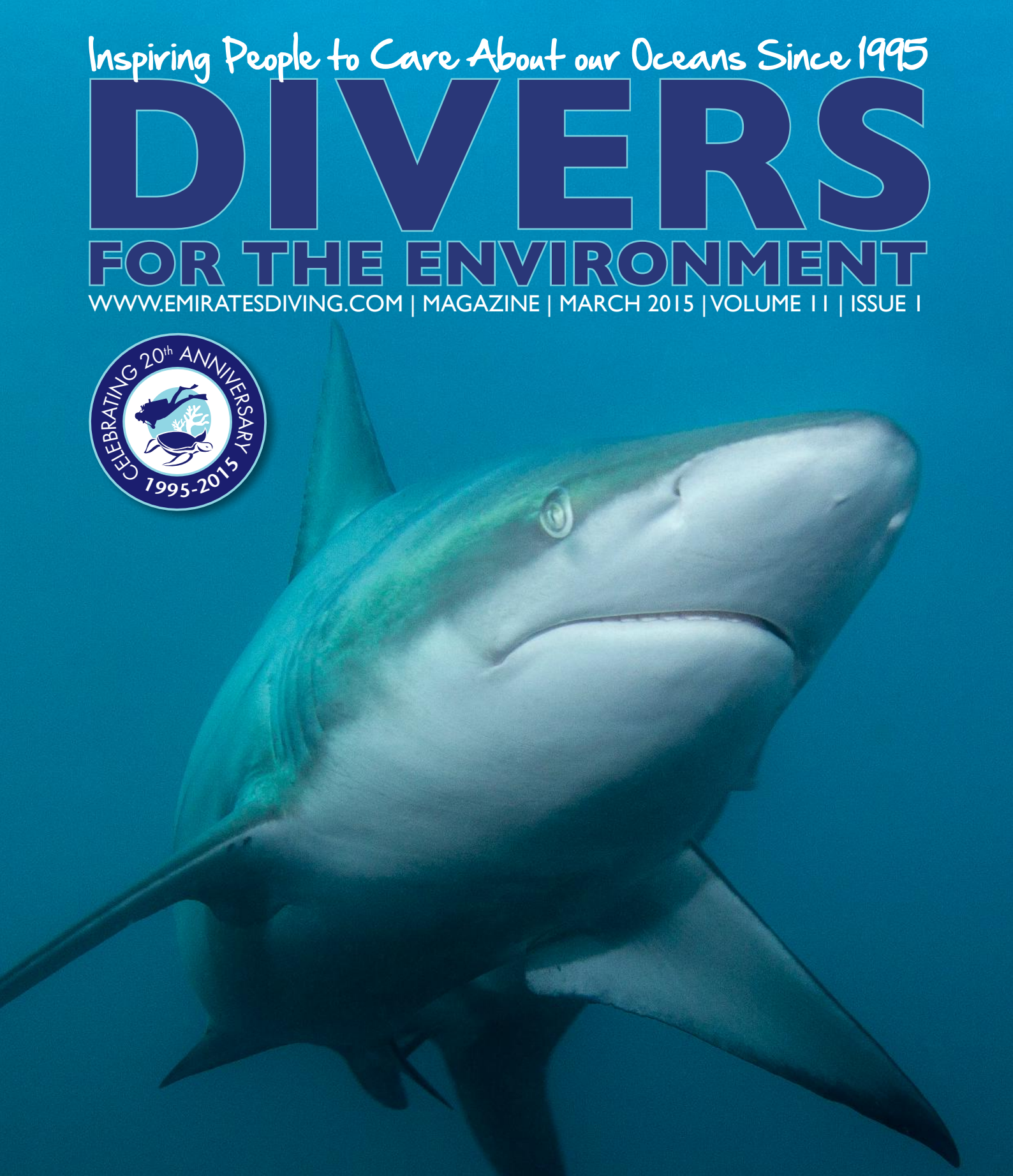
Inspiring People to Care About our Oceans Since 1995

DIVERS FOR THE ENVIRONMENT

WWW.EMIRATESDIVING.COM | MAGAZINE | MARCH 2015 | VOLUME 11 | ISSUE 1

CELEBRATING 20th ANNIVERSARY 1995-2015



THE ALIWAL SHOAL
FOR HARDCORE SHARK LOVERS

EDA'S 20th ANNIVERSARY • DIVE MIDDLE EAST EXHIBITION 2015 • **INTRODUCING THE KIDS CORNER** • THE FREE DIVER • **DIGITAL ONLINE 2015** • ASSESSING BASIC VITAL SIGNS

مسابقة جمعية الإمارات للغوص للتصوير السينمائي والفوتوغرافي تحت الماء

DIGITAL ONLINE 2015

EDA'S UNDERWATER PHOTOGRAPHY AND FILM COMPETITION | **WWW.EMIRATESDIVING.COM**

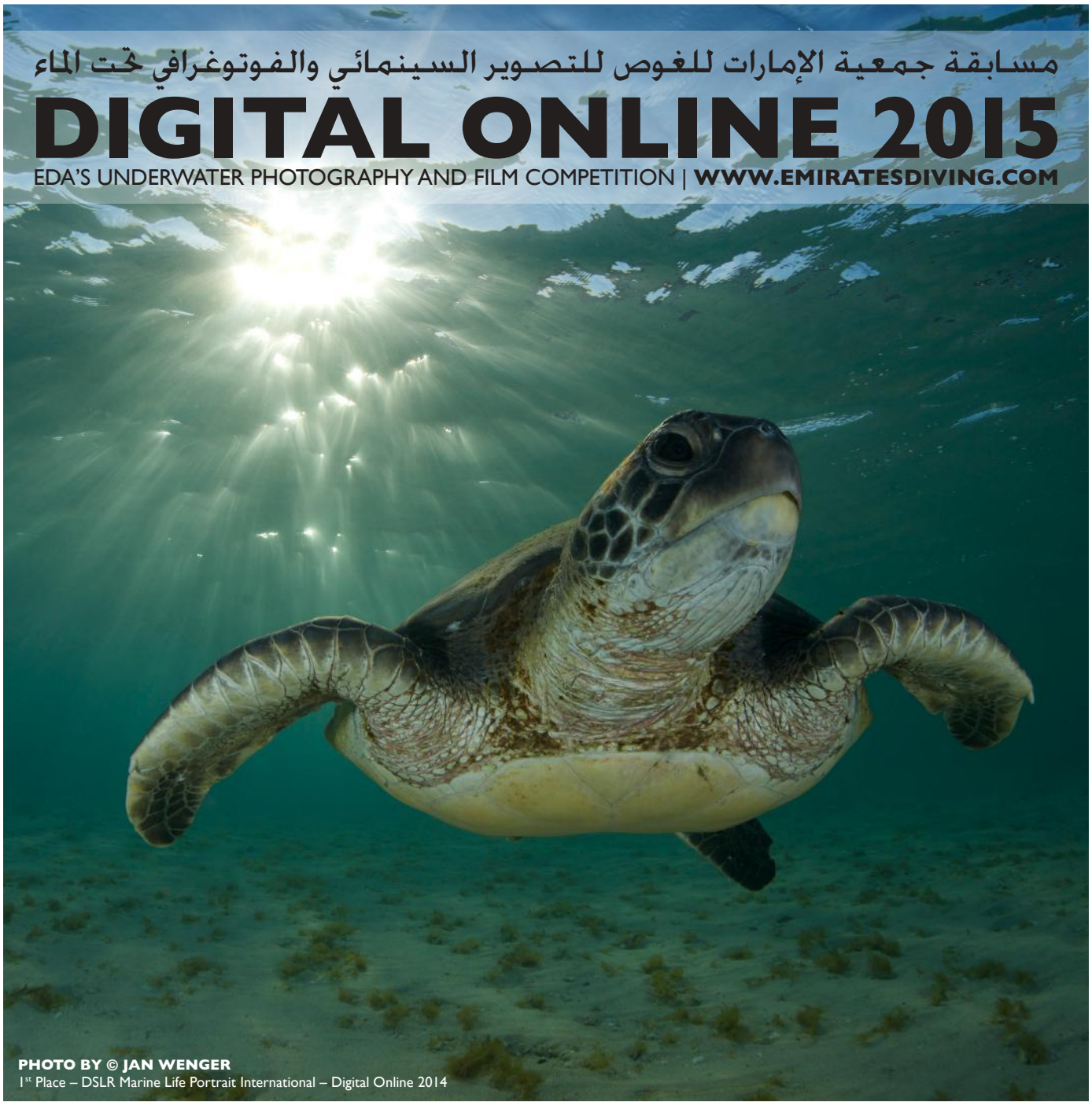


PHOTO BY © JAN WENGER
1st Place – DSLR Marine Life Portrait International – Digital Online 2014

ENTER DIGITAL ONLINE 2015

TURN TO PAGE 36 TO FIND THIS YEAR'S RULES AND GUIDELINES

CONTEST OPENED:
Thursday, 1st January 2015

SUBMISSIONS DEADLINE:
Thursday, 30th April 2015 @ 11:59 PM (GST)

AWARDS & EXHIBITION NIGHT:
Wednesday 27th May 2015 | 19:00-22:00 | AUD

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

EMIRATES DIVING ASSOCIATION
Heritage & Diving Village, Shindagha Area
P.O. Box 33220, Dubai, UAE
Tel:+971 4 393 9390 | **Fax:** +971 4 393 9391
Email: photo@emiratesdiving.com
EDA is a non-profit voluntary federal organization and is accredited by UNEP as an International Environmental Organization.

EDA
جمعية الإمارات للغوص
Emirates Diving Association

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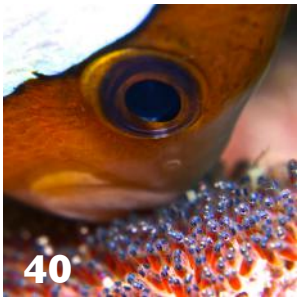
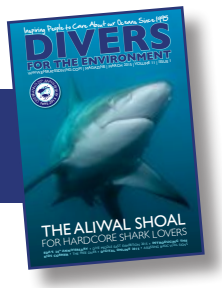


DIVERS FOR THE ENVIRONMENT
Please note that EDA's magazine, "Divers for the Environment" includes articles written by individuals whose opinions, whilst valid, may or may not represent that of EDA. It is hoped that the magazine can become a platform for individuals to voice their opinion on marine and diving related issues. You are welcome to suggest an article for the next issue of "Divers for the Environment" released in June 2015. Send all articles, feedback or comments to: **magazine@emiratesdiving.com**

EDA COVER
PHOTO BY SIMONE CAPRODOSSI



REDUCE REUSE RECYCLE

EDA'S 20th ANNIVERSARY

INSPIRING PEOPLE TO CARE ABOUT OUR OCEANS SINCE 1995

1995-2015

Twenty years have rapidly come and gone and we take a quick look back in time to reminisce on a small selection of some of the events and activities (whether or not still done today) we shared with all of you.

Dive Middle East Exhibition (DMEX) 2008


Clean Up Arabia 2006


Earth Hour 2010

Digital Online 2009

Movie Night Bag It 2013

EDA Gala Dinner 2005

The EDA Market Day 2011

Reef Check & Biosphere Expeditions 2010


Treasure Hunt 2004

Pearl Diving 2001

THE QUARTERLY CONTRIBUTORS

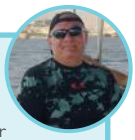
Meet the regular quarterly magazine contributors who share their passions, interests and the expertise of their fields for our readers of, 'Divers for the Environment'.

Want to contribute? Email: **magazine@emiratesdiving.com**

DR. ADA NATOLI
Ada is a specialist in population genetics applied to conservation of species. Having been involved in whale and dolphin research since 1992, she is a member of the IUCN Cetacean Specialist List and founder of the UAE Dolphin Project.
www.uaedolphinproject.org

SIMONE CAPRODOSSI
Simone is an Italian underwater and travel photographer with a passion for diving and the sea. Simone uses his photography to support environmental initiatives and is heavily involved in local shark and turtle conservation projects.
www.scaprodossiphoto.com

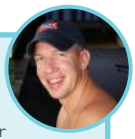
PATRICK VAN HOESERLANDE
Diving opens up a whole new world. Being a writer-diver and co-editor of the Flemish divers magazine Hippocampus, I personally explore our underwater world and share it through articles with others, divers and non-divers. You'll find a collection of my articles on **www.webdiver.be**



PAUL WARWICK
Born and educated in the UK leading to a career as an officer in the British Army. Now a specialist consultant for the UAE Government inbetween his other interests and his passions which are family, scuba diving (A PADI IDC Staff Instructor), conservation and marine management.

DR. BARBARA KARIN VELA
Dr. Barbara Karin Vela is a Diving Medicine Physician EDTC/ECHM IIa, working in the Dubai London Specialty Hospital and a referral doctor in the United Arab Emirates for the Divers Alert Network Europe.
www.dubailondonclinic.com

NICO DE CORATO
Blogger on **www.dubayblog.com**, marathon runner and triathlete, diver and heli rescue swimmer with Bergamo Scuba Angels. You can read my blog, contact me on social networks or email me via admin@dubaiblog.it for information about my articles or just to say hello.



PHILIPPE LECOMTE
Having followed in his father's and brother's love for the sea, French diver and underwater photographer Philippe, took to underwater photography in 2006 after having moved to Abu Dhabi in 2003 and now seldom travels without his camera.
www.plongee-passion-photo.over-blog.com

EDA – 20 YEARS HAS GONE A LONG WAY

IBRAHIM N. AL-ZU'BI
EDA Executive Director

I would like to welcome you all to the March magazine issue of Divers for the Environment. 20 years of marine conservation. Years spent protecting a national treasure so that others may be able to enjoy them. That is what EDA stands for. By giving his blessing to establish this organization in February 1995, the late Sheikh Zayed bin Sultan Al Nahyan, not only placed conservation as a priority for us to uphold but inspired us to bring about change ourselves. I want to take this opportunity to show my appreciation to all our members and staff for the dedication, loyalty and enthusiasm that they've demonstrated throughout this journey. Of course, none of what we have accomplished so far could have been possible without the leadership and visionary thoughts from our Board of Directors. I'm confident that the next 20 years will hold even more achievements we can be proud of.

As in every first issue of the year, I would like to take this opportunity to thank our sponsors, we are grateful for the financial support they have given EDA to enable us to continue our mission of conserving and protecting the UAE marine resources. We salute them for being environmentally responsible organizations and we hope that our partnership will last for a long time.

March is the month of DMEX – The Leading Diving Exhibition in the region, where the diving community of the UAE and the region meets alongside the Dubai International Boat show to discuss diving updates and share the latest equipment available in diving gear. Diving is a passion and the sport of diving and the diving industry in the UAE and the region will continue to grow, not only because the people of the UAE are the people of the sea, but also because of the amazing infrastructure that we have in this country and the long term development goals that the government has to make the UAE the international tourism destination. The 9th version of DMEX this year is the biggest so far and it is getting so popular. We also noticed the increase in EDA individual membership and dive centers, in addition to more than 2,400 Facebook fans.

I am looking forward to this year's Digital Online Underwater Photography Competition with lots of underwater photography gurus participating and sending EDA amazing photos of the varied marine life from all the places our members have dived. I want to thank the members of the jury and wish them luck in their tough job judging amazing underwater photos from our members, sponsors and The American University in Dubai (AUD) for hosting the awards ceremony this year.

You will also find in this issue exclusive news from our dive centers and clubs in the UAE. The diving industry are in for a busy 2015! We are also glad to see articles in this issue from our regular contributors and partners from all over the world; we also have a new section for kids in this issue.

As you all know, EDA is an official Reef Check training facility in the UAE, we have allocated in this issue good space for our Reef Check news! With input given by Reef Check and with EDA being one of the main Reef Check partners, we hope you will enjoy the updates and research about the condition of the coral reefs in our seas!

