentaries and films includes: 'Journey to the Green Mountain'; Four episodes of the 'Masirah Island', Oman; 'Alyasat and Alhalaniyat Island', Oman; and 'Sipadan', Malaysia (known for its ecological diversity). Utilizing his extraordinary talents he produced a unique short documentary film titled "Gaza Diver", which narrates the journey and hopes of a poor young man who travels to Dubai for medical treatment – at the behest of a noble gesture by Sheikh Hamdan Bin Mohammed Bin Rashid Al Maktoum, the Crown Prince.

WARREN BAVERSTOCK | UNDERWATER PHOTOGRAPHER

Aquarium Curator – The Burj Al Arab

Warren has been involved with a number of filming projects within the region such as the popular television documentary "Arabia's Cycle of Life" and the more recent and ongoing "Sharkquest Arabia". Having a passion for elasmobranch conservation, Warren has gained essential filming experience by joining researchers in Saudi Arabia, Qatar, Djibouti and the Maldives where his filming has included large aggregations of whale sharks and manta rays. With vast experience of working with marine animals within a commercial aquarium environment, Warren specialises in aquaria photography/videography as well as the building and filming of artificial environments for documentaries.

Warren was Digital Online's overall professional winner for 2011 and 2012 as well as 1st and 2nd place winner in British Underwater Image Festival's 2011 competition and was featured in Time magazine, 2011 for his amazing photography on manta rays of the Maldives.

WEBSITE: www.warrenbaverstock.com
FACEBOOK: Underwater Photography by Warren Baverstock

JONATHAN ALI KHAN | WILD PLANET PRODUCTIONS

Managing Director – Natural History TV Production, Underwater filming specialists, video production and photography.

JAK is a topside wildlife and underwater camerman, producer, director and editor with a strong passion for the natural world having worked on a wide range of unique projects in the region and is recognized as an authority on environmental, conservation and diving related issues.

His fascination with filming all started after years of working as a photojournalist and shooting underwater stills. His primary interest is in marine subjects that led to the creation of Ocean World Productions in 2003. In 2008, JAK left Ocean World Productions in order to focus entirely on natural history TV development, leading to the recent creation of Wild Planet Productions.

WEBSITE: www.wildplanetfilms.org
FACEBOOK: Wild Planet Productions

NUNO SÁ | WILDLIFE PHOTOGRAPHER

Professional Photographer Specializing in Marine Life

Nuno has been a professional photographer since 2004, specialized in marine life photography. He is the author of three books and several dozens of articles published in National and International magazines. He is the co-author of the "Azores Diving Guide" – Portugal's first published diving guide, and a regular collaborator of several magazines, such as National Geographic Portugal.

He is the first Portuguese wildlife photographer nominated in some of Europe's major nature photography competitions, such as: Wildlife Photographer of the Year and Asferico International Nature Photography Competition, amongst others.

Nuno is also on the Wild Wonders of Europe's team of top European nature photographers. This is the world's biggest ever nature photography project with an expected public of over 100 million people, a project supported by the National Geographic Society.

WEBSITE: www.photonunosa.com

DIGITAL ONLINE
جمعية الإمارات للغوص
EMIRATES DIVING ASSOCIATION
PHOTOGRAPHY AND FILM COMPETITION

KUNGKUNGAN™
BAY RESORT

DISCOVER FINE DIVING





Combining the world's best muck diving, with world class service for your dream vacation. Come and join the KBR family and let us put the "Discovery" into your next diving vacation. The Lembeh Strait and Kungkungan Bay Resort provide a variety of diving experiences, from muck dives on pure black volcanic sand to colourful coral reefs and enticing historic wrecks. Whatever your pleasure, Lembeh is always sure to offer fascinating and exciting underwater discoveries.

KUNGKUNGAN BAY RESORT & SPA

EMAIL: info@divekbr.com | SKYPE: kungkungan.bay.resort.reservation | TWITTER: kungkungandive | WEBSITE: www.divekbr.com

FINE DIVING
IN LEMBEH'S CRITTER PARADISE

FEATURE AND PHOTOGRAPHY **SIMONE CAPRODOSSI** AND **DAVID ROBINSON**

KBR coined the nice slogan of 'fine diving' and the name really translates in the resort and diving operation's philosophy. The aim of the KBR team is for the guests to enjoy amazing diving without having to think or worry about anything else other than wearing a wetsuit and clicking their cameras.

The Lembeh Strait is one of the hottest dive destinations in the world and is on the bucket list of all serious underwater photographers. It is considered by anyone who has dived there and experienced it first hand, to be the macro photography capital of the world.

I spent some time first diving in the Lembeh Straits without a camera many years ago and I simply loved it. I really enjoyed discovering incredible creatures that I had no idea existed and seeing such an amazing diversity of creatures in such a small area. So, as David Robinson and myself organised our trip to Lembeh, we started to gear up with super-macro diopters, target lights and other photography gadgets with the intention of capturing some of these creatures on camera.

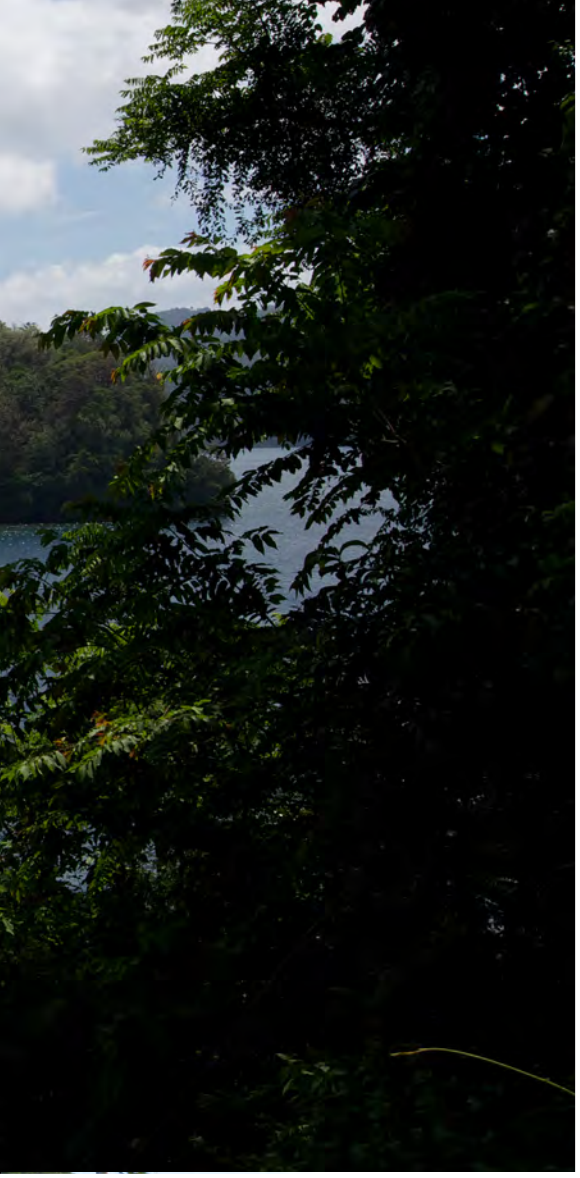
The trip and resort were both recommended to us by Warren Baverstock who covered the destination a few years back. Taking Warren's advice, we contacted Kungkungan Bay Resort (KBR) and quickly, we were booked for our macro photography trip. The KBR team were extremely helpful in assisting us with travel logistics and even helped arranging local connecting flights from Jakarta that cannot be booked with a credit card from outside Indonesia. KBR also arrange airport transfers as standard, for all arriving guests. We made a special request to the KBR team for Liberty, Warren's previous dive guide, to assist us on our trip. A knowledgeable and experienced dive guide is important when you are trying to spot tiny, camouflaged critters and we wanted the best eyes with us to help us get the most out of our dives.

To get to KBR, we flew into Manado airport and we found good connecting flights through Emirates on the way out through Jakarta and on the way back, through Singapore. The connections were smooth and were both less than three hours, just enough to give a nice break inbetween the journey. On the outward journey we had to re-check our bags with Batik Air but on the way back, our flight out of Manado was with Silk Air and they checked our bags straight through to Dubai. Upon arrival in Manado, our driver from the resort was there to greet us and the transfer went very smoothly, taking about an hour and a half to reach KBR. After a nice drive through lush vegetation and small villages, we came to the top of an uphill road and suddenly a great view of the Kungkungan Bay opened up below us, revealing turquoise waters and the octagonal shape of the wooden stilt construction that hosts the KBR reception and restaurant. Once at the resort, we were greeted with a very warm welcome, handed a fresh juice and then given a resort and dive briefing.

KBR coined the nice slogan of 'fine diving' and the name really translates in the resort and diving operation's philosophy. The aim of the KBR team is for the guests to enjoy amazing diving without having to think or worry about anything else other than wearing a wetsuit and clicking their cameras. At the initial dive briefing, guests are encouraged to make a wish list of what they hope to see in the week so that the guides can do their best to fulfill every critter wish. The only request is that you add a small label to your dive gear and then leave it in a dive bag on the terrace of the beautiful bungalow that will be your home whilst at the resort and the next morning, everything is magically set up for you in your boat, waiting for you to go diving.

We chose a beach bungalow for our stay and the room did not disappoint. After a short dive briefing, we were guided to our bungalow through very well maintained and landscaped gardens. The beach bungalow was a detached and spacious room with a fantastic bathroom and spacious veranda overlooking the Strait, a great place for sundowners…

As a photographer, you will of course still have to put your own equipment together. The facilities for photographers are fantastic and there is a spacious camera room available with lights, various styles of plugs for charging




The Dive Sites of
Lembeh Strait
North Sulawesi, Indonesia
Kungkungan Bay Resort & Spa
Lembeh Island
Molucca Sea
Dive Site Type Key
m - Muck
c - Coral
s - Sand
r - Rubble
w - Wall
p - Pinnacle
- Wreck
- Snorkelling
Fine Diving
Kungkungan
Bay Resort

batteries and also high-pressure hoses for cleaning your gear. Once your gear is assembled, you just have to carry it a few meters to a very clean freshwater holding tank from which the staff will then carry everything to the boat.

With our cameras set up, we were left with the task of making a critter wish list. Having seen so much photography from Lembeh, David and myself did not take long to fill up a couple of pages of the weird and wonderful creatures we wanted to see. Given it was about wishing, I even cheated a bit and took a critter book to add more critters that I did not even know existed beforehand. So we delivered the extensive two page list to our guide Liberty who nodded confidently at every name, except for a couple of creatures I had picked from the book which aren't even found in Indonesia; Liberty seemed unfazed and was ready to deliver.

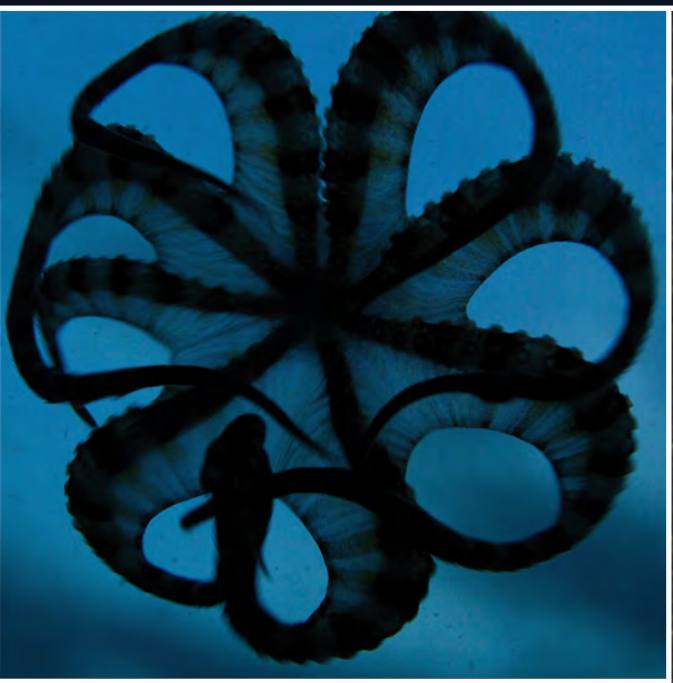
The daily diving routine is as relaxed or intense as you decide to make it, with a base plan of three dives per day. The dives take place during the early morning, before lunch and then an early afternoon dive. Everything is also cleverly organized to maximize lunch time, as lunch is ordered whilst snacking on tea and homemade biscuits during the first dive break so that it comes swiftly when you reach the restaurant and gives you extra time to relax.