I also want to take this opportunity to thank our EDA members who continuously share their insightful diving experiences and underwater pictures with us. Your insights and articles are imperative in recommending when and where to go diving, as well as what to look out for on your trip.

We hope your passion and enthusiasm continues and you send us news about your next diving adventures, and we look forward to seeing your next batch of water world snaps!

I do hope you enjoy reading our issue of Divers for the Environment. We have a busy year full of activities and events waiting for you. The EDA team is working tirelessly to have another successful year and we're looking forward to seeing you all at the next EDA events.

Happy reading and safe Eco Diving!

Ibrahim N. Al-Zu'bi

Ibrahim Al-Zu'bi

DIVE MIDDLE EAST EXHIBITION
DMEX 2015 IS NOW IN ITS 9th YEAR

THE DIVE MIDDLE EAST EXHIBITION

Whether you're a casual or seasoned diver, immerse yourself in a world of underwater adventure during the 9th Dive Middle East Exhibition, the only international event in the Middle East. Supported by the Emirates Diving Association (EDA), discover state-of-the-art diving gear and equipment, alongside a series of professionally delivered practical and interactive activities in our on-site demonstration pool, designed for divers of all levels.

DMEX
DIVE MIDDLE EAST EXHIBITION

3-7 March 2015 | Open 15:00 - 21:30
Dubai International Marine Club, Mina Seyahi

THE VENUE – DIMC

Founded in 1988, the Dubai International Marine Club is one of the most established marina and watersports clubs in the region and has become the diving force behind the growth of national and international water sport events in the Middle East. Located on Dubai's rapidly developing waterfront, next to the Le Meridien – Mina Seyahi and the iconic Palm Jumeirah, DIMC is the ideal venue partner for the Dubai International Boat Show.

NOMAD OCEAN ADVENTURES
STAND NO: PADI-POD

NOMAD
OCEAN ADVENTURES
www.discovernomad.com

Nomad Ocean Adventures is a dive resort based in Dibba, Musandam. The dive center is based in our 15 room guesthouse with shared bathroom facilities and a swimming pool. Our out table is well known amongst divers and many come to us because of the good food and atmosphere with our variety of home cooked dishes from France, the Mediterranean, Marocco, Mauritius, India and Oman.

We have two speed boats with Yamaha four stroke low carbon emission engines, each accomodating 15 divers and customized for divers and their equipment. We offer free nitrox to all certified divers but also rebreather rental and training.

We also offer all PADI courses from introductory courses to Divemaster with many speciality courses. We offer a hard bargain on courses and dive packages with meals and accommodation! You can come on a weekend and relax and dive or sharpen your diver skills. We can offer courses in English, Russian, French and Afrikans!

We have been open since 2004 and have taken diving to another level and know the Musandam like the bottom of our wetsuits! Nomad has undertaken a lot of environmental causes below its wing and supports many local sustainable projects as well as beach and underwater clean ups.

Join our facebook page: Nomad Ocean Adventures Musandam.

AL MAHARA DIVING CENTRE
STAND NO: PADI-POD

AL MAHARA
DIVING CENTER L.L.C.

Al Mahara Diving Center is a premiere PADI 5 Star Instructor Development Center, PADI Swim School, SAI Starguard lifeguard training and water sport in Abu Dhabi and on Sir Bani Yas Island and Nurai Island specializing in high standards of scuba diving training, kayaking, Stand Up Paddleboarding, deep sea fishing and water sports.

We offer a full range of PADI courses from Seal Team (junior programs) to Go Pro!

Instructor programs with our own full-time experienced PADI instructors and Course Director in Abu Dhabi.

We also have a full range of scuba diving equipment to outfit students and divers.

We offer scuba diving excursions locally in Abu Dhabi waters to some great diving sites where we regularly see coral reefs, plenty of marine life and sometimes dolphins on the surface.

We also take a strong stance on protecting and preserving the environment by being active in the community in beach and underwater clean ups and organising marine presentations and movie screenings.

We offer a wide range of water sports activities.

DEEP BLUE SEA DIVING CENTRE
STAND NO: D-108, D-208

DEEP BLUE SEA DIVING

We are one of the leading dive centers in Dubai, established in 2004 and Khorfakan, Oceanic Hotel in 2013.

We offer a range of courses from beginner to instructor and First Aid Courses.

We are the regional representative for IDEA Middle East and also issue diving certificates by global dive organizations such as PADI and SSI.

Our Dive Centre offers a full range of facilities including Boat, dive shop, classroom, equipment rental and a booking office.

We work closely with various corportate clients providing recreational and professional diver training.

We offer weekly diving trips to various locations within the UAE and Oman.

We are the agency for Beuchat, the distributor for Suunto and OCEANIC diving equipment in Dubai, amongst other established brands sold in our dive shop.

We are the exclusive dealer for Hydro Sport X-Jets in the UAE.

We offer the full face mask with communication trial dives (non-certified divers).

AL BOOM DIVING
STAND NO: D-10

For those of you thinking about taking the plunge and finding out more about our daily diving and snorkelling trips and PADI Dive Courses, look no further than DMEX-D10 where we'll have a team of PADI Dive instructors on hand to answer your questions. As the UAE's most established Scuba Diving Company, Al Boom Diving has partnered with Le Meridien Al Aqah Beach Resort and Spa; Atlantis, The Palm; and the Dubai Aquarium and Underwater Zoo to put us on the doorstop of some of the best diving facilities the Emirates has to offer.

Al Boom's popular DMEX Dive Shop will be packed with a huge variety of our latest and greatest products. Aqua Lung, Apeks, Aqua Sphere, Omer-Sub, Spora-Sub, Cressi-Sub, Suunto, Ikelite, Light & Motion, Innovative Scuba Concepts, Underwater Kinetics, Sea and Sea, GoPro, Polar Pro, UK Pro, Octomask, Amphibious Outfitters, Trident Diving Accessories, Sea Pearls weights, XS Scuba Cylinders & accessories, Faber Cylinders and more!

AL MUHEET
STAND NO: D-110

Al Muheet TV & Cinema Productions has more than 10 years in underwater documentary productions. We participated in many film festivals; some of our documentaries have won prizes. It is all about Discovery, Diving, Photography and Filming. Our works are to share the beauty and the joy of these wonderful arts and experiences with people. We take photos, we capture moments, we make movies and documentaries; we organize safari and diving trips to discover what creatures share the planet with us. We help individuals, professional and media entrepreneurs to make their movies, videos and succeed with their media projects. We offer them through our rental services a wide range of cinema, video and photography cameras, lenses and underwater camera housings and equipment from the major manufactures: RED, Gates, Canon, Nikon, Sony, Carl Zeiss, Blackmagic.

SEA SAFARI CRUISES
STAND NO: D-102

Sea Safari Cruises is one of the biggest Phinisi boats in Indonesia and was founded in 1988. Since then, we have built and operated 6 Phinisi boats. The concept of the Sea Safari Boats is based on the traditional Buginese boats but with an added touch of modernism and luxury. The hotel standard cabins are equipped with air-conditioners and there are sun decks under the shade of her huge sails.

Our vessel's names and routes are:

1. Cheng Ho: Labuan Bajo – Komodo – Labuan Bajo/Maumre – Alor.
2. Sea Safari VI: Labuan Bajo – Komodo – Labuan Bajo, Maumere – Ambon, Raja Ampat, Bandaneira and Kelimutu (3 coloured lakes).
3. Sea Safari VII: Bali – Komodo – Bali.
4. Sea Safari 8: Sorong – Raja Ampat – Sorong/Manokwari – Cendrawasih – Manokwari.

EMIRATES DIVING ASSOCIATION
STAND NO: D-216

EDA is a non-profit voluntary federal organization and is accredited by UNEP as an International Environmental Organization. Our mission is to conserve, protect and restore the UAE marine resources by understanding and promoting the marine environment and promote environmental diving. Divers can prove extremely utile in conserving the marine environment through observing, reporting and preventing environmental abuse.

DAN Europe will be with us this year so come on over to say hello to the EDA and DAN team to ask any questions you may have. Don't forget to collect a copy of the EDA March magazine issue, 'Divers For The Environment'.

For more information about EDA, go to: www.emiratesdiving.com.

SEYCHELLES TOURISM BOARD
STAND NO: D-213

Seychelles Tourism Board – Dubai Office is the Tourism Representative of Seychelles in the Middle East.

Our role is to promote the Destination throughout the Middle East to its targeted audience and in particular to Niche Segments such as Diving, Sailing, Fishing, Golf and Spas.

Seychelles offers an impressive array of diving opportunities both for experienced divers and those taking the plunge for the first time.

Colourful reef fish, octopus, lobster and turtles can easily be spotted in the shallows surrounding the inner islands, while more adventurous dives offshore are the playground for large groupers and stingrays.

PREMIERS FOR EQUIPMENT
STAND NO: D-210, D-40

Premiers For Equipment is a 100% local establishment based in Abu Dhabi, United Arab Emirates founded in 2001 dealing with several government authorities, municipalities, oilfield companies, divers and diving centers.

We are committed to provide first class service to complement our quality products and to offer our clients a strong local support in the field of diving, be it in recreational, sports or technical.

We are the sole agent Oceanic (USA) and Aeris (USA) for sport and recreational diving, Persistent (USA) and Picasso (Portugal) for spearfishing, Teknodiver (Italy) for custom made diving suits, Explorer Case (Italy) for water proof cases, OceanReef (Italy) for underwater telecommunication systems and Hollis (USA) for technical diving.

We offer all levels of recreational PADI courses.

THE PAVILION DIVE CENTRE
STAND NO: D-20

The Pavilion Dive Centre is a PADI 5 Star CDC Centre. The Pavilion Dive Centre is located in the luxurious grounds of the award-winning Jumeirah Beach Hotel. As the only PADI Career Development Centre in the Middle East, Pavilion attracts diving professionals from near and far to gain quality professional development and a start in the diving industry. PADI Divemaster, Instructor Development (IDC), Instructor Specialty, IDC Staff Courses, EFR Instructor Courses and Instructor Examinations take place in our facilities at several times of the year on fixed schedules.

Besides PADI professional Development, our multilingual team of skilled PADI Instructors conduct the entire range of PADI Recreational Diving Courses for the young and old. The Pavilion Dive Centre also offers daily dive excursions to certified divers on both East and West coasts of the UAE and has a large selection of SCUBAPRO diving equipment along with PDC branded diving apparel.

TOURISM MALAYSIA
STAND NO: D-207

Year of Festivals 2015 Truly Asia
Endless Celebrations

Tourism Malaysia's mission is to promote Malaysia as an outstanding destination of excellence and to make the tourism industry a major contributor to the socio-economic development of the nation. Visit our official website at www.tourismmalaysia.gov.my for further information.

Malaysia has declared 2015 as the "Year of Festivals". Themed "Endless Celebrations", the year-long calendar is packed with festivities of every genre; for instance cultural festivals, shopping extravaganzas, international acclaimed events, eco-tourism events, arts, music showcases, food promotions and other themed events.

For the perfect holiday full of surprises, diverse cultures and natural wonders, the time is now, the place is Malaysia.

SUBWING
STAND NO: D-03

Have you ever dreamed of flying? You are not alone, throughout history there has always been someone gazing the sky, trying…to figure out the key to human flight. Many have tried, many have failed.

But what if they were all looking in the wrong direction, what if the key lies in the unexplored and deep substance that is covering most of the earth's surface, water.

A species that has learned to harness the water's abilities in a way nature originally didn't intend, is the penguin. It left the sky in favor of the ocean, unlocking the great potential of underwater flight.

This potential has never been harvested by humans, until now…Introducing the SUBWING, human underwater flight with virtually full freedom of movement is now made possible. So grab your SUBWING and go Fly. Underwater.

Subwing is a new revolutionary watersport product that lets you fly underwater and explore the sea like never before. Do spins and turns and endless tricks underwater.

THE DIVE CENTRE
STAND NO: PADI-POD

THE dive centre is a PADI 5 Star IDC Centre and is located on both the West and East Coasts, offering a full range of PADI Courses.

Very much a family atmosphere where you will instantly feel a part of THE dive centre family. We pride ourselves on the level of training you receive, teaching the passion of diving.

DEEP TREKKER INC.
STAND NO: D-109

Deep Trekker's mission is simple: we want to give anyone on the earth an opportunity to explore the depths of our vast oceans, seas, lakes, or rivers with a mini ROV.

Explore the underwater world with Deep Trekker's underwater drone. Experience the ocean like you never have before – discover lost shipwrecks, reefs or colourful fish without ever leaving your dock.

Learn more at www.deeptrekker.com

EURO DIVERS OMAN
STAND NO: PADI-POD

Euro Divers started diving activities in the Maldives over 40 years ago. Today we offer you a wide selection of holiday destinations and scuba diving lessons to choose from. Diving holidays in Maldives, Egypt, Indonesia, Thailand, Spain, Oman, Croatia, Japan and Maurititus.

Our great love for scuba diving and our experience reflects in our philosophy. Our team is always ready to help guests plan for a tailor made experience.

3-7 March 2015 | Open 15:00 - 21:30
Dubai International Marine Club, Mina Seyahi

ATLANTIS, THE PALM, DUBAI
STAND NO: D-103

ATLANTIS
THE PALM, DUBAI

Atlantis, The Palm is the first entertainment resort destination in the region and located at the centre of the crescent of The Palm in Dubai. Opened in September 2008, the unique ocean-themed resort features a variety of marine and entertainment attractions, as well as 17 hectares of waterscape amusement at Aquaventure Waterpark, all within a 46 hectare site. It is home to one of the largest open-air marine habitats in the world, with over 65,000 marine animals in lagoons and displays including The Lost Chambers Aquarium, a maze of underwater corridors and passageways providing a journey through ancient Atlantis. Aquaventure features 18 million litres of fresh water used to power thrilling waterslides, a 2.3km river ride with tidal waves and pools, water rapids and white water chargers. Dolphin Bay, the unparalleled dolphin conservation and education habitat, was created to provide guests a once in a lifetime opportunity to learn more about one of nature's most graceful mammals. Atlantis, The Palm is also known as the culinary destination in the region with a collection of world-renowned restaurants including Nobu and Ronda Locatelli. The resort boasts an impressive collection of luxury boutiques and shops, as well as extensive meeting and convention facilities.

SCUBATEC DIVING CENTER
STAND NO: D-101

Scubatec Diving Center LLC is a 5 Star IDC Center established in 1993 and licensed by the Professional Association of Diving Instructors (PADI). We are well known in Dubai as one of the friendliest and busiest dive centers. Our team of dedicated and professional instructors will ensure that you gain all the knowledge and experience required to be safe scuba divers. Scubatec prides itself on the personal touch and prefers smaller groups on dive trips so the divemaster and instructor can dedicate more time and attention to individuals. We also feel the same way about diving courses and can cater to one student at a time, ensuring that you the diver gets the best of our time. We will also fit the timings around your schedules, enabling you to do the courses at your own comfortable pace. Diving is one of the worlds fastest growing sports. Allow us at Scubatec to show you the magic and thrill that the underwater world has to offer. With Scubatec you can be sure to have a memorable and exciting underwater experience. We sell the following brands: Oceanic, IST, Akona, Sherwood, Gopro and Sealife under water cameras, have a full time repair workshop, and rent diving and snorkelling equipment, as well as offer dive trips in the UAE and Oman.

SCUBATEC
Diving Center

PRODIVE MIDDLE EAST
STAND NO: D-219

wakatobi

Wakatobi offers discerning travelers solitude, relaxation and world-class diving and snorkeling. On a remote island in the Banda Sea, at the epicenter of marine biodiversity, the resort is surrounded by brilliant coral reefs, breathtaking drop-offs and seamounts, all teeming with life. Luxurious, yet environmentally responsible, the resort provides a level of personalized attention and service equal to the finest hotels and beachfront resorts. Direct charter flights from Bali bring guests to our property, where 26 villas and bungalows are nestled into a pristine beachside setting. Expert staff provides personalized support for snorkelers, novices, experienced, and technical divers. In addition to our world-famous House Reef and 40-plus dive sites within our coral reef sanctuary, guests can discover more with cruises on the luxury dive yacht Pelagian.

Wakatobi is an underwater photographer's paradise, with unique opportunities for every level of shooter. The beach, diving and snorkeling, gourmet dining, magnificent accommodations, spa services and more provide an idyllic vacation getaway for all.

www.wakatobi.com
henrik@wakatobi.com

OMAN SAIL LLC
STAND NO: D-55

SEAOMAN
Discover, Explore, Experience
POWERED BY OMAN SAIL

SEAOMAN powered by Oman Sail, is dedicated to getting you and your family on, in and under the water in the Sultanate of Oman.

Enjoy breathtaking views, discover an underwater paradise and experience thrilling activities enjoyed by all. Oman's stunning coastline is undoubtedly best explored by sea, offering dinghy sailing courses, wakeboarding, day and overnight charter's, RYA powerboat courses, PADI diving courses, boat trips and a comprehensive marine service facility.

We are Oman's number one marine leisure provider.

GULF MARINE SPORTS
STAND NO: D-214

الخليج للرياضات البحرية
GULF MARINE SPORTS

Gulf Marine Sports is one of the leading companies in scuba diving equipment, it was established in 1998 in Abu Dhabi/ UAE and distributes a wide range of snorkeling equipment, Spear fishing and pleasure diving gear.

GMS offer a big range of the most reputable and leading brand names, such as: TUSA, BigBlue Lights, Beuchat, BARE, Cressi-Sub, Underwater Kinetics, Trident, Sea Pearl, ProBlue, Intova, Suunto, PADI, Aqua-Vu Cameras, STINGRAY Swim Suits, and many others.

TWINS TRADING
STAND NO: D-107

Twins Trading Import and Export and Commercial Agencies. Company with limited liability INSAT 2001, located in Hurghada Egypt Red Sea Governorate. Imports activity kits and tools for diving and exports clothing (T-shirts) to the European Union.

Success Partners:
Hurghada Red Sea
- Extra divers Makadi
- Extra divers Sharm El Arab
- Aquarius Red sea
- O2 Dive Shop
- Diving Attitude

Marsa Alam
- Extra marsa Alam
- Extra port ghalib

Sharm Elshik
- Extra Sinai
- Sinai Divers
- Maison de la Mer
- Dive stop Shop
- Aquarius Sharm

Dahab
- Neptune Shop

BLUE PLANET DIVING
STAND NO: PADI-POD

At Blue Planet Diving, we know about the amazing connection that can occur when man goes underwater and explores a whole new world. Let us guide you on that amazing journey.

Our team of PADI instructors can help you move from novice to advanced skills, keeping you safe all along the way. Sign up today.

Learn to SCUBA dive with us! We can teach in English, Russian, Polish and Arabic.

As a 5 Star IDC Dive Resort, we run Instructor Development courses to prepare future Scuba Instructors.

We also offer a range of equipment for sale and yearly trips to Sri Lanka and other diving destinations.

DIVERS DOWN
STAND NO: PADI-POD

Divers Down UAE has been training divers since 2001 in the UAE with PADI 5 Star Instructor Development Resorts on both coasts in Fujairah and Dubai on the Palm.

We are known for delivering superior training, being a fun and friendly place to dive from and we feel that our centre is your club!

Divers Down delivers the whole dive experience, including the full range of PADI recreational courses and as an Instructor Development Centre we can take you to Instructor in both recreation and Technical diving.

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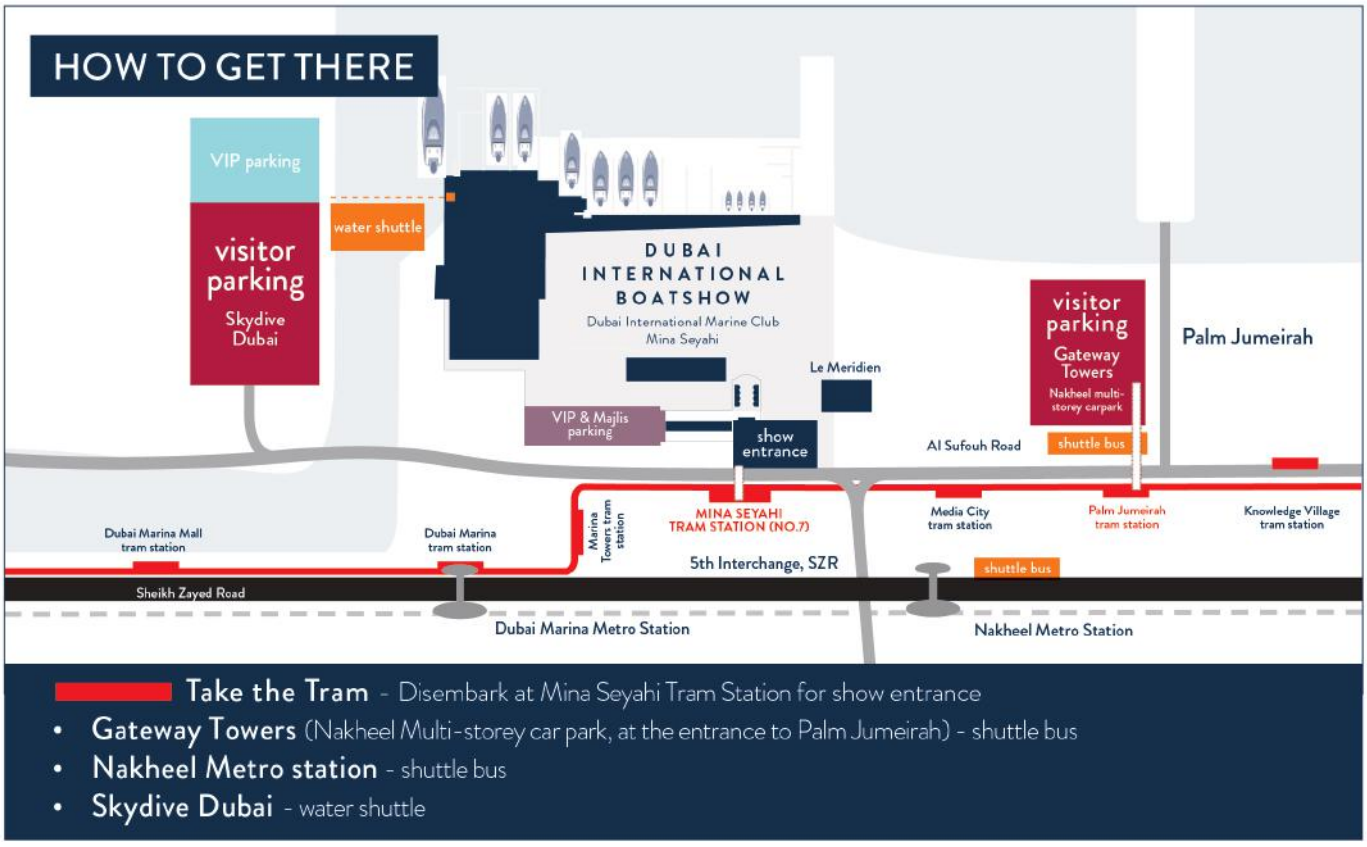

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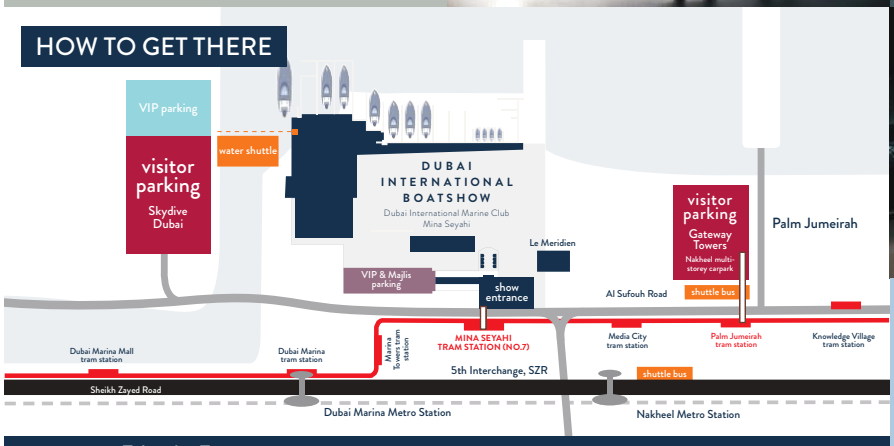

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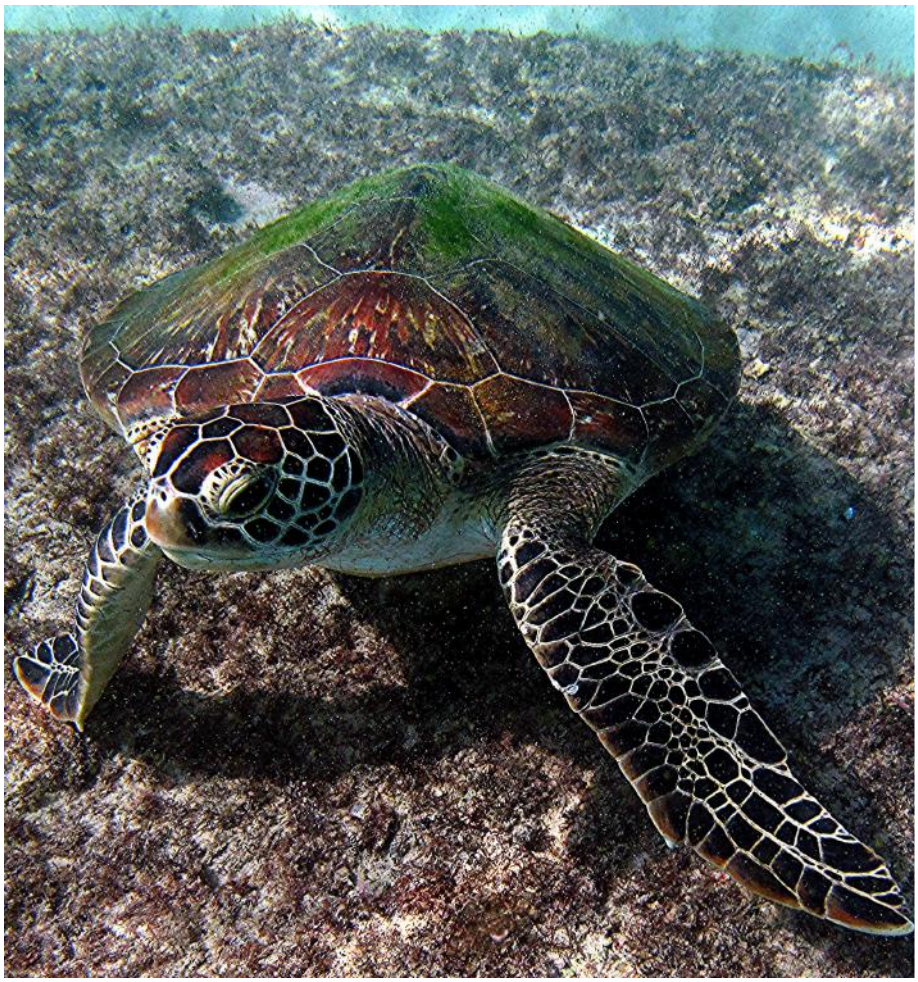
THE GREEN SEA TURTLE

FEATURE AND PHOTOGRAPHY **ANDREW ROUGHTON**



Diving in the Gulf offers the chance to see many wonderful creatures. There are sites where you're virtually guaranteed to see Reef Sharks, Moray Eels, or Seahorses. You may even be lucky enough to see a Whale Shark. However, for me, one of the most pleasurable aquatic encounters is the Green Sea Turtle (*Chelonia mydas*).

The Green Sea Turtle, which is also sometimes known as the Pacific Green Turtle or the Black Turtle can be found across the Pacific, Atlantic, and Indian Oceans. And here in the Emirates, they can be spotted in either the Persian or the Arabian Gulf. Whilst living in the Gulf, I have repeatedly enjoyed three different types of encounter with these wonderful creatures – snorkeling, diving and nesting.

Firstly, by simply donning a snorkel and slipping into the water from the beach next to the slipway at the Royal Beach Hotel and Resort in Dibba, Fujairah you're almost guaranteed a breathtaking experience. You may see anywhere between one and ten Green Sea Turtles. And you can swim alongside, take photographs, or simply just marvel at the natural grace and enchanting serenity of these humble creatures.

Secondly, if you'd like a diving experience with Green Sea Turtles, I would recommend a trip to the Daymaniyat Islands near Muscat, Oman. Here you'll find a wonderful dive center called Global Scuba who will make you feel extremely welcome, help book your onsite accommodation, and arrange a diving experience you'll never forget. The Daymaniyat Islands are a group of nine islands that lie about eighteen kilometers off the Batinah Coast. Under the protection of the Ministry of Environment since 1996, The Daymaniyat Islands are the country's only national marine reserve and as such, play host to a wonderful array of marine life. Across twelve glorious dives sites, you can expect to see Leopard Sharks, Rays and of course, Green Sea Turtles galore.

Finally, if you're willing to travel a little further (depending of course where you're coming from) and experience an encounter on land. Ras Al Jinz in the Eastern province of Oman offers a life-changing experience to witness these gentle giants nesting. The Turtle Reserve at Ras Al Jinz was established in 1996 by Royal Decree and now runs guided tours nightly to view the Green Sea Turtles' nesting process, which is a once-in-a-lifetime opportunity to see arguably the important concentration of nesting Green Sea Turtles in the Indian Ocean.

If you're able to undertake one, two, or all three of these experiences, you will certainly come to appreciate one of the most beautiful, placid and enchanting animals in our oceans. And more importantly, you will no doubt be left with a sense of obligation to help preserve this now endangered species.

Green Sea Turtles have reached dangerously low populations worldwide due to commercial harvesting for meat and shells, loss of habitat, territorial invasion, and litter and pollution – factors that directly or indirectly all humans have an influence upon.

Visit the following websites and see how you can start making a positive impact and help preserve these wonderful creatures today:

- www.worldwildlife.org/species/green-turtle
- www.gulfturtles.com/
- www.gulfturtles.com/adopt-turtle
- www.jumeirah.com/en/hotels-resorts/dubai/burj-al-arab/activities/turtle-rehabilitation-in-jumeirah/turtle-rehabilitation-in-jumeirah/
- www.rasaljinz-turtlereserve.com/index.htm

SHARK GUARDIAN UK CHARITY ON SECOND TOUR OF DUBAI SCHOOLS

Shark Guardian UK Charity recently completed their second tour of Dubai schools delivering their shark and marine educational presentations. From the 8th to 15th January 2015, Shark Guardian Directors Brendon Sing and Liz Ward-Sing presented in 12 schools to around 3,000 students and teachers.

SCHOOLS VISITED:
Gems Royal Dubai, American International School, Gems Wellington Academy (Al Khail), American Academy (Al Mizhar), Victoria Heights Primary, Gems Westminster School (Sharjah), Dubai English Speaking School, Jumeirah English Speaking School (Arabian Ranches), Gems Al Khaleej National School, Dubai College and the Dubai British School. There was also a session held at Emirates Diving Association's headquarters in the Diving Village for the DUNEHA home school group.