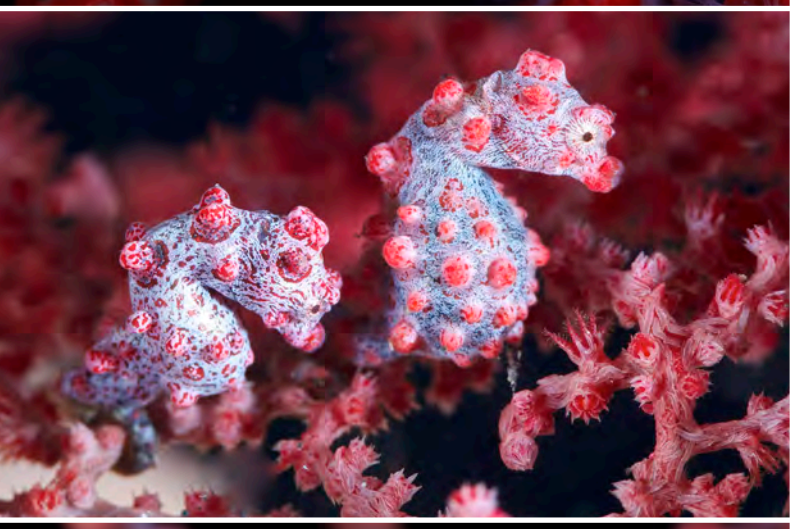
The diving ends around 16.30 – 17:00pm but, that is if you don't get tempted by amazing night dives or a dusk dive with mandarin fish, which, would then leave your days diving to finish (literally) at about 19:00pm.

One of the advantages of choosing KBR, is the central position of the resort, which means you can reach practically all of the dive sites by boat within 15 minutes. Dive sites tend to look similar, being either rubble or grey to black sand, hence the term 'muck diving'. There is nothing really memorable as an underwater landscape on muck dives, but each carefully chosen site is home to a different critter with most dives focused on finding a single subject; the daily dive plan is based around your personal critter wish list. If muck diving and critters are not your thing, there are also a few reef walls and pinnacles at the edges of the strait where it is easy to encounter larger pelagic fish and the odd turtle. There are also a few wrecks within the Straight which offers a different diving experience. As photographers, the most unique creatures and best photographic opportunities all take place in the special Lembeh muck and this is where we focused the diving for the duration of our trip.

Within just three days of our arrival, our dive guide Liberty had exceeded our expectations and having taken the hard approach with four dives per day, including night and dusk, we had progressed through most of our tough critter list. Critters that we encountered in the first few days included the beautiful rhinopias and weedy scorpionfish. We marveled at the underwater morphing dance of the mimic octopus and wonderpus and we saw flamboyant cuttlefish hunting their shrimpy prey. We also discovered tiny pink and yellow pygmy sea horses hiding away in their fans. On one particular dive, we went a bit deeper to 27m in search of the large and colorful fire urchins which are host to stunning coleman shrimps and zebra crabs. In the shallows, after a long search, we found the incredible harlequin shrimps and pregnant boxing crab, and then we went on to have a lovely dusk dive with lots of mating mandarin fish.

After five days, we only had about 10 main critters remaining from our wish list and so Liberty focused the diving program around finding them. Not only were we getting through our list, but Liberty kept showing us more unique critters that we had no idea existed. The best of all, was the Lembeh sea dragon, an indigenous species to the Lembeh Strait, just about the size of an eyelash but a lot harder to photograph. At the end of a dive in very shallow water, Liberty started pointing with clear excitement at a bunch of seaweed hanging off a boulder. While I kept looking with empty stares at the seaweed, he wrote 'lembeh sea dragon' on his board. I was a little puzzled as I had in my head a vision of a large dragon like creature. Liberty basically had to almost touch the little critter, which was so tiny and looked like a small bit of string moving around erratically in the water.

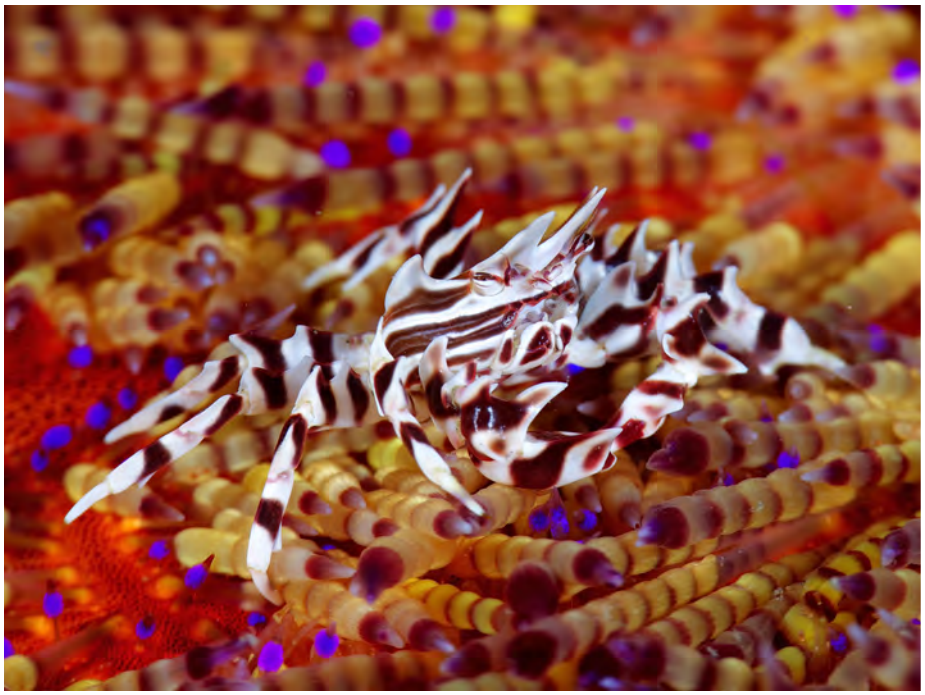


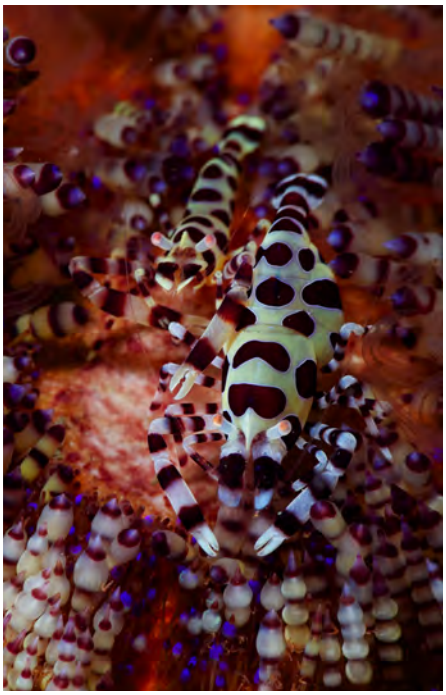


I took photos quite blindly, not being able to focus easily. When I downloaded the photos that evening it was great to see I had actually managed to capture the little guy and he did actually look like a little dragon, if a little on the small side! Liberty also found us two other rare and practically impossible to spot species of pygmy sea horses, the pontohi and the seifert, again very special creatures that we only really discovered once on the laptop at night after shooting a little moving spot next to Liberty's finger.

As we progressed through the diving week, we also started a few photography 'collections'. As the biodiversity is so amazing, you not only see some incredible animals, but you also see a variety of color variants of the same animals. Crinoid shrimps are great to collect in all their different colour forms and, frogfish and ghost pipefish are present in so many varieties. Nudibranchs of various species are in abundance and become a favourite to collate. It was also the season for baby frogfish so we got to encounter some of the cutest tiny characters that still did not hesitate to swallow little fish or shrimps much larger than themselves right in front of us.

There are also different creatures morphing and camouflaging themselves to resemble leaves or various backdrops. A green soft coral known as 'houmeida' comes accessorized with ghost pipefish, crabs and shrimps that look exactly the same as the coral itself. Lots of animals also aim to be overlooked





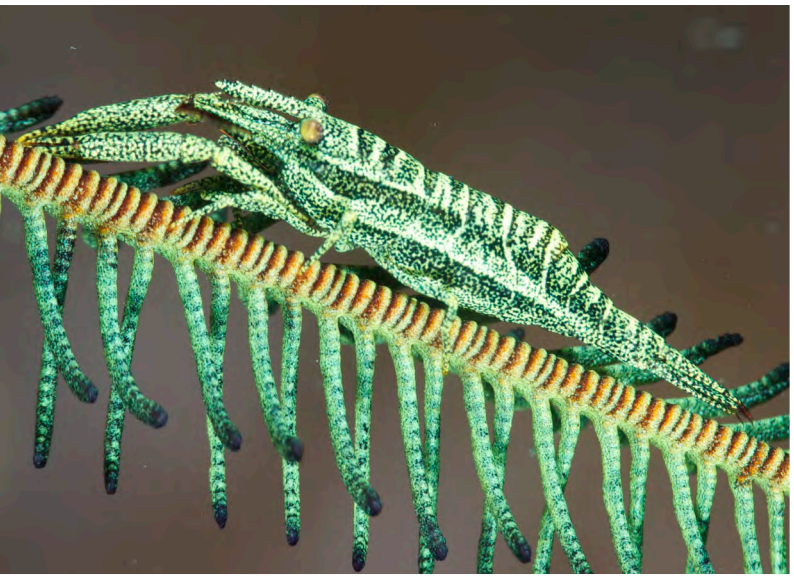
by predators by mimicking dead leaves that abound on the sandy bottom close to shore. Brown robust pipefish hang against leaves of the same colour and small cuttlefish disappear against the leafy substrate. In my opinion, the best camouflage artists are the wasp fish who lay on the bottom and even mimic the movement of dead leaves swaying in the tide.

Various species of octopus also abound in the area with some of the most unique species in the world being present in Lembeh. We encountered the mimic octopus and wonderpus that are hard to photograph but are a joy to watch, moving into different shapes and changing color and pattern. We also saw the tiny and very poisonous blue ring octopus which was one of the few animals left on our wish list. Although these animals were amazing to encounter, my favourite species to photograph was undoubtedly the coconut octopus. On one dive, we found a tiny individual who had collected a few small shells and held them around its body creating a little protective armor; he made a great subject.

The toughest mission for Liberty was the notorious hairy frogfish, which, most visitors that come to KBR have on the very top of their wish list. There were a few individuals he knew of, but they were at dive sites that were inaccessible at the time due to the strong water currents. Liberty therefore had to keep searching and searching and magically, on the last day and the last dive, he managed to find the tiniest orange hairy frogfish. It was so small, I had to place a dirham coin on the sand next to it to emphasize just how tiny it was. The little guy also helped me take a nice shot by curiously climbing onto my dirham and posing for the camera.

We were particularly lucky on our visit to meet the owner and founder of KBR, Mark Ecenbarger,



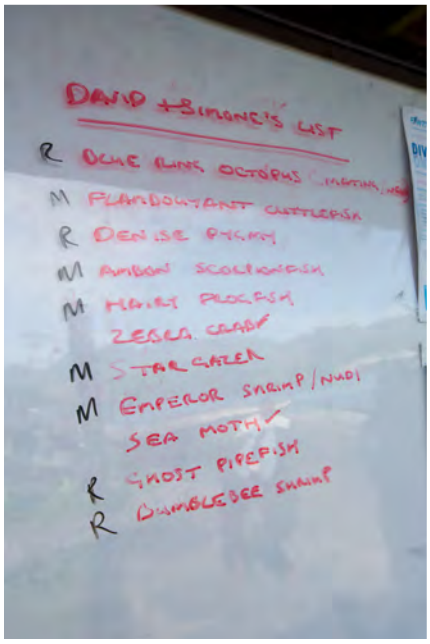




who was on one of his annual visits to the resort as he now lives back in the USA with his family. Mark kindly invited us to join him for a few dinners and shared with us many stories of the early days of Lembeh and KBR. It was Mark who discovered this underwater paradise many years ago and realized its potential. After his discoveries, Mark started inviting the first photographers over and as the amazing images started to appear, the destination started to become better known. The friendly atmosphere at KBR is very much due to the local staff that run the resort with Mark. Some of the team have been at KBR since it first opened and now their family members are starting to work there too. The management team of the resort includes Linda, Ais and Beary, who treat you like part of a family and run the place as if it was their own. They work with the passion of a family business whilst also injecting a local touch that really creates a fantastic atmosphere.

Mark is also a food lover and that reflects in the variety and quality of the food at KBR. Every day there is a different local dinner special to try that is chosen from a different part of Indonesia. There are also some great feature nights, including freshly baked pizzas from a real wood oven and Mark's amazing freshly smoked ribs and meats that are smoked on the resort's very own smoker.

We spent a total of 10 days diving with KBR and although the time passed quickly, we continuously encountered new and amazing creatures on every single dive. We know that what we experienced was just a small taste of the incredible biodiversity of the Lembeh Straits and that there is so much more to see and discover. This is a trip to surely repeat and we cannot recommend this incredible destination enough within the safe hands of the KBR team.



We chatted to Mark about EDA and the magazine and he has offered a great package for the annual EDA Underwater Photography and Film Competition as a grand prize. Do not hesitate to enter Digital Online 2014 and you may just see the magic of Lembeh Straits for yourself!

PRACTICAL INFO

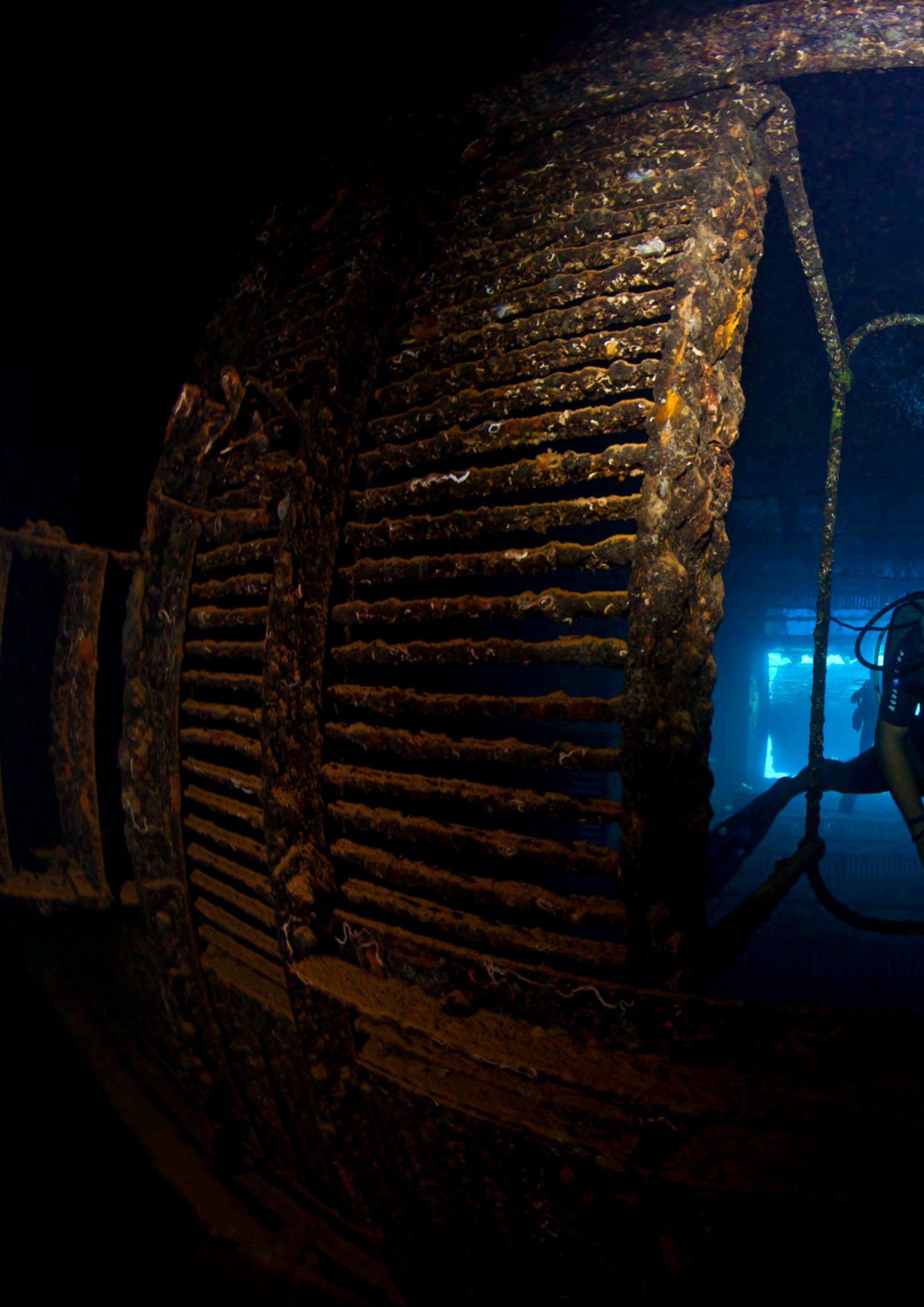
GETTING TO LEMBEH:

KUNGKUNGAN™ BAY RESORT

To reach KBR you need to fly to Manado in North Sulawesi. There are direct connections most days from Jakarta and Singapore. From Manado airport KBR will arrange the pickup and get you on the beach in less than 2 hours.

KBR offers some great beach bungalows and some slightly cheaper bungalows in the lush gardens. Sea view is guaranteed with all the rooms. Various dive and accommodation packages are available so get in touch to find out what is on offer.

There are also some great land based excursions to do from the resort and we highly recommend taking the last day before flying to discover the Tangkoko National Park, just a couple of hours drive from KBR. Here we encountered a big troop of critically endangered black crested macaques that are only found in the mountains of North Sulawesi and threatened by deforestation and habitat destruction. We also got to see one of the cutest creatures on earth, the tiny Tarsier, a small marsupial with huge eyes who stay surprisingly still for a photograph or ten!



THE UMBRIA

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

Many who have had the privilege of visiting it, claim it is one of the best shipwrecks in the world, being the most beautiful and interesting relic of the Red Sea.

The Umbria is an absolutely beautiful wreck to dive and we had the opportunity to dive it at the end of our Sudan sail boat livaboard trip with No Stress back in June!

THE HISTORY

The Umbria was scuttled in Port Sudan on the 10th of June 1940 carrying 360,000 bombs, large calibre projectiles, bomb parts and 60 boxes of detonators contributing to a total cargo of 8,600 tons. All of the cargo is still on board to this day. The ship measures 150m long and 18m wide which is a lot bigger in comparison to its Red Sea competitors, the Thistlegorm (128m) and the Rosalie Moller (108m). It lies in an inclination of 45° leaning on its port side at a depth of 5m around the bridge area to 33 metres at the bow.

The cargo ship was built in 1911 and could carry 2,000 passengers and 9,000 tons of cargo. The ship was sank as a result to the Umbria's Italian skipper, Captain Lorenzo Muiesan, avoiding it falling into the hands of the British who had been stationed in Port Sudan. Italy had just declared war and 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 own country.

THE WRECK'S CONTENTS

The cargo holds are easily accessible and in addition to all the bombs, projectiles and fuses onboard, divers can see storage jars, bottles, cement bags, 3 Fiat 1100s, pizza ovens and

rolls of electrical cables. The engine room can be visited and you'll still see the steam engines and the workshop with drills and grindstones. All the wooden flooring is now gone, making it much easier to get around between the railings and stairs. 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 the Umbria and the exterior is covered in so much more soft coral and detail than any of the other Red Sea wrecks, making it an absolute must for underwater photographers.

This man made structure has transformed itself into a magnificent living reef. Many who have had the privilege of visiting it, claim it is one of the best shipwrecks in the world, being the most beautiful and interesting relic of the Red Sea. Explore it! You must!

As with any wreck dives, make sure you have done a speciality course to give you the basics and the understanding of how to go about diving a wreck, as technique is slightly different. Make sure to dive this one with someone who knows it as it is huge and one can easily get lost inside.

The Umbria has had one fatality a year due to solo divers going in and not being able to find their way out again. 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 backup, you never know when you may need one. Once you have covered all your safety checks and are armed with buddy, dive this wreck to your heart's content.

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.

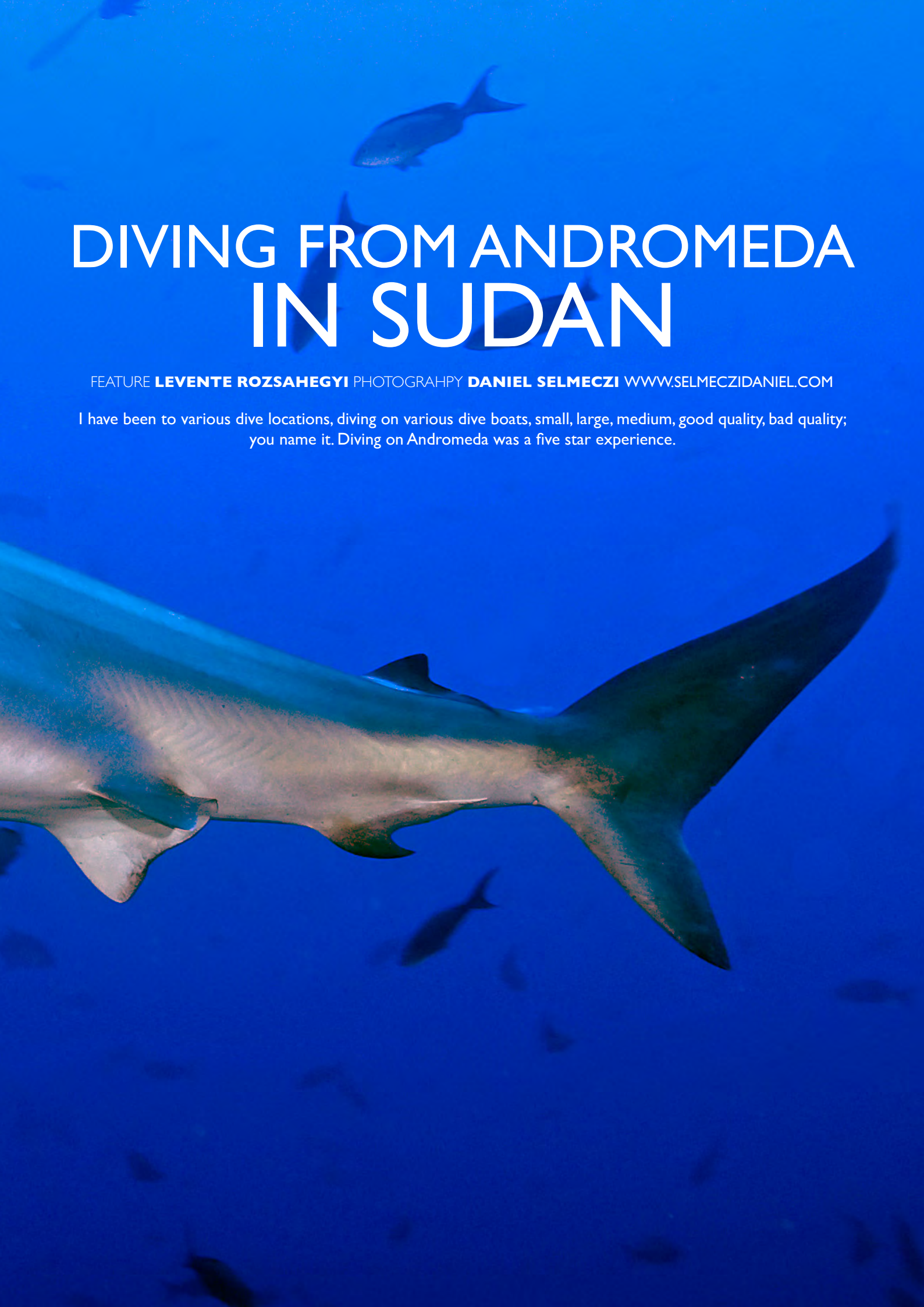
LE BARON NOIR – Franck Humbert
EMAIL: info-lebaronnoir@wanadoo.fr
www.lebaronnoir.com
This motor yacht at 22.25m long and 6.10m wide, can accommodate up to 12 divers max and takes you to dive Umbria, Sanganeb and Shaab Rumi. There are two cabins in the front, both fitted with bunk beds and 4 cabins in 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.