The tour was again sponsored by UK Charity Global Ocean with the aim of increasing awareness of the 31 species of sharks that can be found in the waters of the UAE, as well as the threats facing sharks around the world. Shark Guardian and Global Ocean continue to focus on celebrating sharks and inspiring students to be excited and passionate about them. The educational presentations delivered by Brendon and Liz do this by dispelling the negative myths and false perceptions about sharks, demonstrating how important sharks are for maintaining healthy ocean ecosystems, showing a range of the 500 species that can be found around the world, highlighting cool information and facts, identifying the threats to sharks and then giving ways and ideas of how everyone can get involved in their conservation and protection.

The tour was a huge success with students becoming very excited about the subject and determined to do something about the wasteful shark finning that kills 70-100 million sharks globally each year. Students were also happy to learn that the UAE has taken measures to stop shark finning in its waters and that the re-export of fins is now illegal. There has also been considerable education and training to ensure the new CITES (The Convention on International Trade of Endangered Species) protected sharks are not fished within the UAE and their trade from other countries is carefully monitored.

Brendon and Liz said how important it is to educate school children so they are not unnecessarily scared of sharks and so they can be better informed to make the right choices, regarding never buying or consuming any kind of shark product. They say there is still such a huge misunderstanding about sharks, especially in the UAE. Liz says, "Just as we found last year, probably in most of the sessions we did, around 80-90% of students would start by saying they were scared of sharks! Fortunately we were able to change this by the end of the sessions and now the same children are going away sharing their new, positive knowledge with friends and families".

Shark Guardian and Global Ocean look forward to seeing the follow up projects they have inspired within the UAE students and will showcase them during events to be staged in Dubai at the end of the year. This will be phase 3 of their shark education and awareness within the UAE.

KIDS SCUBA CAMP AT BORNEO REEF WORLD, KOTA KINABALU, SABAH

PHOTOGRAPHY **MR. CLEMENT LEE** AND **BORNEO REEF WORLD**

It all started when our young PADI Seal Team Students, Neerenjen Raj and Ng Nic Yang both 8 years old, successfully completed their 5 Pool sessions of the PADI Seal Team Course with Kids Scuba under the direct supervision of Uncle Syed. They asked me, "When can we go dive in the sea and see Nemo teacher?" After looking at their learning efforts with their improved scuba skills and discipline underwater, I casually asked them, "What would you like to see besides Nemo"? "We would like to see the colourful fishes teacher", they answered both with a smile.

I then looked at them and told them with a smile, "Boys, Uncle Syed and Kids Scuba is planning for our year end Kids Scuba Camp at Borneo Reef World pontoon at the Tunku Abdul Rahman Marine Park in Kota Kinabalu, Sabah in December".

The moment both boys heard that, I saw the gleam in their eyes with a wide smile and young Neeren clenched both hands and said, "Yes, I'm going".

Then came the day the Kids Scuba Camp with 32 kids, teens and families flew for 2.5 hours from Kuala Lumpur International Airport directly to Kota Kinabalu International Airport, Sabah on 5 December 2014. We also had another group of a family of 5 from Kuching Sarawak with Mr Ernest C.Teo, of Premier Marine Scuba Center with their PADI Seal Team students Shawn Lee, 9 and Darren Lim, 8 joining us for the camp.

Upon arrival to Kota Kinabalu, Sabah at noon, the group had a lovely lunch at a local restaurant in town and the first itinerary was to the Kota Kinabalu Wetland Center which is only about a 20 minute drive from town. The Wetland Center site covers 24 hectares (60 acres) of mangrove forest for the purpose of conservation, education, recreation, tourism and research. The camp participants were greeted and briefed by officers of the Kota Kinabalu Wetland Center on the importance of mangroves to the marine ecosystem followed by an educational video. To learn and explore the wetland mangroves, the group was spread into two teams for a 1.5km (45 minute) walk bringing everyone deep into the mangroves. This is a unique ecosystem where land meets sea and a unique learning experience where everyone gets to view and enjoy fresh air and tranquility, while spotting interesting birds, plants and wildlife.

On the following day, The Borneo Reef World, an establishment with an Australian made Floating Pontoon facility has taken another step forward in hosting Kids Scuba Camp at Borneo Reef World 2014 which emphasized on a family school holiday with Marine and underwater scuba activities. This program is also to promote Kota Kinabalu and Sabah as an ideal family diving destination particularly in Tunku Abdul Rahman Marine Park, especially at the lovely Sapi Island. The trip to the Borneo Reef World began with a 20 minute trip on board the Borneo Reef World luxury air conditioned Catamaran from Sabah Park Jetty in the heart of Kota Kinabalu town. On board the pontoon, the meals provided during the program included a sumptuous buffet luncheon featuring hot dishes, salads and refreshments. A total of 45 kids, teens and parents from Kids Scuba, a PADI 5 Star Dive Center from Subang Jaya, Kuala Lumpur and Premier Marine Scuba Center from Kuching, together with friends of Dive Professionals have taken part in the Kids Scuba Camp which was held successfully from 5-8 December 2014. The objective of this program is to promote healthy family bonding, meeting new friends, explore new places and to learn responsibility in scuba diving education.

These families enjoyed a series of fun filled activities which involved scuba diving for the kids, teens and families in the pristine shallow waters off Sapi Island. The Borneo Reef World and Kids Scuba Camp program also offered snorkeling, scuba walks and Discover Scuba Diving activities for non-divers and pontoon dives with boat diving for Certified PADI Junior Open Water Divers and Open Water Divers during the 2 day program. During the Kids Scuba Camp, the participants, especially the young PADI Seal Team students were able to view the natural coral reefs of the Tunku Abdul Rahman Marine Park from above or get up close and personal with shallow Discover Scuba Diving activities catered for all ages.

Apart from the marine and underwater activities, the children and parents also took part in the marine education ensuring that the mangroves play an important role towards the marine ecosystem. During the camp, Kids Scuba also organized nightly quizzes based on the marine life and marine ecosystem and winners won exciting prizes such as dive computers, scuba equipment and dive packages.

The objective and value of this Kids Scuba Camp is to instil the importance of reef protection and awareness through scuba

diving education. Programs such as this will give birth to a new generation of young divers who will continue the responsibilities of marine conservation for the future. These are the future generations of divers who will become the next educators of our aquatic realm to help overcome the impact towards our coral reefs and ocean environment.

We would like to thank Tourism Malaysia, Sabah Tourism Board, PADI Asia Pacific, Sportdiving Magazine Australia, Borneo Reef World, Emirates Diving Association (EDA), Fastrack, Adventure & Leisure Sdn Bhd, The Reef Resort Mataking and Seaventures Mabul Resort for their support towards our Kids Scuba Camp December 2014 program.

Our Special thanks to three PADI Course Directors from Kota Kinabalu, Sabah attending the Camp, Mr. Clement Lee, Mr. Johnny Chew and Mr. Chong Hion Hoak with the Director of Kids Scuba, Hj. Syed Abd Rahman and wife Ms. Nadia Ahmad for a wonderful and exciting experience for the children and families in Sabah Malaysia.

For more information on the Kids Scuba Camp 2015 program in Malaysia:
EMAIL: kidsscuba@yahoo.com
www.kidsscuba.com

FREESTYLE DIVERS RELOCATION

Freestyle Divers have recently located to the Umm Al Quwain Marine Club on the West Coast of the UAE, a one hour drive from Dubai.

Umm Al Quwain has a variety of wreck dives which offer a plethora of marine life, suitable for beginners and the hardcore divers. Some of these wrecks are virtually untouched, making them outstanding and safe dives for everyone.

Our PADI trained professionals provide the most comprehensive and complete dive training from beginners to Dive Master. The variety of sites offered mean that there are appropriate and exciting dives for all courses or pleasure diving. We can also offer snorkeling trips to one of the shallow wreck dive sites.

Facilities at the club are excellent and cater for everyone. Feel free to lounge at the pool, paddle in the sea or simply kick back and listen to the waves on the beach. The restaurant serves outstanding food around the pool all day long. There is a playground for children, as well as adventure equipment such as a zipline, a maze and a climbing tower, all of which is available by booking through the club.

A variety of accommodation options are available at the Marine Club, from camping on the beach to luxurious chalets.

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Diving enthusiasts never tire of the beautiful Damaniyat Islands – a short 1hr boat trip from the Millennium Resort Mussanah, these Islands let you discover a spectacular underwater paradise teeming with marine life

Dive trips are run from the SEAOMAN Dive Centre located on site, it is run by a team of highly experienced dive professionals and certified by the internationally recognised Professional Association of Diving Instructors (PADI).

The Millennium Resort Mussanah is ideal for a weekend of sporting activities – alone or with a group of enthusiasts – enjoy two full days of football, volleyball, road biking, hiking, trekking, beach watersports, sailing or diving, topped up by some strenuous gym workouts in our Kinesis by Technogym equipped facility, whilst we wine, dine and pamper the rest of the family.

Millennium Resort Mussanah is the ideal weekend escape for sports activities, relaxation and recreation in Oman and only 4 hours driving time from Dubai or Abu Dhabi, or 45 minutes from Muscat International Airport.

A family and sports oriented resort, the hotel features 234 spacious and well-appointed rooms and suites with views of the Al Hajar Mountains, Marina and the Gulf of Oman, boasting a wide range of regional and international culinary delights in three restaurants, plus a poolside bar and Shisha lounge.

74 fully furnished luxurious studios, one and two bed apartments and duplexes, each with fully equipped kitchen overlook the private Marina, offering the ideal accommodation for longer staying guests or families desiring that additional space and privacy.

With its own 54 berth marina managed by SEAOMAN powered by Oman Sail, the hotel is located in the South Batinah Region of Muscat along the Gulf of Oman, on a private beach surrounded by date trees. Facilities include a newly opened Beach Club with watersports, signature Zayna Spa, wellness center, fitness club equipped with the latest Kinesis products from Technogym, plus fully supervised Kids Club with 2 climbing walls.

Oman's first ladies-only swimming pool, 2 infinity pools, main leisure pool and kids splash pool ensure plenty of opportunity for guests to cool off whilst the PADI dive center, 18 hole mini golf course, football pitches, beach volleyball, 2 tennis courts and running track keep even the most active guests occupied.

Located on the Batinah Coast between Barka and Sohar, close to Al Sawadi, the area is ideal for bikers – we can even provide the support car for groups arranging their activities in advance.

As the major gateway to Damaniyat Islands – renowned for its amazing diving, the property has already hosted events such as the 2011 AGM of the British Guild of Travel Writers, the Asian Beach Games, FIFA Asian Beach Soccer World Cup Qualifications, the first TEDx Muscat IT conference and the Brand Oman Youth Summit Conference.

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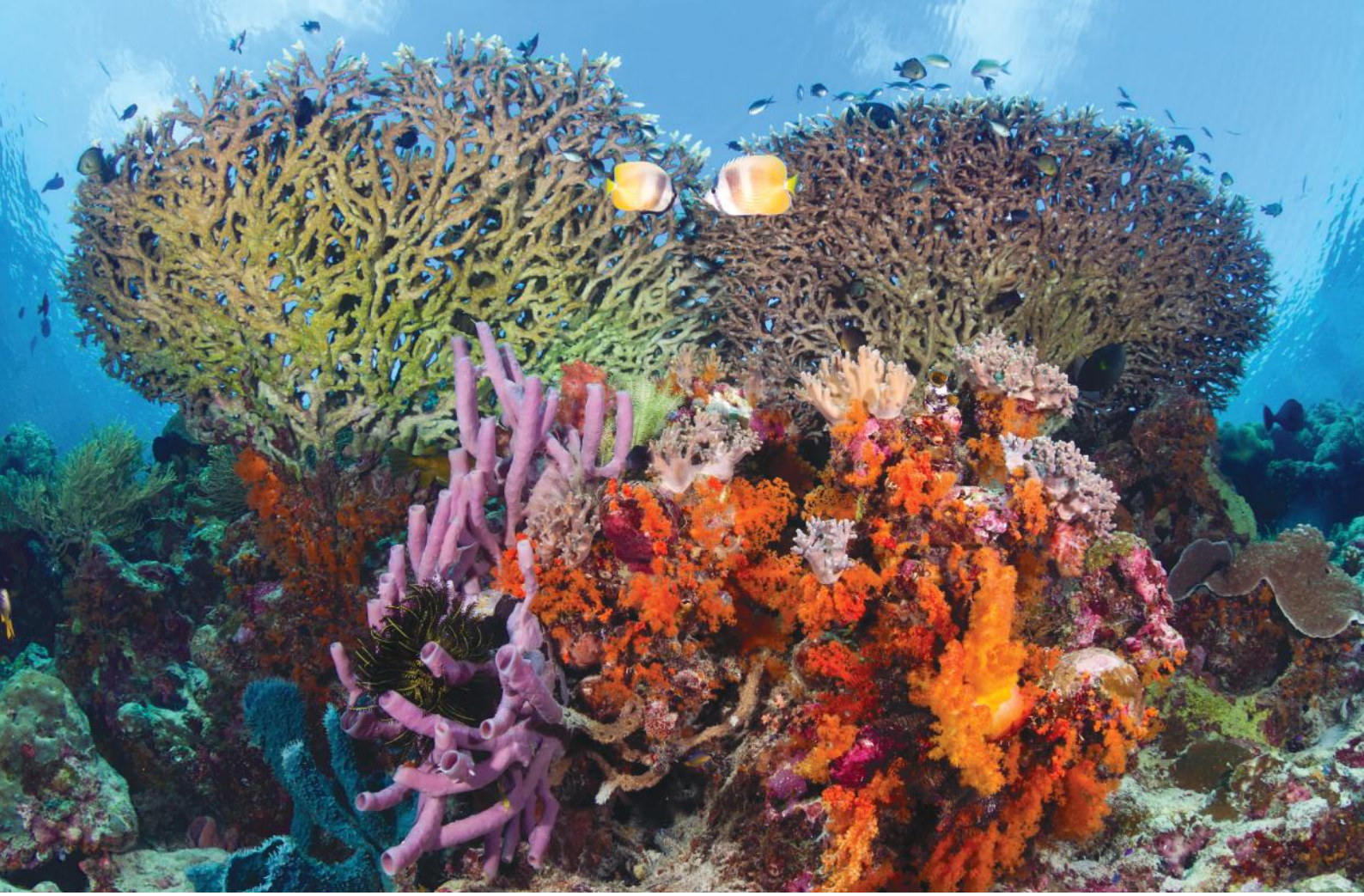


Diving to make a difference

At Wakatobi Dive Resort, every guest becomes part of the solution from the moment they arrive at this diver's paradise.

The resort is located in one of the world's most celebrated coral reef environments—and one of the best protected. Rather than rely on external conservation mandates that are difficult to enforce, Wakatobi created a mutually-beneficial grass-roots arrangement with area villages and local fishermen - the Collaborative Reef Conservation Program. This initiative provides lease payments to local villages in exchange for honoring no-take zones on some 20 kilometres of reef. Payments come from resort revenue, so in a very direct way, guests become active participants in the preservation of the reefs by simply booking a stay and diving or snorkeling on its amazingly healthy and vibrant reefs.

Ashore, Wakatobi's white sand beach and lushly landscaped setting makes for an equally memorable stay, as does their personalized five-star service ethic. To experience even more of this special region, add a cruise on the resort's luxury dive yacht, Pelagian, and venture out to more distant areas of the Wakatobi archipelago.

Learn more about Wakatobi's at www.wakatobi.com or contact your representative, Henrik Rosén, at henrik@wakatobi.com.

Visit us at DMEX - Booth D-219!

"Every aspect of the resort has far exceeded anything I have experienced. Every single dive has been better than all the tropical dives I have had before, combined; I saw more quantity of life, more diversity of life, more beautiful and strange life than ever before."