DIVING FROM ANDROMEDA IN SUDAN

FEATURE **LEVENTE ROZSAHEGYI** PHOTOGRAHPY **DANIEL SELMECZI** WWW.SELMECZIDANIEL.COM

I have been to various dive locations, diving on various dive boats, small, large, medium, good quality, bad quality; you name it. Diving on Andromeda was a five star experience.



I have been to various dive locations, diving on various dive boats, small, large, medium, good quality, bad quality; you name it. Diving on Andromeda was a five star experience.

BOOK

The boat is themed red and white. When you see her from a distance, you will definitely recognize her.

When I began my plans to go on this diving trip, I imagined the torture I would have to go through, based on some experiences I had in the Caribbean. Not with Andromeda though. I booked the trip directly through the owners and operators of the luxury vessel. There was no middle man involved. They have a very professional booking system and I booked directly with the service representative. I sent them my photo and a copy of my passport as requested and they organized the visa for me without my having to go to the Sudanese Embassy and go through the endless hours of queuing.

The Andromeda has years and years of experience in Sudan and have been serving the Red Sea for more than 4 years.

FLY

So there I had it, I was booked in. I had also wondered if the flight I had to take from Dubai would be aligned with the trips they offered as Flydubai only offer one flight a week. It is in fact all aligned, having you arrive on a Monday into Port Sudan and leaving a week later on the following Monday back to Dubai.

TRAVEL

Getting to Sudan was a straight-forward exercise. I was very excited when I spotted the boat from a distance sitting on the bus from the airport to the port.

The boat was completed in 2009, following the same design that they used for their more experienced vessel, the M/Y Cassiopeia (by the way, M/Y means Motor Yacht, this is a term in the marine world). She is a 40-meter long vessel with two powerful engines (1,150HP each) and stabilizers for the comfortable diving trip. There are two generators supplying electricity with 130KW each. The vessel has 15 tons of sweet water and there is a desalination device that can even produce 2 tons of water per day. Amazing figures.

ARRIVE

The porters take care of your heavy bags for you to the deck from shore and we were guided up one level to the lounge area. I named that deck, the "relax deck". I could sit outside having a coffee or inside the air-conditioned salon where movies were running, or I could even have a Shisha in the Shisha lounge. Surprisingly, even this room is air-conditioned.

SLEEP

Our dive guide, who is also part of the Andromeda family, welcomed us and explained all the ins and outs of the vessel. I was then guided to my cabin that I shared with another diver. There are 13 cabins in total, all equipped with en-suite bathroom facilities and of course air-conditioned. I had one of the twin cabins on the lower deck (8 cabins), and there are also queen-bed cabins (3) on the dive deck level, along with 2 other twin cabins. 220 Volts in each cabin is basic.

I opened my bag and organized myself for the trip. There was enough space to put everything away in the cabinets, however you don't need a lot of clothing on a dive trip, unless you want to show off.

The vessel can handle 26 divers. This number seems a lot, however due to the size of the vessel, I just didn't feel it at all.

GEAR

I then went to organize my dive equipment and bumped into the army of tanks and equipment on the dive deck. The boat is very well equipped with 2 life rafts, 40 life jackets and 2x 50-liter oxygen tanks.

The vessel has 26x 12-liter tanks, and for an extra charge, they also have 10x 15-liter tanks. There are boxes for each diver to keep their

equipment organized and the crew helped to sort out the weights as well. There is also a toilet conveniently equipped with a shower on the dive deck. There are two other hot showers found on the lower dive deck at the rear of the vessel where you make your entry and exit points from the water. The dive deck is where the diving facilities, the compressor and the Nitrox facilities are located.

DRIVE

After setting up my gear, I walked around the boat and found the Bridge, the heart of the vessel, very impressively equipped with brand new GPS, Compass, Depth Sounder, VHF, Radio, Radar, EPIRB (Emergency Position-Indicating Radio Beacon), this is to communicate with the divers, e.g. Nautilus handheld radio, in case the diver gets completely lost), and a satellite phone as well.

There is more room on the upper deck, in front of the salon and in front of the captain's bridge with a great view onto the sea ahead.

EAT

The bell rang: I was headed for my first meal. Once I was on a live-aboard trip where there was no orange juice onboard for breakfast. It was a disaster. However, on Andromeda, the food was outstanding: various salads, eggs, pancakes, grilled chicken, veal, you name it, and the quality was great as well. The chef even catered for special requests for the younger kids. The food onboard is Halal and it is all prepared by Egyptian chefs. Snacks were available between the dives on top of the three meals that we had.

RELAX

Andromeda made its way and moved under us and I went upstairs to explore some more. The extensive sun deck provides shaded areas for reading and spending time in the fresh sea air as well as uncovered areas with sun beds and cushions for sunbathing. I even slept a few nights up there looking at the stars, wondering about life in space. The bell rang after a good 45 minutes when I woke up and realized that we arrived to our first dive spot.

DIVE

It was time to see what I had really come to Sudan for…to dive this part of the untouched Red Sea…

The underwater world of Sudan is exhilarating to say the least, thanks to guaranteed meetings with huge pelagics, hundreds of metres of deep drop-offs and dive sites that can only be reached by zodiacs. Sudan is famous – and with reason – for its hammerheads, tigers and grey sharks. The list, of course goes on and diving here is a true adventure!

We dove the sites of Shaab Rumi, Precontinent II, Quita el Bana, Angarosh, Sanganeb and Umbria which have been reviewed in the previous September issue on pages 42-54. We also got to dive one other wreck besides the Umbria; the Blue Bell.

BLUE BELL

This wreck sank in the 1970s and lies nose down on the side of the reef Shaab Suadi. When it was built or where, is debatable. The site where the boat was damaged upon impact with the reef, is at 35m and it provides a great entrance into the inside of the wreck. The sun shines from above into its spacious storage halls, making it easy to navigate among the scattered tires. After making friends with a large turtle in the second storage hull, we ventured outside of the wreck. It was as if we were in the middle of a treasure hunt. All around us on the seabed were vehicles, four-wheel drives, pick-up trucks and countless tires. We spent some time here watching schools of pelagics swim in the currents, pose for the cameras behind the wheels of the cars and then slowly ascended back to our boat.

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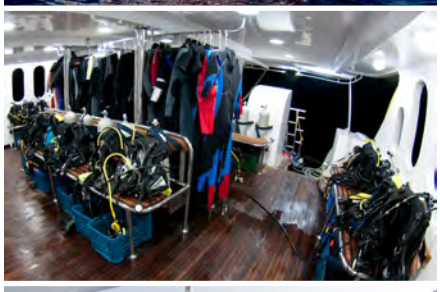
www.cassiopeiasafari.com



RÉUNION
FOUND IN THE MIDDLE OF THE INDIAN OCEAN

FEATURE AND PHOTOGRAPHY **PHILIPPE LECOMTE**

I didn't know what else there was to do there apart from dive, until I asked the question. I then found out, that there were almost every other kind of sport available apart from skiing on snow. The island is a paradise for outdoor activity lovers.

Réunion is not very well known by people outside of the french community. It is a small island, 700km east of Madagascar and 170km west of Mauritius. This island became French territory in 1760 and is now one of the 6 French overseas departments outside of Europe. This small island is shaped by two volcanoes. One that has been dormant since hundreds of years and the other, "Le Piton de la Fournaise", is one of the third most active volcanoes in the world. In 2007, its last eruption destroyed thousands of square metres of forests and homes.

One of my friends recommended I go there and discover the beautiful dives with the possibility to see sharks, whales and dolphins. The sea conditions are perfect with visibility ranging from 20 to 30 meters. The temperatures start from 24°C up to 29°C.

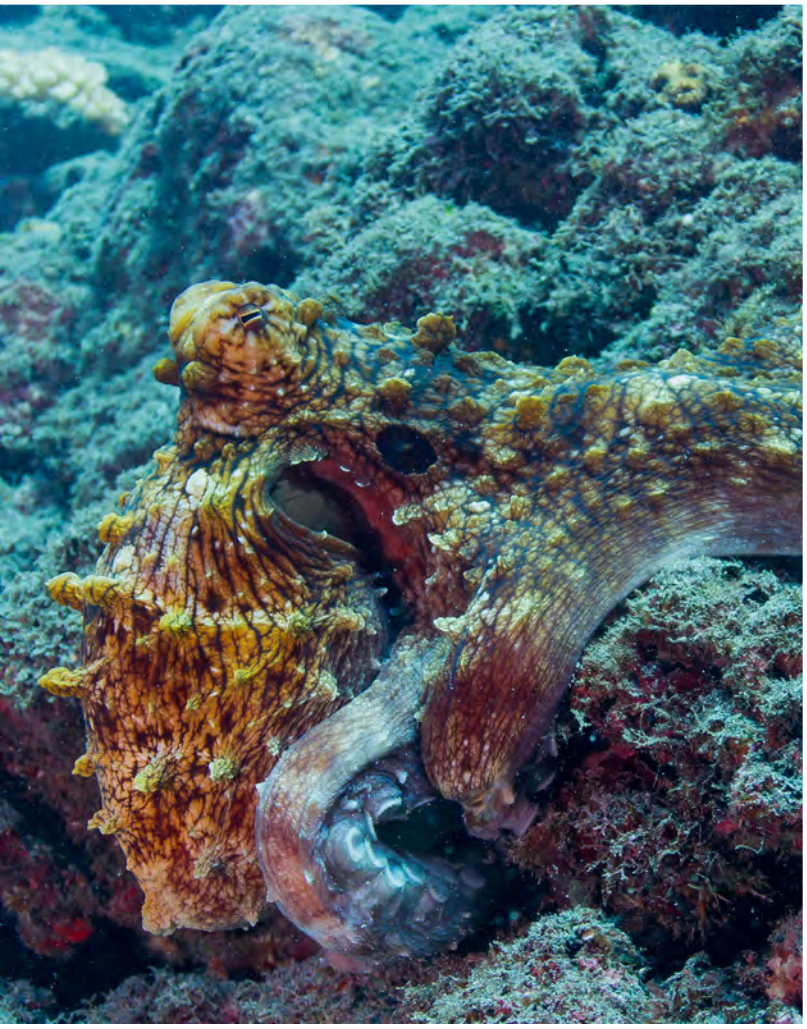
I chose to go in Augus :, the right time of year for whale watching. Réunion is one of the best places to see the Humpback whale between July and October. For that, I contacted my friend Antoine Mettra (aquasubrun@gmail.com) in order to book my dives. He has been on the island for 6 years, and he knows almost all there is to know about the diving there.

This beautiful destination in the middle of the ocean has plenty of good dives. Wrecks, coral reefs, lagoons and more are all possible on the west coast. In fact, the east coast is more dangerous and constantly disturbed by wind and currents.

I ended up booking to only do 2 days of diving because I didn't know what else there was to do there apart from dive, until I asked the question. I then found out, that there were almost every other kind of sport available apart from skiing on snow. The island is a paradise for outdoor activity lovers.
Trekking, camping, diving, fishing, motorbiking, cycling, freeflying, kitesurfing, hunting, whale watching and much more.

So you can see now, why I had only booked 2 days to dive. In 7 days, I went trekking, freeflying, on a helicopter ride around the volcano, boat ride and more.

Antoine booked my first day to do a wreck dive at 40+ meters and then a labyrinth reef dive. We met up at Saint Gilles-les-Bains in front of the dive club, 'Escapade Plongee' – www.escapadeplongee.com. I filled up the release forms and then we headed out to the big



inflatable boat of 7m. As soon as everyone had assembled their equipment, the captain started the engine and headed to Le Navarra.

The wreck lies on the sandy bottom at 40+m and is marked by a buoy. The only difficulty here, is the current.

We rolled backward into the blue and the visibility is between 25 and 30 metres. I followed Antoine and the other diver down and we stopped at 25-30 meters to look around. We only saw sand further down at 45m. Suddenly, Antoine stopped and pointed with his finger toward the wreck. Thanks to the good visibility.