Guest, Paul Glanville

wakatobi

SKUBBA

FEATURE PATRICK VAN HOESERLANDE ILLUSTRATION PETER BOSTEELS

Look at him over there. Standing there.

The skinny 10 year old boy with curly hair.

The boy with an unusual name. Why had mom and dad given him this name?

When he asked his parents, they replied, "Skubba comes from a complicated acronym that has something to do with water."

It is not surprising that they had given him this name; from his very first day, he was all about water.

His mother had chosen the name because he was born under the zodiac sign Aquarius. She could not show him the sign in the night sky. "How can you be sure that I was born under Aquarius, if you do not know where it is?", asked Skubba. His mother did not know how to answer him.

During his first bath, he fell out of the hands of the nurse holding him and he fell into the water. The nurse's and daddy's screams were not of joy. He still does not understand why they took him out of the water so quickly.

The family used to have an aquarium in their living room. Dad loved those fish, but he had to sell them. He had to, because on a Saturday afternoon, Mom found Skubba swimming in the big tank amongst the fish and water plants. Again, he did not understand why she screamed when she found him. And why she took him out. He wondered why grownups were afraid of water.

Water was his friend. While classmates jumped into puddles after the rain, he dove into them. Flat on his belly. When it rained cats and dogs, it did not make Skubba sad. No, he walked to school whistling all the way. The wetter, the better.

His mother tried for years to make him wear a raincoat. Finally she gave up. He never did put a jacket on.

The first time Skubba's family went to a swimming pool, his dad did not get the chance to put Skubba into his swimsuit. Completely naked, he sprinted to the pool and dived into the deep. He did not understand why dad and another man jumped in after him and pulled him out of the water. He cried, not because he had fallen into the water, but because they had taken him out of the pool. Why were they afraid of water?

He never learned to swim. While the nice swimming instructor explained how to swim stroke, Skubba jumped into the water and somehow reached the other side of the pool. Underwater! His mother immediately got her money back.

Look at him over there. Standing there.

MEETING FRED

FEATURE PATRICK VAN HOESERLANDE ILLUSTRATION PETER BOSTEELS

On a beautiful summer's day on the waterfront, as always, Skubba tried to dive in search of fish and water plants. Unfortunately, everything looked a little cloudy. However he tried to see with his eyes, he could not see anything well.

"Grandpa, why are you wearing glasses?" he asked when his grandfather came to visit.

"To see better, Skubba," grandfather replied.

"Can I also have glasses?"

"Why?"

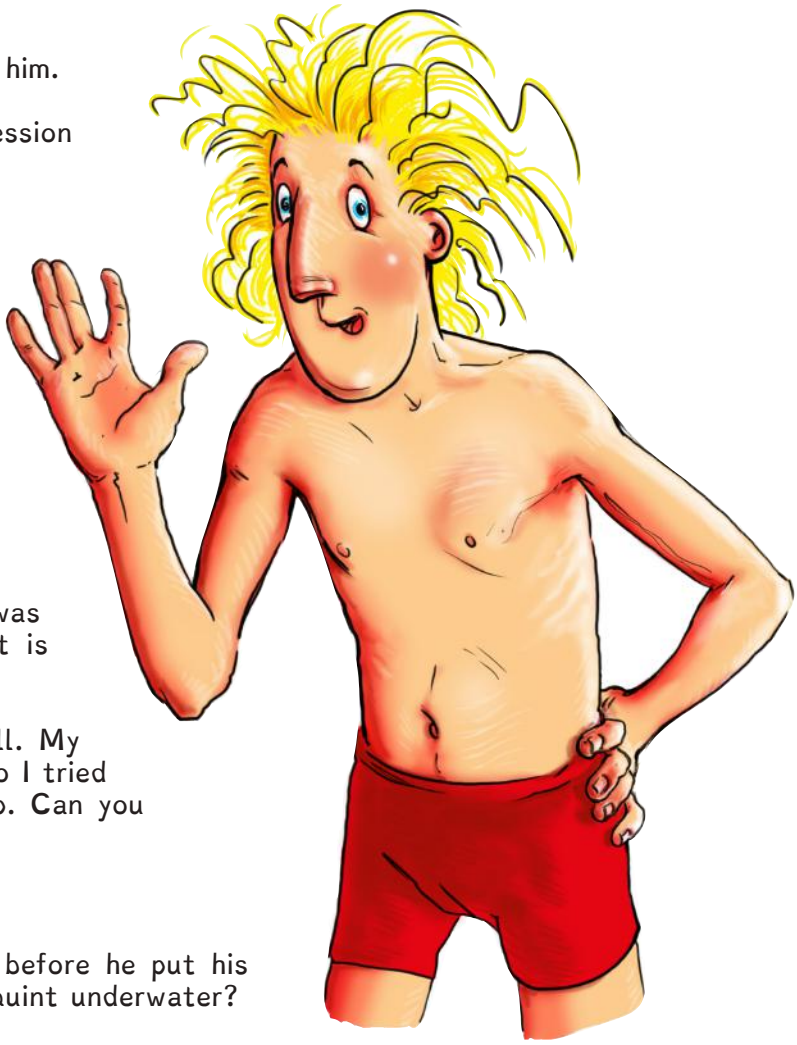
"Because I want to see better too."

The old man gave a friendly laugh as only granddads can do. A week later, Skubba saw his grandfather again. He had an old pair of glasses for Skubba. To see better.

What grandfather did not know, was that Skubba wanted to see better underwater while diving.

Skubba took the old glasses and tied them with a rubber band around his head.

The glasses stayed very well on his head, but he could not see through them. The glasses that made grandfather see better, did not help Skubba see better underwater. What was wrong?



"What are you doing there?" he heard behind him.

He turned to see a sporty kid with a wise expression on his face.

"I'm trying to see better underwater."

"And do you?"

"No, it's still murky."

"Then we have a problem," the other boy continued. "Oh, by the way, my name is Fred. Who are you?".

"My name is Skubba. Why do you ask?"

"I've been watching you for a while and I was wondering what you were trying to do. What is the problem?"

"When I'm underwater, I cannot see very well. My grandfather sees better with his glasses on, so I tried it out underwater. But it does not really help. Can you help me?"

"I think so,"and gone was Fred.

What a strange fellow, Skubba thought just before he put his head back underwater. Maybe he needed to squint underwater?

BANGKA ISLAND'S CORAL REEFS IN URGENT NEED OF PROTECTION

BY **GIANFRANCO ROSSI, REEF CHECK ITALIA ONLUS** PHOTOS **CHRISTOF SCHNEIDER**

Pulau Bangka is an Indonesian island situated in the heart of the area with the world's highest level of marine biodiversity, called "The Coral Triangle". Coral reefs are the main source of livelihood for the local population of 2,700 people, both in terms of fishing and tourism. More than 600 species of corals have been recently recorded in this area, and countless are the number of organisms that take advantage of the ability of corals to build environments ideal for their growth. There is also a population of dugongs, associated with the seagrass beds and the delicate mangroves of the island. For scuba divers, Bangka offers an extremely diverse marine habitat. Breathtaking walls and a series of pinnacles bathed by strong currents, which enable the growth of an incredible variety of life forms, alternate with volcanic black sand, creating this favorite destination of underwater photographers from around the world.

It is for this reason that Reef Check Italia Onlus (RCI) has decided to focus its coral reef conservation efforts on this area since 2011. RCI, in partnership with the Coral Eye Research Outpost, has been monitoring the southern coast of the island. Experienced marine biologists, university students and enthusiastic scuba divers have taken part in the RCI expeditions. Together, they have shown that by combining efforts for a common interest, you can get results of a great scientific value. The only available monitoring data of the reefs in this area, in fact, come from this successful collaboration and the data show conflicting results. On one hand the exceptional biodiversity of the area was confirmed, with coral cover in some areas higher than 60%. On the other hand, detrimental signs of human impact have also emerged in the past several years. This includes the loss of coral coverage, arising from destructive activities such as bomb and cyanide fishing, which has been the main reason for a decrease in grouper, snapper and parrotfish. There is also a reduced presence of other reef organisms collected for the tropical marine aquarium trade.

Recently, a new threat, perhaps one of the worst, is the opening of a new mine. The mine's toxic discharges into the sea can poison organisms, muddy the waters and reduce the resilience of the reefs, that is, their ability to recover independently after both natural and anthropogenic impacts. Considering the important role of Bangka as a connecting bridge between the Bunaken National Marine Park and the Lembeh Strait, damage to Bangka's reefs would have unpredictable effects on all of the surrounding areas.

In order for the efforts of the RCI expedition not to be in vain, it is necessary that the people who are fighting for the preservation of this heritage won't be left alone in this difficult task. Despite Jakarta authorities speaking out against the mine in Bangka, the local government has intervened by authorizing work on the mine and dismissing the regulation that small islands of Indonesia are to be preserved.

The permit grants the subsidiary of a Hong Kong company, Mikgro Metal Perdana (MMP), mineral rights to 2,000 hectares in a total area of 4,800 hectares that potentially contains ore. A large part of the local population is against the mine, with only a few people in favor of seeking immediate money. Such people don't care about the environmental consequences for future generations who won't have a place to live or food to eat as a result of the devastating and definitive damage to the reefs of the area.

For this reason, RCI is asking everyone to sign a petition to halt the mine excavation on the island of Bangka and to share this article via social networks using the hashtag #SaveBangkaIsland. This will be the only way to bring the voice of so many people to the authorities who have the responsibility to make the important decision to either: promote the preservation of this heritage which belongs to everyone or facilitate the interests of a few corrupt and unscrupulous people.

Please visit the Save Banka Island Facebook page and the petition to show your support.

UPDATE FROM REEF CHECK EGYPT

BY **DR. MOHAMMED M. A. KOTB, REEF CHECK EGYPT ECODIVER COURSE DIRECTOR**

I organized a one-week training workshop in Marsa Alam along the southern Egyptian Red Sea coast to give a comprehensive training on the basics of underwater survey techniques and Reef Check methods. The 15 participants included researchers from Red Sea Protectorates, Port Saied University, Suez Canal University, National Authority for Remote Sensing and Space Science, and volunteers from the diving community. The workshop was co-funded by the Nature Conservancy, IUCN, Reef Resilience Network, Red Sea Protectorates, Marine Science Dept. of Ismailia Suez Canal University, EPEA, Diving Station Reef Villa and Sea Secrets Divers.

Dr. Kotb is also a long-time coordinator of Reef Check Egypt and a Professor of Coral Reef Ecology at the Suez Canal University in Ismailia, Egypt.

For more information: **kotb13@gmail.com**

JORDANIAN DIVERS ADDED TO REEF CHECK MONITORINGTEAM

BY **CHRISTOF SCHNEIDER**

From October 19-24, 2014 the Royal Marine Conservation Society of Jordan (JREDS) hosted a Reef Check EcoDiver Training in Aqaba. The training of local divers is part of JREDS' marine environmental program to raise awareness and knowledge about coral reefs and to build up a team of qualified divers for further reef monitoring activities at the Jordanian Red Sea coast.

The training was funded by the German GIZ, provider of international cooperation services for sustainable development as part of the project, 'Protection of environment and biodiversity in Jordan', and was arranged and managed by Christof Schneider of Datadiving GmbH & Co. KG, a German scientific diving company.

A team of three German EcoDiver Trainers, led by Christian von Mach (Reef Check Course Director and Coordinator of the Red Sea Environmental Centre) operated the training program that gave EcoDiver qualification to 14 local divers with diverse professional backgrounds. Participants came from The Royal Marine Conservation Society of Jordan, the Aqaba Marine Park, the Marine Science Station (associated with the University of Jordan), the Royal Jordan Naval Force, the Aqaba Port Authority as well as Instructors and Divemasters from local dive centers.

The site that was selected for training as well as the survey dives, is a popular dive site in Aqaba and therefore frequently visited by dive centers. Before reaching a gentle slope, an extended shallow reef between 5 to 10 meters deep, gave the participants a good opportunity to easily practice the Reef Check methods. Aside from getting familiar with the indicators and procedures, this area also raised everybody's attention for the appearance of different kinds of coral stress and damage. Coral damage caused by divers, anchoring boats, as well as pollution could all be observed. Invertebrate and fish indicator species were present in relatively low numbers only, some indicators such as full grown groupers and snappers were not sighted at all. Additional non-survey dives were done at other sites. These seemed to have somewhat higher coral cover and better reef health. The general absence of commercial fish species however, became apparent in all dives.

Thanks to the high motivation and interest of the participants, as well as good organization and logistics by JREDS, learning and practicing in the classroom and underwater worked out well for everybody.

Fringing a short and highly exploited coastline, the coral reefs of Jordan are facing various problems. Located close to Aqaba port, industrial areas and hotels, increasing pressure on the marine environment is unavoidable. There is an urgent need to take action, and monitoring of the coral reefs is an important part to get done.

For more information, please contact Christof Schneider at **c.schneider@datadiving.de**

REEF CHECK SHEDS LIGHT ON OCEAN PLASTIC POLLUTION AT PLASTIC PARADISE SCREENING

PHOTO **ROY PERSINKO**

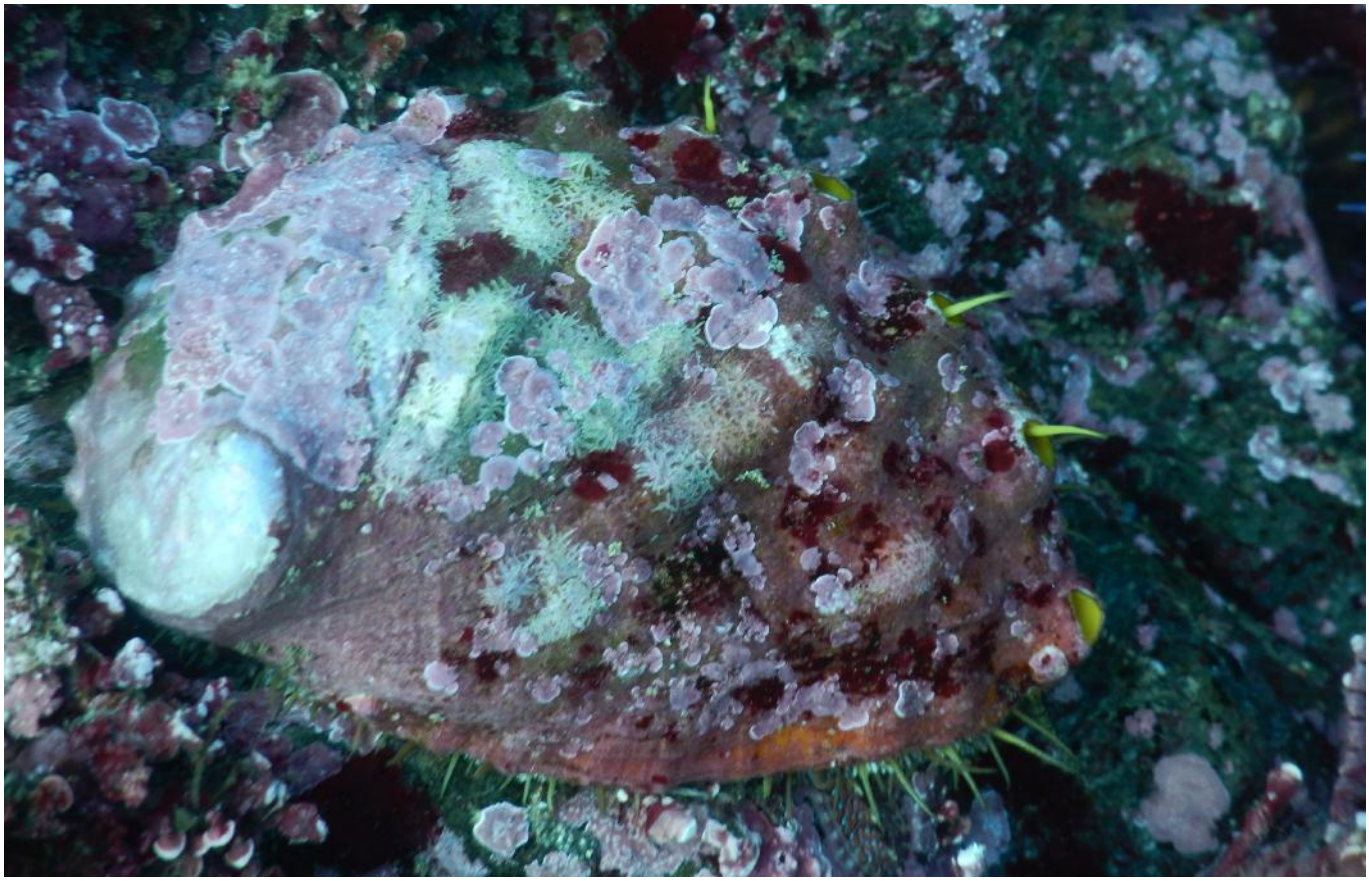
On October 27th, Reef Check Foundation and Team Marine hosted a free screening of the award-winning film Plastic Paradise at Santa Monica High School with over 200 guests in attendance. The independent documentary film by Angela Sun solves the global mystery of the question: if plastic never leaves our planet, where does it go? Angela travels to Midway Atoll, halfway between Asia and America, to see the Great Pacific Garbage Patch. Plastic Paradise sheds light on the insidious effects of our rabid plastic consumption with the help of scientists, researchers, influencers and volunteers.