It's a beautiful big wreck, approximatly 40 meters long, full of corals, gorgonias and schools of fish all around. After 10 to 15 minutes, we headed back to the surface for the break before the next dive.

On our way back to the club to change the tanks over, we crossed ways with a group of fast and agile dolphins. It's always a pleasure to see them playing alongside the boat.

The second dive was at 18 metres at a reef with a small cave and labyrinth. It was a great dive where you get to appreciate Clown fish, octopus, Moon groupers and other schools of Yellowfin goat fish and Blackspotted sweetlips. If you are quiet and patient, you have a chance of seeing the beautiful Red fire goby. They are always in pairs swimming just above their hole in the sand ready to go in when danger comes too near. Box fish, Angelfish, butterfly and much more are always around during dives next to any reef around Réunion.

If you want a great souvenir, whale watching is very popular from July to October. In fact, during this time, pregnant Humpback whales come around the island, especially on the west coast in order to deliver their babies. You can either go aboard a catamaran or if you have a boat licence, you can simply rent a boat for half a day and go on the adventure yourself.

As you can see, Réunion is a wonderful island and has many different landscapes from wet or dry tropical forests, to fields with cows and volcanic steppes. Even if the weather is not good to dive or go out on a boat, there is always something to do on the island. So, don't wait too long, go for it!


Less Sodium.
More Well-Being.
Sometimes
less is More
Low
Sodium
The Coca-Cola Company
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Trademark Regd
Nurture Your Life™
Bottled Drinking Water
from The Coca-Cola Company
Arwa is a registered trademark of The Coca-Cola Company

Sabang Beach

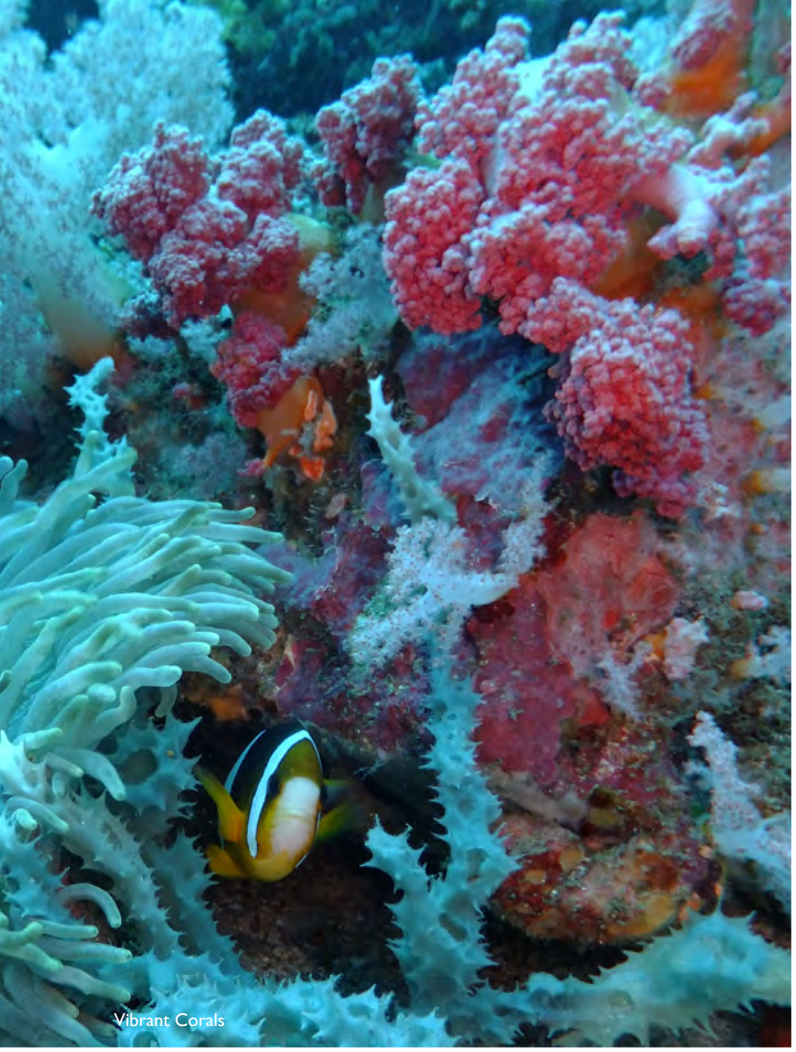
PHILIPPINES
TECHNICAL DIVING IN PUERTO GALERA

FEATURE AND PHOTOGRAPHY **REG PINCOCK**

Having recently certified as a PADI Tec 50 diver in the UAE, I had an irresistible craving to go and consolidate my new acquired skills and discover what lay that bit deeper in another fine diving destination. But where could I go that offered relative ease of travel, depth, beauty and diversity? Captivated by the story of the legendary deep diver, Dave Shaw in 'Raising the Dead', I knew that Puerto Galera in the Philippines was where he first started his technical diving training and exploits, I also knew from some UAE underwater photographers such as Alastair McGregor, that it was a place of beautiful reefs, world class diverse marine life and was 'relatively' easy to get to.

With the decision made, I got busy with the arrangements – working within a budget I was happy to discover that Philippine Airlines started flying direct to Manila (9 hours) from 1st October 2013 (1st November 2013 from Dubai with PAL Express) from as little as AED 2,000, bargain – booked! Accommodation is also very reasonable in Sabang (the hub of diving in the Puerto Galera area) and I secured a modern, clean and tidy room at the Montani Beach Resort for only AED 650 for 7 nights…yup 7 nights. There are of course many hotels and accommodations to suit all budgets and requirements. I personally booked my diving through a freelance dive instructor, Efren 'Ethei' Robrigado, who came


Accent up a Wall



Vibrant Corals

Verde Island Pinnacle

Covert Nudi at Verde Island

Sinadigan Wall

highly recommended by a friend in the UAE. Not surprisingly though, there are over forty dive centres in Sabang, many of which cater for technical divers and their gas requirements.

After an unexpected night stopover in Batangas Port due to weather from tropical storm Nari, I arrived in Sabang refreshed and eager to dive. Within an hour of arriving in town and only five minutes on the speedboat, I was rolling back off the side and down to the bottom of 'Monkey reef' at 44m where large sweetlips and blue spotted rays awaited, great! After twenty five minutes at depth it was time to head up and complete the required decompression on the vibrant healthy reef. Now I was excited. If this was the first dive, then what else was in store for me?

The next morning, 'Sweetlips Corner' emerged out of a blue water drop-off into 40m, a short swim along a whip coral ledge and down to 50+m. Here on the corner lay a secluded small L-shaped cavern that was easily navigated, and after a thrilling swim through, the cavern I was greeted by about thirty courteous large sweetlips hovering effortlessly in the current just above me and encircled by thousands of petite glassfish – brilliant, but with the bottom time elapsed it was time to start the ascent. We headed up over the roof of the cavern and disappeared on an exhilarating drift deco along another lively and colourful reef. After a leisurely lunch at Capt'n Greggs Beach Resort and Dive Shop, we headed off to another fantastic dive at 50m along a huge gorgonian sea fan infested wall with overhangs and cavern like formations. The dive was topped off by a fascinating close up interaction with a huge turtle at 40m and yet another amazing deco up a fit and lively reef.

Verde Island Scorpian Fish

Beautiful Frog Fish

Reg and Ethei on a deco stop

The next three days continued with brilliant dives on Verde Island's 'Black Fish Reef' that plunges into the abyss and blackness below, 'Canyons' with Octopus, turtles and giant trevally, 'Markus Cave' with a large dark cavern and diver memorial at 50m, 'Sabang Reef', 'Sabang Wall' and 'Fish Bowl' all of which are fabulous dives with beautiful reefs to reap pleasure from whilst clocking down the deco time.

With two remaining days of diving, I got the chance to dive the infamous 'Verde Island drop off'. Less than an hour away and laying just to the East of the main island we came upon two small unassuming pinnacle rocks protruding the surface. These rocks marked the start of a journey into a wondrous world of extremely diverse marine life that we all seek out. The clear water seemed to boost the energetic colours, enlarge the pelagic schools of giant trevally, tuna and mating jacks and magnify the abundant covert macro life that coexists on this incredible eco system that's fuelled by emerging currents and bubbling volcanic activity. With so much life and activity to enjoy, ranging from the surface to depths of 70+m, there is something here for every diver – without a doubt my best two dives ever to date!

The last morning of diving brought perfect conditions to dive my deepest dive at 'Dave's Rock', an enormous diamond shaped rock lying mysteriously on its pointed base at 60m and seemingly defying science by not toppling over onto the sandy slope below. With fifteen minutes at depth, exploring the coral and macro life that clings to Dave's Rock and various other rocks in the vicinity, it was sadly time commence the final ascent up 'Sinadigan Wall', oh what a brilliant way to finish an awesome trip. Puerto Galera again?

Yes, I'll be back!

EID AL ADHA IN THE MALDIVES (NORTHERN ATOLLS)

FEATURE AND PHOTOGRAPHY **PAUL** AND **PAMELA WARWICK**

This has been a great year for diving and taking the opportunity to visit the two best diving destinations in the world – without exception. The great thing is that they are both only 4 hours flying time from the UAE! Having been on a fantastic Live Aboard trip to the Red Sea in June, a trip to Maldives for Eid Al Adha would be any diver's dream come true and it certainly was for us.

We, or rather I, did think about another Live Aboard given our fantastic experiences in the Red Sea earlier in the year. However, I had been given my domestic instructions – it was to be a holiday with time to relax as well as dive. That put us firmly on dry land, or at least a small piece of it!

The Maldives has so much to offer and so many places one could visit, it was difficult to know where to start. Previous articles in the Emirates Diving Association Magazine helped a lot but we also asked for advice from a number of other sources and it "came in bundles". In the end, it really came down to what was available – the whole "Island State" seemed to be fully booked for Eid! We ended up booking onto the small (by our standards, but apparently quite big for Maldivian standards) island of Meeru in the Northern Atolls about one hour's boat ride from Male International Airport.

Our trip, like most began at Abu Dhabi International Airport and a relatively civilised morning check in time having already processed our baggage through City Airport Terminal the day before – great value at AED30 per passenger and cuts out a lot of waiting. Expecting the inevitable "Eid rush" at the Airport, we were mildly surprised to find it unusually quiet and we sailed through e-immigration to Departures. Four hours later, we arrived at Male's International Airport to be greeted by a representative from the Resort who having assembled all the guests from several incoming flights, walked us out of the terminal straight onto a waiting boat – at which point, I might add, it started raining!!! Little did we know that a Tropical Cyclone in the Bay of Bengal would make life interesting on our tiny little island of Meeru, as well as our dive plans for most of the week!

THE RESORT

Meeru Island Resort and Spa sits on the island of Meeru on the eastern side of the Northern Atoll. At 1½ kms (A 40 minute slow walk) around the entire island, it is not very big, but it is well laid out with both water and beach villas of varying standards. The water villas are accessed via elevated boardwalks out into the ocean. They are spacious, bright and have a large balcony with steps leading down to the water – we also had an open bathroom similar to the Oman Dive Centre and King sized Jacuzzi of our own to enjoy.

The island is ideal for those that enjoy active holidays with access to a variety of sports and activities, especially water sports. Equally, it is a great place to chill out and relax with white sandy beaches, clear blue waters and mostly good weather, so we were reliably informed.

The Resort had its own Dive Centre and there was even a House Lagoon over which our accommodation was built and we regularly saw a wide variety of sea life including; Rays (Eagle, Sting, Leopard and Torpedo), juvenile Black Tipped Reef Sharks, Cuttlefish, Unicorn fish, large Trevally, Puffer fish of various varieties and much, much more and all in no more than 2 - 4 feet of water.

THE DIVE CENTRE

The Dive Centre was run by Ocean Pro who also operated Dive Centres on five other islands (sand bars) in the Maldives. It was spacious, well laid out and well organised with room for all your gear to dry out each day in your own allocated area. The staff were of different nationalities but English was the common language and they were all very welcoming – just as well as the cost of the

diving "takes your breath away" (Not the Kenny Loggin's theme tune from Top Gun). Be prepared to be charged for every item on an individual basis as opposed to packaging which is the norm in other parts of the world:

- The Resort not the Dive Centre owns the boats, so there is a separate and varying charge ($36.00 - $19.00pp) for each trip over and above the diving.
- Equipment is charged per item per dive! (two dives = two times the single rate not per day or trip).
- The entry to marine parks is a fair charge.
- Charges for the guys taking your gear to the boat – again each day, each trip.
- Then the inevitable Tourist Tax.
- Tips – always tip, the Maldives live on tips.