The screening was followed by a panel discussion with some of the leading researchers on ocean plastic. Panelists included: Angela Sun – the director and producer of Plastic Paradise, Gregor Hodgson – the Founder and Executive Director of Reef Check Foundation, Captain Charles Moore – the Founder of Algalita Marine Research Foundation and discover of the Great Pacific Garbage Patch, Graham Hamilton – the Chair of the West LA/Malibu Chapter of Surfrider Foundation, Kimberly Fuentes of Team Marine – Santa Monica High School's environmental and advocacy group, and Marcus Eriksen from 5 Gyres – an advocacy group seeking to end plastic pollution. The panelists fielded audience questions on the film, plastic issues and legislation.

Thank you to Benjamin Kay, Team Marine and Carey Upton for their help in organizing and publicizing the screening and to all the panelists for their participation. Special thanks to Angela Sun, a former Reef Check Thailand intern, for creating a magnificent film!

AN IN-DEPTH LOOK AT ABALONE: PART I

BY **ANNA NEUMANN, NORTH COAST REGIONAL MANAGER, REEF CHECK CALIFORNIA PROGRAM**



It is nearly impossible to talk about diving in California without having a discussion about abalone. Abalone that belong to the phylum Mollusca and the class Gastropoda are large sea snails. Recently, the red abalone (*Haliotis rufescens*) has been getting a lot of attention. The New York Times ran an article about the snail in July 2014 and changes to local abalone fishing regulations have generated much discussion. Over the next few newsletters we will have a series of articles providing information about California's abalone including a biological overview, a review of historic and current abalone fisheries in California, and an overview of the Abalone Recovery and Management Plan (ARMP) written by the California Department of Fish and Wildlife.

BIOLOGICAL KNOWLEDGE

Abalone have a worldwide distribution. They are found in every coastal ocean except along the Pacific coast of South America, the east coast of the United States, the Arctic and Antarctica. Fifty-six species have been identified worldwide with the smallest full grown adult, *H. pulcherrima* averaging 20mm (0.79 inches) in length found in Eastern Polynesia. The largest, *H. rufescens*, average 200mm (7.9 in) in length are found in the coastal waters of California.

Eight species of abalone are found in California: red (*H. rufescens*), black (*H. cracherodii*), white (*H. sorensensi*), green (*H. fulgens*), pink (*H. corrugate*), flat (*H. walallensis*), pinto (*H. kamtschatkana*) and threaded (*H. assimilis*).

Seawater temperature has the largest effect on their distribution, in terms of depth and geographical range [DFW, 2001]. Ocean temperatures vary along the California coast along a latitudinal gradient, with depth and locally depending on ocean currents and upwelling, a process that moves cold water from the deep ocean into the shallow nearshore habitats. California's abalone are found on rocky reefs from intertidal waters down to a depth of 60 meters where they feed on algae [DFW, 2005]. Red and black abalone range from Oregon to Baja California; blacks prefer the intertidal extending to a depth of 20 feet. Red abalone prefer cooler water and are found in the intertidal and subtidal zone in northern and central California. In southern California they are restricted to the subtidal except in areas of strong upwelling around the northwestern Channel Islands [DFW, 2001]. Pink, green, white and threaded abalone are found in the warmer waters of southern California and their ranges extend from Point Conception to Baja California including the southeastern Channel Islands. The range of pinto and flat abalone extends northward from Point Conception [DFW, 2001].

Abalone reproduce via "broadcast spawning." Individuals release millions of eggs or sperm into the water during a synchronized spawning event. Spawning seasons vary between species, but most California species spawn in the spring and fall. Due to the fact that abalone are broadcast spawners it is necessary for males and females to be in close proximity to each other to ensure successful fertilization of the eggs in the water column. However, a large number of eggs and sperm do not necessarily guarantee healthy stocks in years to come.

Within 24 hours of an abalone egg becoming fertilized, it hatches into a free-swimming larva. This larval phase can last from 4 to 15 days (depending on the species) and ends when the larva settles to the bottom and begins its metamorphosis into a juvenile abalone. Newly settled abalone graze on crustose coralline algae (a calcareous red algae) and live on coralline algae until they reach about 6mm (0.24 in) in shell length. Ninety percent of abalone deaths occur in this juvenile phase. This is typical survivorship for marine organisms that produce millions of larvae but once they grow larger, death rates dramatically decrease and individuals typically live up to 30 years. To hide from predators, many juvenile abalone live in cracks or under rocks. As the abalone grow, they switch from feeding on coralline algae to kelp and move out from the smaller spaces. Abalone in northern California predominantly eat bull kelp (*Nereocystis*

luetkeana) while abalone in southern California feed on giant kelp (*Macrocystis pyrifera*) [DFW, 2005]. Growth rates vary among the species. According to the California Department of Fish and Wildlife the largest red abalone was collected by John Pepper in 1993 in Humboldt County and measured 12.3 inches (313.4 mm).

The causes of mortality of abalone can be divided into natural and human induced mortality. Human causes include fishing, pollution, and habitat destruction. Natural causes include old age, predation, disease, and environmental factors. As in many marine animals, likelihood of death by predation decreases with the age and size of the abalone; their main predators include invertebrates, fish and sea otters. Octopuses and rock crabs (*Cancer spp.*) are their main invertebrate predators, but sheep crab (*Loxorhynchus grandis*), California spiny lobster (*Panulirus interruptus*), Nuttall's hornmouth (*Ceratostoma nuttalli*) and Kellett's whelks (*Kellettia kelletti*) also prey on young abalone. The major fish predators include California sheephead (*Semicossyphus pulcher*), Cabezon (*Scorpaenichthys marmoratus*), Kelp greenling (*Hexagrammos decagrammus*), Kelp bass (*Paralabraz clathratus*), Moray eel (*Gymnothorax mordax*), and Bat rays (*Myliobatis californica*).

Abalone are often considered to be slow moving creatures with limited ranges, however studies done by Ault and DeMartini in 1987 show seasonal migrations of abalone. Abalone move from shallow water in the spring to deeper water in the summer and back to shallow waters in the winter. The movement is considered a response to seasonal changes in food availability. More sunlight in summer months and reduced wave action from storms allows kelp to grow at deeper depths than in the winter, providing them constant food sources. Abalone also tend to move the most at night when they go on feeding excursions and the extent of their movement is based on size and availability of food and shelter [DFW, 2005].

Sea otters are important abalone predators in areas where they overlap. Historical sea otter distributions overlapped with abalone populations along the entire California coast. Human exploitation of sea otters caused local extinctions of the southern sea otter population which allowed the abalone populations to expand until commercial and recreational fishing began depleting their stocks to dangerously low levels. In 2000 the Fish and Wildlife Service listed the sea otter under the federal Endangered Species Act and in 2003 a recovery plan was developed which called for sea otters populations to increase naturally throughout their historic range. If successful, their recovery could play a role in further depletion of abalone populations [DFW, 2005]. Today the abalone-sea otter prey-predator interaction presents an interesting problem because they are both rare and protected in much of their historic ranges.

Another prominent cause of death of abalone has been a disease called Withering Syndrome (WS). Abalone affected by the disease show signs of atrophy of the foot muscle and gonadal tissues, emaciation and lethargy. Eventually the abalone is too weak to cling to the substrate and is dislodged. Once dislodged the abalone can be battered by the waves and eaten by predators or scavengers [DFW, 2005]. WS has caused widespread declines of black abalone populations along the central California coast and in the Channel Islands. Mass die offs were first noticed on the Channel Islands in 1986. The initial mass mortalities followed El Niño events that caused coastal waters to warm in 1982 and 1983. In 1988 the disease struck on the mainland in Diablo Cove following warm water discharge by a local power plant. This led to the hypothesis that WS may be triggered by elevated seawater temperatures [Raimondi, 2002]. Studies done by Raimondi et al. conducted surveys of abalone at seven sites along the California coast and determined that mass die-offs were not exclusively associated with times of elevated sea water temperatures due to El Niño. Nevertheless, rapid declines of black abalone were found at 2 of the 7 sites in conjunction with the strong El Niño events in 1997 and 1998, and declines occurred at faster rates in El Niño years as compared to non-El Niño years. Raimondi et al. concluded that the presence of a pathogen along with elevated sea water temperatures accelerate the development of WS. Red, pink, green and white abalone have also shown signs of WS but only while in captivity and not in the wild. The agent responsible for the disease is an intracellular bacterium *Candidatus Xenohaliotis californiensis* [DFW, 2005].

Several different types of shell-boring organisms also pose a threat to abalone. Piddock clams (*Penitella conradi*) are known to drill into the shell of the abalone. Date mussels (*Lithophaga subula*) and Cliona celata californiana, a boring sponge, secrete acid into small holes in the shell. Severe infections of boring organisms can inhibit abalone growth and cause the shells to deform. The abalone aquaculture industry has been battling the parasitic sabellid polychaete (*Terebrasabella heterouncinata*). The polychaete lives on the edge of the abalone shells and infestations can cause a disruption in normal shell growth and result in deformed, brittle shells. [DFW, 2005]

In 2011 a red tide (phytoplankton bloom) event in Sonoma County caused a mass die-off of abalone and other sub-tidal invertebrates. The alga was identified as *Gonyaulax spinifera* which is known to create a biotoxin called Yessotoxin. This biotoxin was found in low levels in the dead abalone. Estimates of mortality from this event ranged from 12 to 30 percent depending on the location. Data collected by Reef Check documented this decrease in abalone along the Sonoma Coast.

Stay tuned for more on abalone in the next issue.

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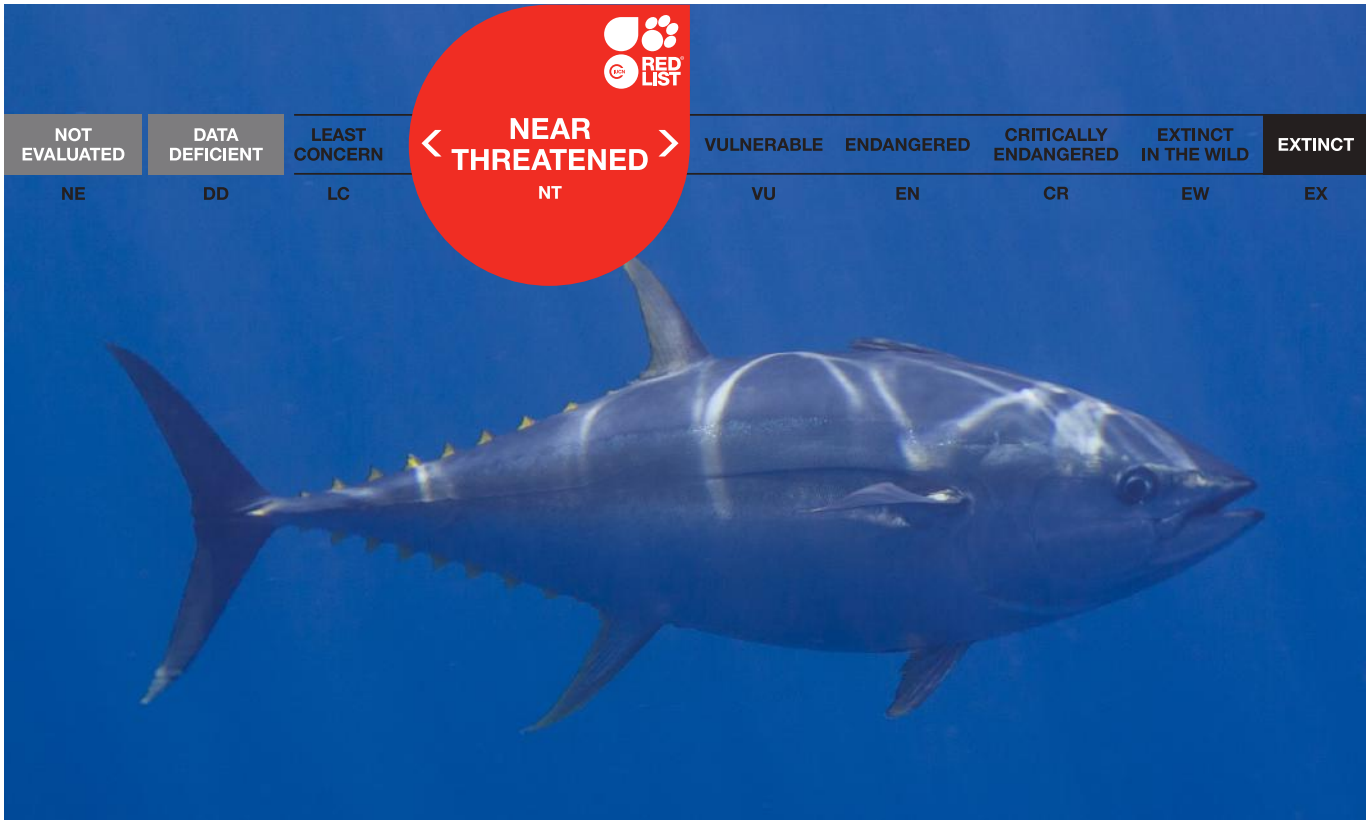
FEATURE CREATURE

YELLOWFIN TUNA (*THUNNUS ALBACARES*)

FEATURE **IUCN RED LIST 2014.3** PHOTOGRAPHY **PHILIPPE LECOMTE**



RED LIST CATEGORY & CRITERIA: NEAR THREATENED

Scientific Name: *Thunnus albacares*

Common Name(s):

English: Yellowfin Tuna, Yellowfinned Albacore, Allison's Tuna, Pacific Long-tailed Tuna