Bottom line, it worked out at an average of $75.00 US (AED 280) per dive over 16 Dives before tips, which we have to say were richly deserved – those boys "worked their socks off", that is if they wore any!

DIVING

All the diving is from boats, unless you are doing a DSD or an Open Water Course in which case the House Lagoon was the venue. The Dive Centre offered single tank, two tank or day trips (two dives) almost every day on well equipped local motorized Dhonis staffed by the friendliest crew you could ever hope to meet. All the dives were led by experienced guides (instructors) who knew the dive sites extremely well and were able to point out places and animals, as well as take us to known sites for every species imaginable.

That said, like every other diver who visits the Maldives we were here for the big pelagics such as the whale sharks and Giant Mantas! The weather was to prove our "nemesis", driving many of the larger marine life into safer, deeper waters.

Almost all of the dives are drift dives along walls or over "stepped" reefs. The important thing is not to dive too close to the upper reef, firstly because the swell and waves will "bounce" you off the coral and rocks and secondly, the dive boat will not be able to get in to pick you up.

The first two dives gave us a taste of what was to come, with visibility down to 15 metres due to weather, heavy swell and surge driving some marine life into deeper waters. We caught a glimpse of the elusive Giant Manta in the shadows and a flight of six Mobula Rays which flew over our heads.

The last day's diving proved to be the absolute best and the highlight of our holiday. With the weather eventually improving, we were taken to One Palm, a known "Cleaning Station" for Giant Mantas. But…it sits at 30+ metres just off the main reef, so our time would be limited even though we were diving on Nitrox. As luck (and it is luck) would have it, 3 minutes into the dive, we arrived at the sandy bottom to be met by four Giant Mantas all about 4 metres across who came to play! Better still, they stayed with us for the entire time we were there, but with 4 minutes NDL remaining and a couple of divers running down their "gas", it was time to leave our new found friends and begin our ascent into shallower waters to our eventual safety stop. With a deep dive "under our belt", the second dive was a shallow dive on Koamas Faru, a fantastic reef dive with both macro and micro marine life to spend time with and lots of ferreting around in corals and rocky formations.

SAFETY AND THE ENVIRONMENT

Everyone, irrespective of your qualification or latest dive is required to undergo a basic diving evaluation of personal skills (mask clearing, regulator recovery, alternate air source) and deploying an SMB or DSMB. This is not the dive centre being difficult, it is required by Maldivian Law, that they satisfy themselves you are a safe diver. As it was, you have to "pop" an DSMB/SMB during every Safety Stop to let the dive boat know where you are, although they were exceptionally good at keeping track of our bubbles. Knowing the local currents extremely well and having done this probably thousands of times obviously helped.

As with most island states which rely on tourism, they have very strict laws regarding the preservation of the marine environment and the fragile ecosystems which form the archipelago. Rightly so, the Maldives is a jewel in the Indian Ocean, but sitting at a maximum of 15 feet above sea level, it is vulnerable as is the marine life. Interaction is controlled by dive centres, although, you still get the odd idiot who tried to "stroke a shark or manta".

WAS I WORTH THE TRIP?

The Maldives is a fantastic destination whether you are a diver, a snorkeler or someone just looking to relax, but at a price – it is not cheap.

For divers it is fantastic, a "Mecca of Diving" for the enthusiast with a vast array of marine life and some great dive sites, although they are somewhat repetitive. However, there is a reason it has been rated as the "Second Best" dive destination in the world. The Red Sea is just as good if not better, almost exactly the same flying time and a lot cheaper all round. Equally, for the overall cost of a diving trip to the Maldives (flights, accommodation, food and drink, diving and tips) you could go further afield and fly to Indonesia, Thailand or the Philippines.

That said, we will definitely go back to the Maldives, but next time we would probably opt for a Live Aboard and accept that this would just be a purist diving focused holiday. The Live Aboard is "All Inclusive" and the fact that it offers the option to dive a wider variety of sites across the entire archipelago, is just far too tempting to pass up.

WHERE NEXT FOR OUR INTREPID DIVING TRAVELERS?

Well the next "planned trip" is to Thailand in the Spring, although the skiing season is almost upon us – "heresy I heard you say". "Variety is the Spice of Life" as they say, but we will probably take the opportunity to catch up on some diving on the East Coast in the interim and search for the fabled and elusive pelagic – which everyone else sees, but we always seem to miss!

These were taken from outside our villa

DIVING ISCHIA IN ITALY

EXPLORE REEFS AND CAVERNS OF THE REGNO DI NETTUNO MARINE PROTECTED AREA (MPA)

FEATURE **NICOLA DE CORATO** – DUBAIBLOG ADMINISTRATOR, DIVER AND HELI RESCUE SWIMMER
PHOTOGRAPHY **NICOLA & MARTINA DE CORATO**

Scuba diving in Ischia is done in the Tyrrhenian Sea, in the northern part of the Gulf of Naples, Ischia is an Italian island that is known for its captivating beauty and incredible diving opportunities in the azure waters of the Tyrrhenian Sea; it is the largest of the three islands inside the Gulf of Naples, (Procida, Capri and Ischia – known as the Phlegrean Islands). There is a fourth small island, Vivara, but usually it's not counted, being a satellite islet of Procida.

Off the coast of Naples, you can find the Regno di Nettuno, a Marine Protected Area (MPA) including the sea surrounding the archipelago, formed by Ischia, Procida and Vivara. Those three islands are to the west of the Gulf of Naples and are part of a large still active volcanic complex.

The water temperature in Ischia ranges from 15°C to 26°C depending on the time of year; the dive season in Ischia runs from April through to November. The best time to dive Ischia is definitely July and August, but to travel there outside of the peak summer holiday period (June and September in particular) is also a good choice, as this is when the waters are quieter, prices lower and hotel rooms and flights available at better rates.

Particularly fascinating is the dive into the Secca delle Formiche, located between Ischia and Vivara in the middle of Zone A of the Marine Reserve and therefore declared a Nature Reserve, an untouchable sanctuary and accessible only to local tourist operators, authorized under the regulations laid down by the management of the reserve.

Eighteen meters deep, one can admire the majestic rock formations and a small network of caves and beautiful spacious rooms with large open ceilings that lets light filter on the surface, creating, thanks to exceptional water transparency, a very fascinating light and shadow show.

This is one of the very best dive sites in all of Ischia for underwater photography, so be sure to bring your camera with you. Vibrant colours from a large variety of incredible marine species are striking here, so be sure to take it all in. However, this site is most suitable for experienced or advanced divers only.

You can easily find a *Peltodoris atromaculata*, a species of sea slug, a dorid nudibranch, a marine gastropod mollusk from the *Discodoridídae* family, informally also known as a "Dalmatian". The Italian common name for this species is "Vacchetta di mare" (literally baby sea-cow). This area also has plenty of starfish (or sea stars), echinoderms belonging to the class Asteroidea and many other fish.

Beginners should be very careful, and dive only with very well prepared instructors, especially when currents are not favorable.

Other dive sites to choose from in Ischia:

1. PUNTA CAMPANELLA

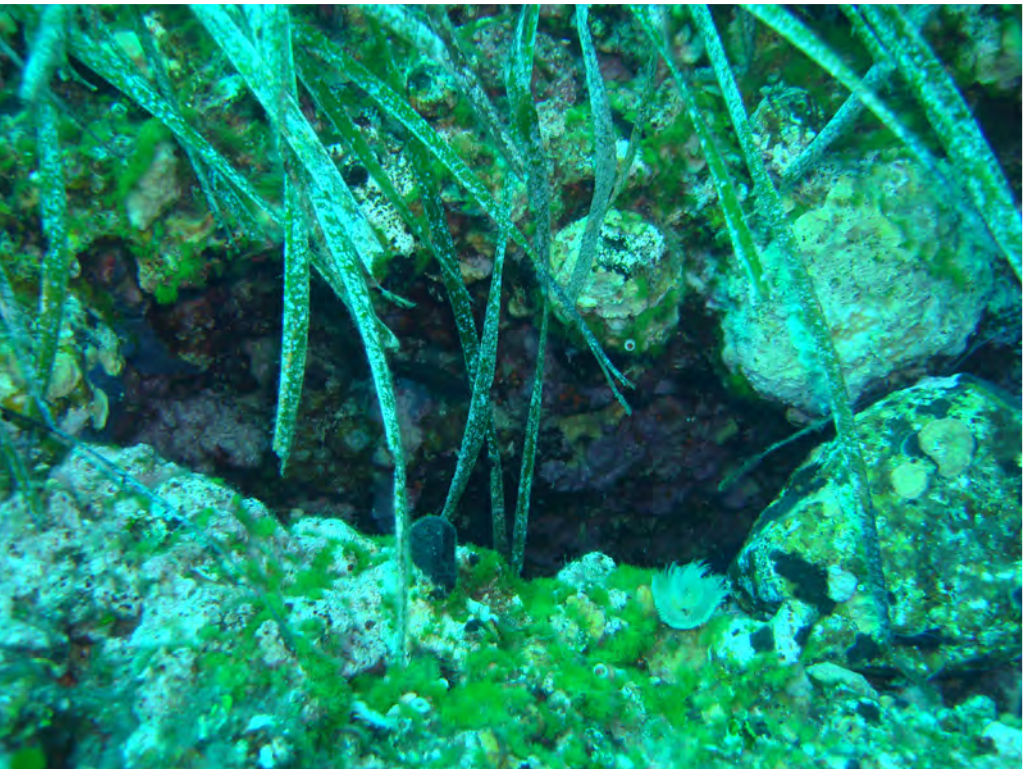
With no strong currents and great water clarity, Punta Campanella in Ischia is a dive site that is perfect for divers who have a bit of experience but are not yet expert scuba divers looking for the most difficult dives. The great thing about this site is that it has a wonderful combination of natural beauty and antique wrecks. Ancient Roman and Greek ships can be found deep within the sea here, but for those who are looking for a site that is also rich in marine life, you will find large gorgonians here, as well as schools of gorgeous fish. These include anthias, amberjacks, and tuna. The bottom of the site is best though, as it literally has a carpet of sponges, making it a truly unique place.

2. MITIGLIANO

This cavern dive is surprisingly easy, so even if you are a beginner and have never gone through a cavern before, you can give it a try at Mitigliano. Colourful corals adorn the walls, so have your camera ready for some breathtaking underwater shots. Swim through a corridor to find myriad fish species gliding alongside you, as well as tiny creatures such as red shrimp along the way. Then pass through a tunnel that leads you into a space that is filled with colourful sea anemones that are truly breathtaking.

3. VERVECE

Vervece is an easy dive site that is perfect even for beginners. It features a host of beautiful marine species, including sponges, hydroids, and, of course, plenty of fish. This is a wall dive that descends to about 50 metres, and all along the way, you will deal with a good current that is not difficult to handle. Also, be sure to look for the large statue of the Virgin



Mary that sits atop the coral-covered floor.

4. MONTE SANT'ANGELO

Rare black coral can be found at this magnificent dive site, so it is yet another reason why diving Ischia should be on your to-do list. Bring your camera for lasting memories of the experience and the unique marine life. Brilliantly colourful corals also adorn Monte Sant'Angelo, and you will be swimming alongside a variety of beautiful fish species as well. Be sure to look for small creatures living amongst the coral along the walls found throughout this dive site too.

HOW TO REACH THE ISLAND

The closest airport is Naples International Airport. You can then reach two harbours (Beverello and Mergellina) of Naples in 20-30 minutes or the harbour in Pozzuoli in 1 hour (then you will be closer to the Island).

From these harbours, regular ferry crossings connect to Ischia Porto (the main harbour of the island); some boats make additional or alternative stops in Casamicciola and Forio (minor harbours).

You can also hire a private boat, but it is much more expensive.