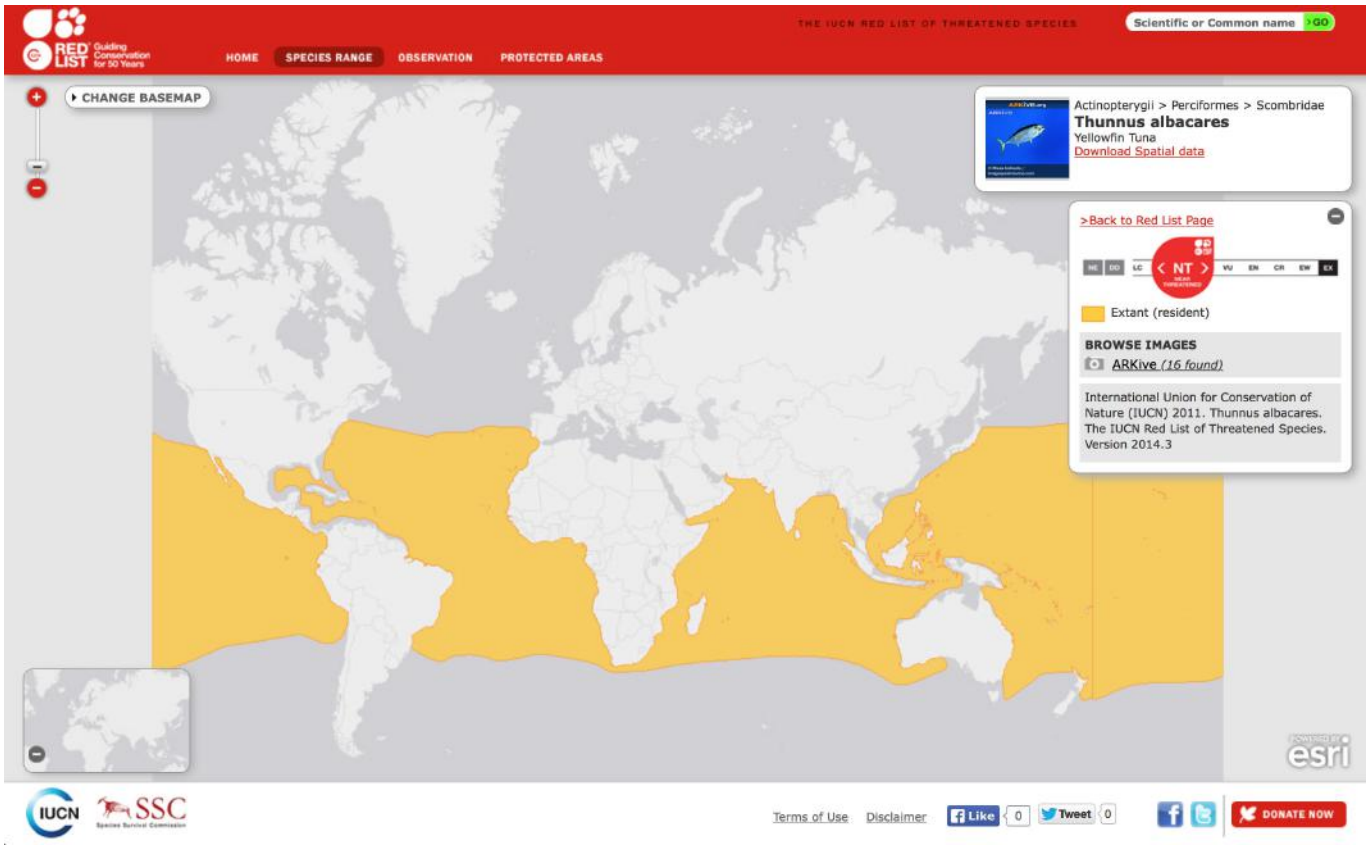
French: Albacore, Grand Fouet, Thon Jaune

Spanish: Albacora, Aleta Amarilla

Justification: This species is fast-growing, widely distributed and highly productive. It is important in commercial fisheries around the world. It is being effectively managed throughout the majority of its range. All stocks are being fished below current maximum sustainable yield (MSY). However, more definitive data are needed for the Indian Ocean stock, as some model runs project that 2009 fishing mortality may have been above FMSY. Based on weighted declines of biomass or spawning stock biomass (SSB) across all stocks, there has been an estimated 33% decline globally over the past 10 years (1998-2008), or three generation lengths. This species is listed as Near Threatened, primarily as population declines would be much greater if it were not for the catch quotas that have been implemented. Although model projections are variable, concerns however remain about possible overfishing in recent years in the Indian Ocean. This species should be reassessed in the next five years, primarily because catches in the Indian Ocean region have declined substantially in 2009 (and possibly also in 2010) partly due to Somali-based piracy, which has shifted fishing effort to the Atlantic Ocean.

Range Description: This species is found worldwide in tropical and subtropical seas. Tagging data show that trans-Atlantic migrations occur, and the Yellowfin Tuna from the entire Atlantic are considered to be part of a single stock. In the eastern Pacific, this species ranges from southern California and the southwest and central eastern parts of the Gulf of California to Peru, including all of the oceanic islands. It may occur off Oregon and Washington during El Niño years (K.Schaefer pers comm 2008).

Countries: Native: American Samoa (American Samoa); Angola (Angola); Anguilla; Antigua and Barbuda; Aruba; Australia; Bahamas; Bangladesh; Barbados; Belize; Benin; Bermuda; Bonaire, Sint Eustatius and Saba (Saba, Sint Eustatius); Brazil; Brunei Darussalam; Cameroon; Cape Verde; Cayman Islands; Chile; Christmas Island; Cocos (Keeling) Islands; Colombia; Comoros; Congo; Congo, The Democratic Republic of the; Cook Islands; Costa Rica; Côte d›Ivoire; Cuba; Curaçao; Djibouti; Dominica; Dominican Republic; Ecuador; El Salvador; Equatorial Guinea; Fiji; French Guiana; French Polynesia; Gabon; Gambia; Ghana; Grenada; Guadeloupe; Guam; Guatemala; Guinea; Guinea-Bissau; Guyana; Haiti; Honduras; Hong Kong; India; Indonesia; Iran, Islamic Republic of; Jamaica; Japan; Kenya; Kiribati; Liberia; Madagascar; Malaysia; Maldives; Marshall Islands; Martinique; Mauritania; Mauritius; Mexico; Micronesia, Federated States of ; Montserrat; Morocco; Mozambique; Myanmar; Namibia; Nauru; New Caledonia; New Zealand; Nicaragua; Nigeria; Niue; Norfolk Island; Northern Mariana Islands; Oman; Pakistan; Palau; Panama; Papua New Guinea; Peru; Philippines; Pitcairn; Portugal; Puerto Rico; Réunion; Saint Helena, Ascension and Tristan da Cunha; Saint Kitts and Nevis; Saint Lucia; Saint Martin (French part); Saint Vincent and the Grenadines; Samoa; Sao Tomé and Principe; Senegal; Seychelles; Sierra Leone; Singapore; Sint Maarten (Dutch part); Solomon Islands; Somalia; South Africa; Spain; Sri Lanka; Suriname; Taiwan, Province of China; Tanzania, United Republic of; Togo; Tokelau; Tonga; Trinidad and Tobago; Turks and Caicos Islands; Tuvalu; United Arab Emirates; United Kingdom; United States; United States Minor



Outlying Islands; Vanuatu; Venezuela, Bolivarian Republic of; Viet Nam; Virgin Islands, British; Virgin Islands, U.S.; Wallis and Futuna; Western Sahara; Yemen.

FAO Marine Fishing Areas: Native:
Atlantic – eastern central; Atlantic – northeast; Atlantic – northwest; Atlantic – southeast; Atlantic – southwest; Atlantic – western central; Indian Ocean – eastern; Indian Ocean – western; Pacific – eastern central; Pacific – northwest; Pacific – southeast; Pacific – southwest; Pacific – western central.

Population: FAO reported worldwide landings show a gradual, but variable increase from 110,879 tonnes in 1950, to 1,130,605 tonnes in 2006 (FAO 2009). Landings data have exponentially increased over the last 50 years (400%). There are four stocks that are globally managed for this species. As of 2004, the stocks in the Atlantic, Indian Ocean, and Eastern Pacific are considered Fully Exploited, and the Western and Central Pacific stock is considered Fully to Over-exploited (Majkowski 2007).

ATLANTIC OCEAN

Yearly catch levels have declined in the Atlantic Ocean since the peak catch of 194,000 tonnes in 1990. A steady decline occurred between 2001–2007, followed by an increase in 2008. These trends in part reflect changes in the number of purse seiners operating in the Atlantic Ocean (ISSF 2010). Recent trends have differed between the western and eastern Atlantic, with the overall catches in the west declining by 26% since 2006. In the eastern Atlantic, on the other hand, catches have increased by 23% since 2006, mainly due to substantial increases in purse seine effort (SCRS ICCAT 2010).

The most recent stock assessment for Yellowfin Tuna in the Atlantic was conducted in 2008 (ICCAT 2009), which showed that biomass is currently somewhat less than BMSY, but fishing mortality is also less than FMSY (ISSF 2010, ICCAT 2009). Based on linear regression of the middle values of Model 5 and Model 10 in the latest stock assessment (ICCAT 2009), spawning stock biomass (SSB) has declined approximately 22% over the past 10 years (1998–2007). These models suggest that only catches of 130,000 tonnes or less are sustainable.

EASTERN PACIFIC OCEAN

From 1976-2005 the total catch fluctuated from 100,000 to 443,000t per year (IATTC 2008). The average annual retained catch of Yellowfin Tuna in the Eastern Pacific during 1991-2005 was 276,000t, with a peak in 2002 of 443,000t, the greatest on record. However catch decreased substantially in 2005 to 288,019t, and in 2006 to 174,780t (the lowest since 1984). Current maximum sustainable yield (MSY) is estimated to be about 273,000t (IATTC 2009, ISSF 2010). Additionally, the average weights of the Yellowfin Tuna caught in 2006 were significantly lower than those of the previous five years (STECF 2007).

The most likely causes of the lesser catches are declines in recruitment, effort in the dolphin-associated fisheries, and catchability (IATTC 2008). The recruitment of Yellowfin Tuna to the fisheries in the Eastern Pacific varies seasonally and in response to regime shifts in productivity. The most recent stock assessment analysis and previous analyses have indicated that the Yellowfin Tuna population has experienced two, or possibly three, different recruitment productivity regimes (1975-1982, 1983-2002 and 2003-2008). The productivity regimes correspond to regimes in biomass, e.g., higher-productivity regimes producing greater biomass levels. Average annual catch of Yellowfin Tuna in the eastern Pacific Ocean was 233,000t (100,000 to 301,000) during the period from 1975-2001. Variations in part reflect changes in fishing effort and regime shifts in productivity over up to three levels of recruitment. Changes in measures of fishing effort include changes in the proportion of purse seine catch by set type, as well as changes in the overall level of fishing effort, which occur in part in compliance with management action (M.Hinton pers comm 2011).

According to the most recent stock assessment in the Eastern Pacific conducted in 2009 (Maunder and Aires-da-Silva 2010), if the fishing mortality is proportional to the fishing effort and the current patterns of age-specific selectivity are maintained, the current (average of 2006-2008) level of fishing is below FMSY. The spawning stock biomass is also estimated to be above SSBMSY. Based on linear regression of the spawning stock biomass ratio (SBR) reported in the most recent stock assessment (Maunder and Aires-da-Silva 2010), there has been an estimated 49% decline in SBR over the past 10 years (1998-2007).

INDIAN OCEAN

The catches of Yellowfin Tuna show a strong seasonality with high catches during the northern winter months and usually low catches from May-June to September-October. The Yellowfin Tuna stock assessment work in the Indian Ocean is an extremely difficult task because of the conflicting trends in the basic data, total yearly catches and abundance indices used based on the longline catch per unit effort (CPUE): the observed trends in Yellowfin Tuna catches and CPUEs are not consistent with production-model dynamics, or really with any known theory of fishing (IOTC 2009).

However, a stock assessment conducted in 2008 (Nishida 2008) indicated that recent levels of fishing mortality are at a historical high level and the stock has experienced a period of overfishing at least during 2003-2006 (e.g., Fcurrent > FMSY). Biomass based reference points also varied with the assumed level of steepness. For the lowest value of steepness (0.60), spawning biomass in 2007 was estimated to be below the MSY level (SB/SBMSY <1); i.e., the stock is in an overfished state. For higher values of steepness, biomass in 2007 was above the MSY level (SBcurrent > SBMSY) and the stock is not in an overfished state. The model estimated that recent recruitment has been lower than average, and on this basis total and spawning biomass could be expected to decline further over the next few years (IOTC 2008, IOTC 2009).

A size-based, age and spatially-structured population model (Multifan-CL, MFCL) for the Yellowfin Tuna in the Indian Ocean initially carried out in 2008 was updated in 2009. Based on linear regression of estimated adult biomass (IOTC 2009), estimated SSB has declined approximately 45% over the past 10 years (1999-2008). Depending on the shape of the stock-recruitment relationship, current catches are likely to be higher than the estimated MSY, which ranges from 250,000 to 300,000t. For example, total annual catches averaged 434,800t over the period 2003 to 2007 (IOTC 2008), and 372,200t over the period 2005 to 2009 (IOTC 2010). However, more recently catches in the Indian Ocean have declined substantially (in 2009 and possibly also in 2010) partly due to Somali-based piracy in the region.

WESTERN AND CENTRAL PACIFIC OCEAN

Since 2000, the total Yellowfin Tuna catch in the Western and Central Pacific Ocean (WCPO) has varied between 370,000 and 440,000mt. Purse seiners harvest the majority of the Yellowfin Tuna catch (53% by weight in 2007), with the longline and pole-and-line fisheries comprising 16% and 4% of the total catch, respectively (Langley et al. 2009). Longline catches in recent years (70,000-80,000mt) are well below catches in the late 1970s to early 1980s (which peaked at about 110,000mt), presumably related to changes in targeting practices by some of the larger fleets (Langley et al. 2009).

Estimated current biomass exceeds the biomass MSY, and current fishing mortality is below FMSY, indicating that the Yellowfin Tuna stock in the Western and Central Pacific Ocean is not in an overfished state. Depletion has increased steadily over time, reaching a level of about 60% of unexploited biomass (a fishery impact of 40%) in 2004-2007 (Langley et al. 2009). However, depletion is considerably higher in the equatorial region 3 (e.g., Philippines/Indonesia) where recent depletion levels are approximately 0.35 and 0.30 for total and adult biomass, respectively (65% and 70% reductions from the unexploited level). The stock in this region may be fully-exploited (ISSF 2010).

Overall SSB is estimated to have declined about 21% over a 10 year period (1999-2008), based on linear regression of SSB in the most recent 2009 stock assessment in the Western and Central Pacific (Langley et al. 2009).

Population Trend: Decreasing

Habitat and Ecology: This is an open-water pelagic and oceanic species occurring above and below the thermocline to depths of at least 400m. This species schools primarily by size, either in monospecific or multi-species groups. Larger fish frequently school with porpoises and are also associated with floating debris and other objects. It feeds on fishes, crustaceans and squids. It is sensitive to low concentrations of oxygen and therefore, is not usually caught below 250m in the tropics, and is found in waters between the temperatures of 18-31°C.

The primary Atlantic spawning grounds are in the Gulf of Guinea, and to a lesser extent in the Gulf of Mexico. Spawning occurs throughout the year in the core areas of distribution at sea surface temperatures of 24°C or higher, but peaks are observed in the northern and southern summer months respectively. Spawning occurs almost entirely at night between 2200 and 0600 hrs (Kailola et al. 1993, Schaefer 1998).

In the Indian Ocean, longevity is at least seven years (Romanov and Korotkova 1988), although very few individuals live past four years. Estimated maximum age in the Eastern Pacific is 4.8 years (Wild 1986), in the Western Pacific is 6.5 years (Lehodey and Leroy 1999), and in the Atlantic is eight years (IGFA 2001). Smallest mature individuals in the Pacific off the Philippines and Central America are in the 50-60cm size group at an age of 12-15 months. Length at 50% maturity in the eastern Pacific was 69cm for males and 92cm for females corresponding to an age of 2.1 years (Schaefer 1998). Batch fecundity estimates in the eastern Pacific ranged from 162,918 oocytes for a 1,180mm female to 8,026,026 oocytes for a 1,460mm female (Collette 2010). Based age-structure data across all stocks (Collette et al. 2011), generation length is estimated to be between 2.2 and 3.5 years.