We had the chance to dive in this beautiful sea thanks to the Ischia Diving Center by Sebastiano Polgrossi, via Iasolino, 106 – 80077 Ischia Porto (NA)

Phone: +39 081 981852
Mobile: +39 347 4328583

You can contact the center for more information about offers and opportunities at:
info@ischiadiving.net

My little shark and photographer

Discodoris atromaculata – Dalmatian

DIVING IN BEAUTIFUL MALTA

THE MALTESE ISLANDS' CLEAR BLUE SEA IS IDEAL FOR SCUBA DIVING IN THE HEART OF THE MEDITERRANEAN

FEATURE & PHOTOGRAPHY **NICOLA DE CORATO** – DUBAIBLOG ADMINISTRATOR, DIVER & HELI RESCUE SWIMMER

The Maltese Islands are truly a gem in the center of the Mediterranean sea with an all-year-round mild climate, a safe and friendly atmosphere and an abundance of reefs, caves and wrecks in just a few square kilometres. Visibility is excellent, up to 40 meters and the sea temperature never falls below 15°C.

All three Islands offer some unique diving experiences that make diving here some of the most interesting in the Mediterranean Sea. Malta is the largest island of the archipelago and the cultural, commercial and administrative centre. Gozo – the mythical isle of Calypso – is the second largest island and is more rural, with economy based on fishing, tourism, crafts and agriculture while Comino – famous for its Blue Lagoon – is largely uninhabited.

The depths of the dives vary, from the very shallow 12 metre Ghar Lapsi dive, to the underwater tunnel of Lantern Point, leading down to well over 50 metres. Because of the impressive drop-off from a few meters to high depths, divers who wish to dive unaccompanied are required to show a PADI Advanced Open Water (or higher) certification or equivalent certification by other agencies, plus have a buddy.

Below are some of the most popular dives we have around the Maltese Islands suitable for recreational divers with depths ranging between 10m to 50m. A number of conservation areas have been established around submerged wrecks located in Maltese waters too.

Situated in the north of the island, Ċirkewwa has long been a favourite among local divers, mainly for its impressive drop-off from 8 to 30 metres and because it's an easy reachable shore dive site with lots of facilities for divers. The area boasts a picturesque arch and a number of caves. The arch is a cavern which has a large hole in the top, creating a narrow bridge of rock under which divers can easily gain access. Just exiting the bay where you get into the water, you swim all around the reef and you have a chance to experience a real jump into the deep blue. The maximum depth in this area is 36m. Off Ċirkewwa, there is also a wreck, the MV Rozi, a Bristol built tugboat launched in 1958 as the Rossmore by Charles Hill & Sons Ltd. and sold to Tug Malta in 1981; renamed Rozi, it operated from the Grand Harbour of Valletta up until 1992, when Rozi was scuttled as an artificial reef and attraction for Captain Morgan's Underwater Safari Tours. The submarine no longer operates, but the wreck is a popular diving attraction sitting upright – intact except for its engines and propeller – on a sandy bed at a depth of 35 metres (115ft), but the entire dive may be done at 25 meters, staying at the top of the wreck.

Ċirkewwa is also a harbour. It is the site of the Ċirkewwa Ferry Terminal, where regular car ferries operate to the port of Mġarr on Gozo. There is some exceptional scuba diving to do there as a result of the calm waters, high visibility and diversity of underwater caves, wrecks and reefs. An incredible diving experience, the spectacular Blue Hole, beneath the Azure Window – at the bottom of Dwejra Point – is a must for diving lovers. This is a shore dive, which is reached via a fairly difficult walk over rough coralline limestone, however steps have been carved into the rocks leading down to the Blue Hole. This is a natural rock formation carved out over the centuries by wind and waves which reaches down to a depth of 26 metres. The hole is about one metre above sea level and and no more than 10 metres wide and 5 metres across. However, a few metres down gives way to unlimited sea access, exiting through a huge archway. A large cave can also be found at the bottom of the hole. The Chimney is entered by one diver at a time through a fissure in the almost vertical rock. This opens up at a depth of around 8 metres. Throughout the dive, one can see various species of fish, starfish and fireworms. This dive is perfect for photography. Maximum depth for this dive is 50m.

Another famous wreck is the Um El Faroud, sunk in 1998 following a terrible explosion

on board that killed nine Maltese dockyard workers. After three years of laying in the harbour of Valletta, it now sits upright on the sandy seabed Southwest of Wied iż-Żurrieq. The Um El Faroud weighs 10,000 tons and is 115 metres long. The depth to the top of the bridge is 18 metres and 25 metres to the main deck. After a bad storm in the winter of 2005/6, the ship has broken in two so that the the right of the rear section aligns with the left of the front section. Divers might come across some squid and barracudas at the stern. The port side is usually teeming with large schools of sea breams, parrotfish and silversides. Sometimes one can come across the occasional amberjack and tuna. The maximum depth for this dive is 36m but due to the size of the wreck, this dive should be restricted only to divers with advanced wreck diver training.

A boat trip well worth doing while in Malta is the one to Comino, the smallest Island of the archipelago. At 53m long the P31 Patrol Boat (ex-Pasewalk) was scuttled in 2009 off the west coast of Comino; it is an excellent site for divers of all levels, even newly qualified Open Water divers. The P31 is 18m with a maximum of 21m under the bow, and you can enter the wreck at the stern and swim all the way to the bow without having to exit and re-enter.

There is no reef nearby which means that the dive has a square profile, with a safety stop at 5m. It is therefore possible to explore the whole wreck, inside and out, in about 35 minutes. Mussels, oysters and tube worms have started to colonise the wreck and the buoy after only two years in the water. On the sand around the wreck you may see rays, flounders and razor fish. On the wreck itself, you can find trigger fish, filefish, octopus, nudibranchs and numerous small reef fish.

Not far from the P31, the Comino Caves (Santa Marija Caves) are also a beautiful dive site, situated on the rugged northeast coast of Comino. The Comino Caves are interconnecting caves/caverns and the fantastic feeling of close contact with the saddled bream in a feeding frenzy makes this a very popular dive with most divers. From the anchor point in the little bay, which provides shelter from the northwest winds, you will be able to see some of the caves from the surface. Below the boat, the gentle undulating seabed is made up of sand, Posidonia (sea grass) and some small boulders. Under the boat you will be able to feed the fish and take some exceptional photographs of the fish feeding, making it almost impossible to see your buddy due to the number of fish surrounding him/her. The photographic opportunity with the light blue of the sea and the hundreds of silver fish against a sandy seabed is too good to miss.

Normally planned as a second dive during the Comino boat trip and with an average depth of 10m, even moving away from the reef wall will only give you a maximum depth of 16m and a chance of emerging out of the water while diving in some caves.

The famous Blue Lagoon on Comino is wonderful to snorkel. With a depth of 3m, it is not the best to dive, but if you have the chance, spend an hour there between the dives to have a break and relax.

The marine life in Malta is typically Mediterranean and one can often see anything from sea urchins to star fish, from octopus to groupers, from sea horses to barracudas, from tuna to moray eels and much, much more. The combination of sheer cliffs, caves, wrecks, shelves and sandy and rocky sea beds means there is a large variety of fauna and flora to see. It would be too difficult to list them all. Wrecks, as artificial reef habitats, have provided a home for a greater number of species in recent years and make excellent dive sites.

There are a few sea animals to watch out for with poisonous bristles and spines. Keep your eyes open for the scorpion fish, fireworms (very common), sea urchins and stingrays. If you do step on or touch one of these fish, seek medical attention as your reaction to the injury will depend on your general medical condition and age.

HOW TO REACH THE ARCHIPELAGO

Malta lies virtually in the centre of the Mediterranean Sea, some 93kms south of Sicily, the Italian island. Yet Malta is just a few hours flying time from most mainland European cities and has excellent intercontinental connections. The Maltese Islands are included in several cruise itineraries and provide an excellent base or stop-over for sailing the Med. You can also get here on a scheduled ferry direct from several Mediterranean ports.

Most of our dives were done with the support of:
Dive Systems (W.S.) Ltd.
Tel: (+356) 2131 9123
Mob: (+356) 79319123
Fax: (+356) 2134 2040
Email: info@divesystemsmalta.com

Do not hesitate to contact them or myself at **ndecorato@bergamoscuba.com** for more information about Malta and other diving opportunities.

PSYCHOLOGICAL REACTIONS AND SCUBA DIVING
DESCRIPTION OF A TREATMENT

FEATURE **DR. MARIA LUISA GARRIULO, PSYCHOTHERAPIST PSYCHOLOGIST** (1)

The psychological aspect of underwater activities is an important domain (2): scuba diving requires a high degree of adaptability in behaviour. From the sports psychology aspect, the practice of diving is characterized by physical performance of long duration, a medium level of effort and a necessity for the right mental equilibrium in activation, concentration and relaxation.

During open water dives, divers are faced with a variety of events, their reaction to the various circumstances therefore constitute a prevailing variable in the management of a dive.

Reactions to danger and situations of presumed threat are as important for a diver as technical skills, like knowing how to handle equipment and how to plan a dive properly.

Learning to react adequately in situations of tension or fear is considered truly indispensable, to the extent that all underwater training courses should teach how to deal with these emotional states, as hyperbaric environments do not allow divers to behave as you would on dry land (3). In fact escape, interrupting a dive and getting quickly out of the water, are all forms of behaviour, which if not thoughtfully carried out, would imperil the health of a diver and sometimes that of his or her buddies.

Learning to handle progressively higher levels of stress, whilst maintaining lucidity and control over a situation is something that comes gradually and requires patience. It should be developed just like emotional and behavioural skills, which are strictly connected to the training of scuba divers (4).

Besides, learning to recognise one's limits and recognise one's feelings (5) allows divers to avoid difficult situations when not in the best of psychological conditions. Those who are capable of detecting a temporary sensation of inefficiency, insecurity or lack of concentration can decide to avoid a dive, or to plan it appropriately to their condition (6).

A profound knowledge of oneself and the habit of a healthy internal dialogue in fact seem the best conditions to face the small and big tension that diving can have in store for us (7).

Psychologists can play an important role in the prevention of risk and in the management of behaviour affecting diving security. They can help divers solve psychological problems following traumas, including those connected to underwater accidents.

DIVING AND STRESS FACTORS

Stress factors are interpersonal environmental stimuli which require the organism to adapt from a bio-psycho-social point of view. The way a person reacts to an event is called adaptation; it includes cognitive strategies, emotional responses and interpersonal resources. In dives, many variables can concur to create a stressful underwater situation. These may be environmental events, equipment failures and the behaviour of other people.

But, besides these situational elements, there are other variables which we could divide between risk factors and protection factors. They condition divers' reactions, affecting the pre-existing sensation of subjective security. This is also conditioned by elements of terrestrial life which can strongly affect divers' reactions to unexpected events.

The perception of a danger causes the organism to predispose the activation of a complex reaction with various outcomes, on the mental and physical plane, managed by a set of organs and apparatuses which

include the nervous, hormones, endocrines and circulation systems, the muscle structure, sense organs, etc. The mind contributes acting as an interface between the organism and the environment, with reactions, emotions, thoughts, etc. This bio-psychic organization is generically called the Fight or Flight System.

Fear is the emotional, lived aspect of a complex reaction, with specific characteristics and changes in the mind and body, selected in millennia of evolution, which the body enacts to best tackle dangers. Automatic reactions, which are not mediated by learning and conscious reasoning, lead to being able to manage a situation, distancing the body from the apparent threat, and thus fleeing as the organism finds attack inconvenient. That helps to explain the reaction of escaping or the temptation to escape which can sometimes be felt underwater. Therefore the problem is not that of being scared or alarmed, but of being able to consciously handle the archaic tendencies connected to this state.

Fear is triggered by activation levels (arousal) i.e. the ability to mobilise at an occurrence. This indicates that certain events are interpreted as being dangerous to the organism. With training and the addition of new emotional experiences, new meaning can be added to events, and this can modify our activation level and our consequent reaction.

To feel safe is not the same thing as being effectively safe, but our behaviour depends most often on the subjective evaluation of safety and danger (8).

Many underwater accidents are linked to behaviour management in the presence of danger (real or imaginary).

In particular, a high level of pre-existing anxiety increases the level of alarm with which the dive is tackled, making it difficult for a person to exercise rational control and reflect before acting. We can also see how other non-diving variables condition the way we behave in water. There are aspects of our terrestrial life which can affect the sensation of safety or vulnerability in diving, if these affect the general system of certainties in life (9).

A personal predisposition to manage events in an alarmed manner and to feel in danger can thus generate a background level of anxiety, which poorly disposes a person to handing a diving experience. In fact, the presence of an anxiety disorder, especially if badly compensated for, should be at least a transitory reason for not diving, and it should certainly suggest a need to empower all those mental capacities which are needed in the management of emotional and mental states, even through specific training.

In particular, some anxiety disorders are characterised by a fear of losing control, from a self-appraisal of incapacity in the presence of a threat, and the tendency to imagine one's imminent reaction to danger, evoking and concentrating on the various bodily sensations which are normally connected to a state of arousal.

This mechanism is called anticipatory anxiety, and leads people to try to control their fear level, which thus increases because the person merely re-evokes, amplifies and dilates their reactions over time, being frightened by what they ascertain, thus generating a pathogenic loop.

Secretly, many divers have experienced fear during diving, small traumas which have afterwards generated a difficult psychological situation. This is an ambivalent sensation that divers are most often ashamed of: on the one hand a person tries to avoid situations similar to the ones that had frightened them, on the other, their thoughts continue to be attracted to recollections of sensations or other fear-generating elements.

Following problematic situations, counselling or psychological rehabilitation sessions are effective, based on cognitive-behavioural methods such as EMDR (10) (Eye Movement Desensitization and Reprocessing), a method which in the clinical case described I have adapted to a diving scenario.

Such methods are also useful in bouts of Post Traumatic Stress Disorder (11) (PTSD) or adaptation disorders. (12). These conditions can arise following unpleasant or stressing diving experiences of various nature, and are described in the Diagnostic and Statistical Manual of Mental Disorders (13) (DSM IVTR), which lists and defines disorders according to the criteria adopted by the international clinical community.

CLINICAL CASE

The patient is a 25-year old male, whom at the time of the stressful event was working as an underwater guide, which he'd been doing for about two years.

The man came to me for a psychotherapeutic consultation after about two years of clinically significant problems, which were heavily affecting his lifestyle.

The main request was help for improvement in the quality of life and health, the possibility of taking up diving again, even if just recreationally. The symptoms first appeared at the beginning of a circa 27-metre ascent, just after leaving the seabed, far enough away from it for it to be out of sight, like the surface.

The episode was recounted to me and defined as a panic attack, with the loss of the mask. The main symptoms of the ensuing period recalled to me were a persistent impossibility to go diving, symptoms of social isolation, anxiety, a depressed mood. Symptoms of anxiety such as agoraphobia had become consolidated and increased in the year after the accident, accompanied by a reduction in social activities and working hours.

It was at that time that the man consulted a psychiatrist with whom he began a course of pharmacological treatment with Escitalopram 20mg (14) a day, a therapy still in course a year later, at the time of the psychotherapy consultation with me.

The symptoms present at the time of my consultation were: difficulty in getting to sleep, frequent states of anxiety, preoccupation for one's state of health (forced breathing), a sense of respiratory constriction; avoidance of highly stressful and involving situations, especially when connected with evaluation and performance.

The experience of underwater panic had led to a traumatic event in a hostile environment incompatible with the behavioural reaction the patient had, and with the consequent sensation of danger the diver had exposed himself to through his own behaviour.

A first reconstruction revealed that the panic attack had led to an anticipatory anxiety mechanism which led the person to a progressive limitation on behaviour and habits in life. The first avoidance had involved the person's social life, strongly connected to identity (of diver and guide). This had engendered a depressive reaction, connecting giving up work and social life with feelings of defeat, shame, incapacity and secretiveness.

There was an anxiety episode with panic in remote anamnesis in a situation not connected to diving, with a subjective experience of "fear of not making it" and a cognitive organisation of a phobic nature (15) (characterised by periods of constraint a fear of physical inadequacy to effort).

In recent anamnesis, in the days immediately preceding the dive, the person had had to face a very important interpersonal conflict, a choice between a constraint on activity and the risk of abandonment.

Treatment lasted 15 sessions, and was carried out with individual cognitive-behavioural psychotherapy. After the assessment phase we proceeded with the identification of disturbing recollections and their desensitisation, through the EMDR protocol (16), an activity which took up about half of the sessions. In particular, three different recollections of images were desensitised, non-elaborated recollections of as many frightening moments of the event, which had been connected to the psycho-physical response of anxiety. These images were still vividly present at the beginning of the treatment, as a sensorial remembrance.

Other aspects of psychotherapeutic intervention involved a change in the coping style, supporting the person in facilitating the learning of more adequate tackling strategies, particularly the change from a prevention strategy to one for managing the state of anxiety once it is present. Finally, two sessions were dedicated to psycho-educational activities, to recognising physiological responses to effort and fear and recognising the relative emotional connotations.

Half-way through treatment the person was experiencing a significant drop in sleep-related problems until their complete disappearance. At the end of the treatment, the signs of depression relative to social withdrawal and "putting one's self to the test" had gone.

The man reported a social form of behaviour and a great propensity for his interests and the avoidance relative to diving had disappeared, firstly with a progressive approach by the patient to people connected with diving, then by going on three dives, carried out before the end of treatment. A progressive decrease in the dosage of the drugs given by the psychiatrist was also possible, leading to its almost complete elimination.

CONCLUSIONS

The value of involving a discipline like psychology in the prevention of risk and the management of psychological stress connected to diving experiences is now widely considered apparent.

The use of tools and methods specific to the psychological profession proves useful in helping divers handle unpleasant moments and avoiding consequences which affect quality of life and well-being. Furthermore, those that have been exposed to situations that were dangerous to themselves or others, such as a serious accident underwater, can suffer biological as well as psychological consequences. But besides objective traumas, there can be strongly emotional experiences with no apparent consequences, as they do not translate into events from a medical point of view. However, these experiences, which are not usually shared by divers, can concur in generating situations of unease, which, if not individuated, can last for long causing useless damage to quality and style of life.

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NOTES

(1) A diver and psychotherapeutic psychologist for more than 15 years, she lives and works in Rome as a clinical psychologist and educator in the diving sector.
(2) Venza, Capodieci, Gargiulo, Lo Verso, 2006
(3) Gargiulo, 2003 b
(4) Capodieci, 2001
(5) Gargiulo, 2011
(6) Gargiulo, 2002
(7) Gargiulo, 2003 a
(8) Aquilar, Del Castello, 1998
(9) Liotti, 2001
(10) Alfieri, 2009
(11) Diagnostic criteria of Post-Traumatic Stress Disorder: a person has experienced or witnessed an event or events which have implied death, the risk of death, severe injury, or a threat to their physical well-being or that of others. The person's response included intense fear, symptoms of disempowerment or horror. The traumatic event is relived persistently in one or more of the following ways: intrusive recollections, unpleasant recurring dreams of the event, action or feelings as if the event was happening again (flash backs), difficulty in getting or staying asleep, irritability, difficulty in concentration, hyper-vigilance. The duration of the disorder is over a month. The disorder causes clinically significant disturbance. The disorder may be acute, if the symptoms last for less than three months, or chronic, if they last three months or more.
(12) Adaptation disorders bring about the development of emotional and behavioural symptoms in response to one or more identifiable stress factors, which manifest from the beginning of the stressful event which caused the maladaptive reaction There can be several variations in symptoms: with anxiety, depression, change in conduct or a mixed alternation of emotion and conduct.
(13) American Psychiatric Association, 2001
(14) Selective serotonin re-uptake inhibitor
(15) Bara, 1996
(16) This is a method devised by American psychologist Francine Shapiro in 1987. Originally conceived to help people with PTSD, it was first used with war veterans. Subsequently, the method was refined both conceptually and empirically, increasing its scope to the treatment of other disorders and varying its application techniques to stimuli other than visual ones, such as tactile and auditory ones. It is now used in nearly every country in the world. The use of neuroimaging techniques is shedding light on the neural correlation of psychotherapy, revealing its neurobiological effects on cerebral functions. The method is currently used in the psychotherapies, especially the behavioural and cognitive kind, through a rather rigorous eight-phase protocol.

UPCOMING EVENTS

DMEX – DIVE MIDDLE EAST EXHIBITION

4-8 March 2014 – Dubai International Marine Club, Mina Seyahi

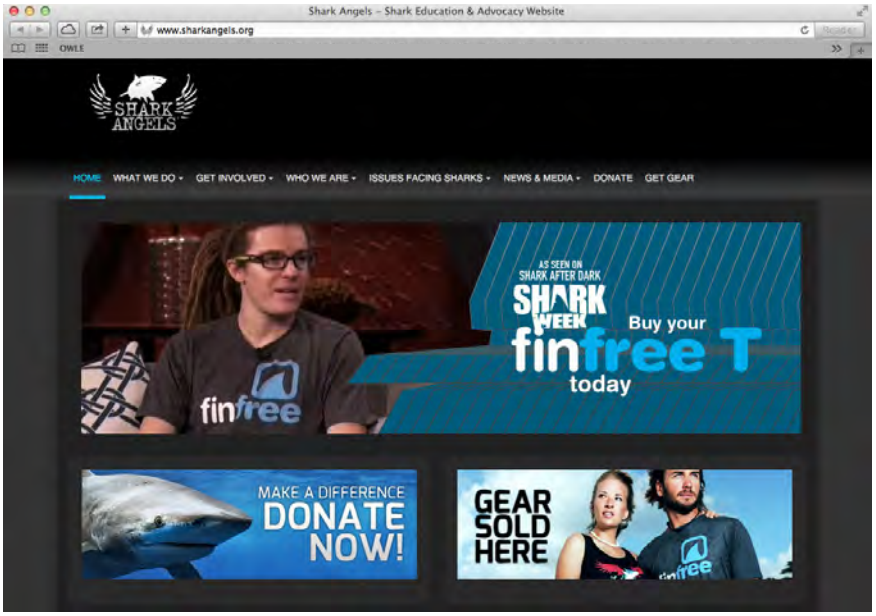
DIGITAL ONLINE 2014 EXHIBITION & AWARD CEREMONY

28 May 19:00-22:00 (Venue and Sponsors TBA)

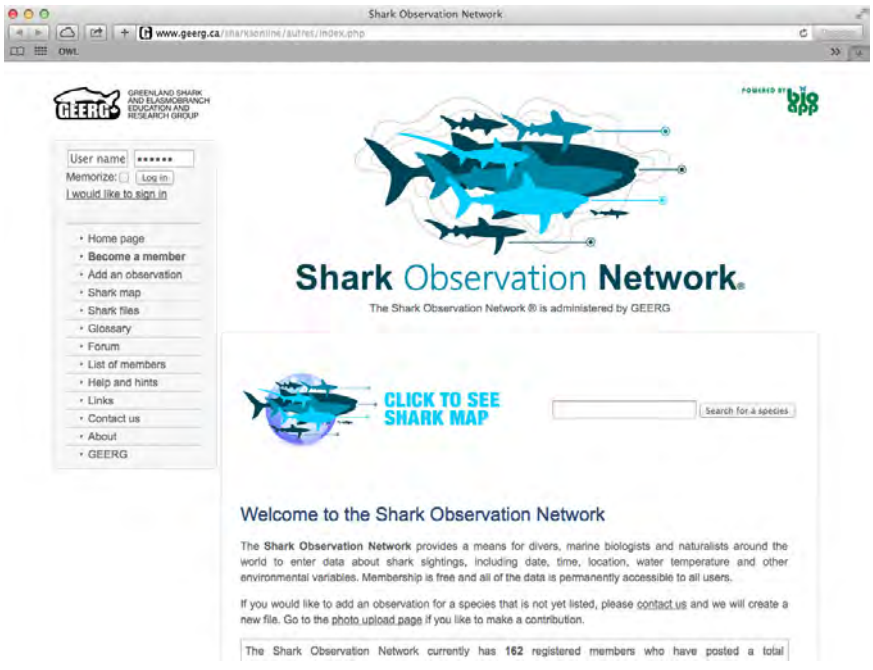
INTERESTING LINKS AND RESOURCES

SHARKS

- http://www.sharkangels.org/



- http://www.geerg.ca/sharksonline/autres/index.php



- http://www.elasmo-research.org/

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