Maximum Size is 200cm fork length (FL). The all-tackle game fish record is of a 183.7kg fish caught in Magdalena Bay, Baja Sur, Mexico (International Angler 2011).

Systems: Marine

Use and Trade: Yellowfin Tuna are caught in commercial fisheries around the world, and are the second most important species of tuna for canning.

Major Threat(s): This species is primarily caught by the purse-seine fishery, but is also taken by longlines and pole-and-line fishing.

In terms of yield, Yellowfin Tuna is the most important tuna species in the Eastern Pacific, where an important proportion of the Yellowfin Tuna catch is harvested in association with dolphins, in free schools and increasingly under fish aggregating devices (FADs). In the Western and Central Pacific purse seiners harvest about 50%, while longline and pole-and-line fleets comprise 15% and 3% respectively.

In the Indian Ocean, over 40% of purse seine Yellowfin Tuna catches are taken in log-schools along with Skipjack Tuna and Bigeye Tuna. One of the driving forces behind recent changes in the purse seine fishery has been the impact of piracy in the western Indian Ocean, which has led to a decrease of the nominal effort (number of boats, total carrying capacity, number of fishing and searching days, total number of sets) as well as changes in the fishing behaviour due to the new security measures in place (boats working in pairs with military personnel on board, restriction on fishing areas, etc.) (IOTC 2010).

Fisheries exist for this species in the eastern Atlantic between Portugal and South Africa, and in the western Atlantic between the Gulf of Mexico and southern Brazil; longline fisheries occur throughout the entire tropical and temperate Atlantic. The main gears used to catch Yellowfin Tuna in the Atlantic are: purse seines (58%), longline (22%), and pole-and-line (13%) (ISSF 2010). The purse seine fishery is the major contributor to total catches of this species. Landings from baitboats and purse seiners generally declined between 2001-2007 (STECF 2009). The nominal effort in the purse seine fishery had been declining through 2006. As an indicator, the number of purse seiners from the European and associated fleet operating in the Atlantic had declined from 44 vessels in 2001 to 24 vessels in 2006 (last year's data included during the assessment), with an average vessel age of about 25 years. Since then, however, the number of purse

seiners has increased by 50% to 36, as vessels have moved from the Indian Ocean to the Atlantic. At the same time, the efficiencies of these fleets have been increasing, particularly as the vessels which had been operating in the Indian Ocean tend to be newer and with greater fishing power (ICCAT 2009).

Conservation Actions: This species is listed as a highly migratory species in Annex I of the 1982 Convention on the Law of the Sea (FAO Fisheries Department 1994).

Conservation measures imposed in 2004 for the Eastern Pacific under resolution C-04-09 (IATTC 2008) are predicted to maintain the stock at about the Average Maximum Sustainable Yield level, slightly higher than would otherwise be the case. Three month closures have been proposed by the Inter-American Tropical Tuna Commission (IATTC) and Mexico, which has one of the largest fisheries for this species.

In the Western Pacific, there was a two month closure of the FAD fishery in 2009, and three months in 2010 with an objective of achieving a 30% reduction of fishing effort.

In the Indian Ocean, the Indian Ocean Tuna Commission's (IOTC) Working Party on Tropical Tunas (WPTT) recommends that catches of Yellowfin Tuna in the Indian Ocean should not increase beyond 300,000t in order to bring the stock to biomass levels that could sustain catches at the MSY level in the long term. If recruitment continues to be lower than average, catches below MSY would be needed to maintain stock levels (IOTC 2010).

In the Atlantic, the International Commission for the Conservation of Atlantic Tunas Standing Committee on Research and Statistics (ICCAT-SCRS) recommended that increased harvest of Yellowfin Tuna could have negative consequences for Bigeye Tuna in particular, and other species caught together with Yellowfin Tuna in fishing operations taking more than one species. The same group also continues to recommend that effective measures be found to reduce fishing mortality of small Yellowfin Tuna to increase long-term sustainable yield. ICCAT-SCRS noted that catch levels in recent years have been held in check, despite increasing efficiencies of individual vessels, by a continued decline in the number of purse seine vessels in the eastern Atlantic. The Scientific, Technical and Economic Committee for Fisheries (STECF) agrees that a continuation of the recent movement of additional newer vessels from the Indian Ocean into the Atlantic, with a corresponding increase in fishing mortality should be monitored closely to avoid adverse impacts on stock status (STECF 2009).

ICCAT recommendation 04-01 implemented a small closure for the surface fishing in the area 0-5°N, 10-20°E during November in the Gulf of Guinea for purse-seine and pole-and-line vessels. Although this regulation is intended to reduce small Bigeye Tuna catches, the Committee recognizes that its implementation and the change from the previous moratorium to the current regulation will potentially impact Yellowfin Tuna catches. Given the relatively small time-area coverage of the closure, any reduction in juvenile mortality is expected to be minimal (ICCAT 2009).

Citation: Collette, B., Acero, A., Amorim, A.F., Boustany, A., Canales Ramirez, C., Cardenas, G., Carpenter, K.E., Chang, S.-K., de Oliveira Leite Jr., N., Di Natale, A., Die, D., Fox, W., Fredou, F.L., Graves, J., Guzman-Mora, A., Viera Hazin, F.H., Hinton, M., Juan Jorda, M., Minte Vera, C., Miyabe, N., Montano Cruz, R., Masuti, E., Nelson, R., Oxenford, H., Restrepo, V., Salas, E., Schaefer, K., Schratwieser, J., Serra, R., Sun, C., Teixeira Lessa, R.P., Pires Ferreira Travassos, P.E., Uozumi, Y. & Yanez, E. 2011. Thunnus albacares. The IUCN Red List of Threatened Species. Version 2014.3. **www.iucnredlist.org**.

WHO IS THIS SCUBA STEVE?

FEATURE **PAUL WARWICK** PHOTOGRAPHY **MICK SMITH**

You see him here, you see him there, he is always around to steal your air? Hero, Villain, Secret Agent, Special Forces Operative… no-one knows, but somehow, he is on every dive trip to every destination where "diving is the name of the game". Sneaking into the backdrop of group photos on shore or on the boat or appearing as if by magic in underwater photos when you least expect him – Who is this man, this secret scuba diver?

Dressed all in black, he hides in the shadows, sneaking into bags, backpacks and handbags. He makes covert efforts to join your diving trip but only reveals himself when you get into the water and never before, then disappears again into thin air. Next seen at the post dive socials, still in his gear and he is never around to pay for "his round" – how does he do it? Then he disappears again just as quickly as he appeared, waiting for another unsuspecting group of diving enthusiasts, dive group or social group. Can he be a dive groupie or something more sinister?

What is his mission, what is his game, why does he infiltrate only dive groups? No baggage, no clothes, no wallet, no money and not even a passport – how does he do it? Have you seen Scuba Steve in your group or on your dive trip or are you "haunted by another mysterious guest?

Some say he is a myth, a will o' the wisp" – Is he really our "conservation conscience" spying upon us to make sure we live up to the marine credo for all divers "to protect and sustain our marine environment and the creatures in it – to keep our oceans and seas clean and healthy?

"Always Keeping the Fun in Diving"

THE TALE OF SCUBA STEVE

Now here is the story of Scuba Steve
Who's travels and adventures you would not believe
Dressed all in black and with dive gear and all
He is sneaky enough to fit in your dive bag or holdall

You're waiting in departures and ready to fly
Is he stuck in the hold because he is so shy?
First drink at the airport, there is one extra pint
But who is this diver who seems to stay just out of sight?

All is quiet on the flight sat next to someone boring
But what is that noise that sounds like snoring?
Looked all around but no one to see
Where has he gone this diver called Steve?

We arrive at our boat and unpack all our gear
The Captain and crew are charged and ready to steer
How come there are five when there should have been four?
And who is it who will end up sleeping on the floor?

First day of the trip gearing up for the first dive
Your group of four, then becomes five
Where did he come from this man dressed in black?
Waiting till last and hanging well back

Appearing on dive trips as if by magic
Then disappearing as quickly – is he bionic?
How do you catch this crafty customer
Dressed up in black and shiny elastomer

You see him here you see him there
He is always around to steal your air
What is his mission what is his real name?
He's always around and up for the game

Dressed all in black rubber just Like James Bond
He is caught diving in seas, in lakes and in ponds
He is such a world traveler as luck would have it
He is such a keen diver – he would dive in a bucket!

The trip is all over it is time to check out
There is one extra bill, for Steve who's just "bailed out"
So money to find to cover his check
He shouldn't be Steve he should be called Jack!

So left with costs of this mysterious guest
Where will he appear, whose trip will be next?
Now is he a mascot, or the "imaginary friend"?
Is he really real or are we just "going around the bends"?

The adventure is over
All our dive gear is packed
After 23 dives – you can guess?
We are all feeling whacked!

So should you encounter this diver called Steve
Be wary and careful or please take your leave
He will take over your dive trip and hike up your check
Without you even knowing, on that you can bet!

Well who is this man or is he a myth?
This Jack or this Steve, this "will o' the wisp"
He is a man always watching and takes no nonsense
Could it be he is our Eco-conscience?

Diving through rubbish, debris and plastic
Have the state of our oceans now reached "the chronic"?
Our leaders shake their heads and behind politics hide their beliefs
The declining state of our oceans and the growing dead reefs

We are killing our oceans, they are in terminal decay
It is not an understatement many – nay most would say!
Protect our future and of those yet to be
By cleaning our oceans of rubbish, plastic and debris

Our climate and weather is fed by our seas
These natural disasters, they are not just a "sneeze"
Is it Mother Nature taking our "neck by the scruff"
And saying to all "enough is enough"

And what about the life that lives in our seas
That half world relies on to sustain and to feed
It cannot go on forever, there has to be limits
Or our oceans will be dead and lifeless – a corpse without caskets

The number and size of marine parks – a hot subject of debate
But proven, if left alone reefs and eco-systems can regenerate
Of the huge oceans and seas they are a mere fraction
What is needed now is more positive leadership and action

Our Water World is fragile, so easy to break
We are "today's custodians" and good care we must take
To leave an inheritance for all girls and boys
To see and to wonder and to enjoy

Remember when diving, it is we who are guests
In this wonderful world let us not be the "pests"
And dive to the credo of "making no troubles
And taking only memories and photos and leaving bubbles"

So is Steve reminding us to be "green"
And, keep all our seas and oceans healthy and clean?

VISITING A SCUBA DIVING GEAR FACTORY

FEATURE AND PHOTOGRAPHY **NICO DE CORATO – ADMINISTRATOR OF DUBAIBLOG**

Scuba diving requires proper equipment, including specialized gear for apnea immersions or scuba diving with respirators. However, whether you are a scuba diver or apneist, it is essential to have good knowledge of the proper equipment and that comfortable gear is chosen in support of the chosen activity.

A defective or not properly used dry suit can be uncomfortable and being uncomfortable at 40 meters can have dire consequences. Masks allows us to see underwater and diving regulators allow us to breathe and therefore, survive.

Before becoming a certified divemaster, I didn't have much confidence with the equipment; I didn't own my own diving gear and I used to rent it when needed. When I decided to become a pro diver, not only did I buy my own equipment, but I also began studying and understanding how important it is to feel at ease with your own gear and help those you guide underwater feel comfortable and at ease too. This is important especially for safety.

After some sporadic purchases in sports stores, it came time to buy the full gear. I randomly chose SEAC. I am passionate for military gear and at a trade fair in Dubai I had been fascinated by a blue camouflage wet suit. That was my first contact with the company. I chose their gear for the good relationship between quality and price, although I still didn't have much knowledge on the subject; in fact, I still hadn't started the divemaster course. There, I became aware of the characteristics of my (and others') gear, its pros and cons. I learned to put together or put away the gear with ease, as well as maintaining it and saving it with care to preserve it.

During a visit to Italy, I decided to contact the manufacturer directly and ask to visit the factory near Chiavari (Genova). The company was extremely receptive and available to accommodate my request, and I was able to spend a day at their plant. I found a 12,000 sq. mt. plant with 4 warehouses, a lean production line, a staff of 40, a dedicated research department and development engineers.

Founded in 1971 by Attilio Rapallini and Marco Arata, SEAC has established itself as a reference player in the international scubadiving market and is a "Made in Italy" brand of excellence. Lately, the company has modernized its production by enriching and optimizing the production lines, increased the organogram, repositioned its brand and applied advanced technological innovations.

A thorough change that however, has not changed what has always been considered the strength of the company: the meticulous quality control of all products (they are all individually tested two or three times), a process that has always been a feather in SEAC's cap.

Each regulator has been tested 2 times in extreme conditions.

To celebrate its 40th anniversary, SEAC has decided to invest with more determination in a development project that led to the building of a new technologically advanced department with modern equipment and highly specialized technicians for assembly, calibration and testing. In particular, two ANSTI machines were installed, both updated to the newest regulations CE EN 250; the equipment is able to perform dynamic testing both in dry and wet conditions, making each regulator durable and reliable. Observing the meticulous testing applied to the products gave me a sense of safety in using their products.

I was impressed by the R&D department's particular attention to the masks intended for the Asian market; they were made ergonomically for Eastern divers. I had never thought that each physiognomy requires attention; after all, a mask is a mask, you go to the store, try it and buy it. Not so!

This attention to detail made me realize how much professionalism and research goes behind the production and distribution of products that divers ordinarily use.

As part of the visit, I had had the privilege of shadowing technicians of the production and testing lines who gave me some tricks of the trade to maintain my gear.

I thank the staff for their availability. I hope to visit the factory again soon and maybe stay longer to taste the local specialities in the area.

SEACSUB SPA
Via D. Norero, 29 16040
S. Colombano Certenoli (GE) Italy
www.seacsub.com

Two young humpback dolphins playing in Dubai waters, sighted in November 2014 among a group of ten individuals. Sadly, at a close examination, the individual on the right is entangled in fishing gear and also presents a parassite attach to its ventral area.

UAE DOLPHIN PROJECT COMPLETES ITS YEAR LONG SURVEY

FEATURE **DR. ADA NATOLI**

Following more than 300 hours of boat based observation throughout the year, we can now start unveiling the story of the dolphins that inhabit the waters of Dubai.

2014 has been the second year of activity for the UAE Dolphin Project and as planned, it was dedicated to the research. The main target: gather the first scientific information regarding the dolphin population inhabiting the Dubai coastline, to be able to assess the population status and support the conservation of these species.

Now after having continuously surveyed the Dubai coastline for a full calendar year, covering all the four seasons, with over 300 engine hours and over 2000 miles surveyed, we are getting a clearer picture of the Dubai dolphins. Overall we recorded 20 sightings for a total of 208 dolphins across three species, Indo-Pacific bottlenose dolphin, Indo-Pacific humpback dolphin and finless porpoise. However, about 40% are re-sighted individuals, meaning individuals we have already encountered in previous sightings.

We can not say "thank you" enough to our great sponsors that believed in the potential of this project and contributed to the research costs: Duretti Boat Manufacturing that provided us with Harman, a fantastic 30ft Sportfisher boat, a real luxury for these types of projects. Dubai Marina Yacht Club, that agreed to berth the project boat, and support us with great public awareness among its public and the local community. ITP Publishing, Salini-Impregilo and two private supporters contributed with the petrol, boat insurance, awareness and equipment. The Marine and Wildlife Section of the Environment Department, Dubai Municipality, for providing us with the research permit.

No less important have been all our volunteers that joined the field-work: 73 of them joined us throughout this past year, facing the extreme heat of the summer months, the wind of the winter, sometime scrutinizing the sea without seeing anything for hours on end. We had businessmen, IT professionals, housewives, photographers, travelers, environmentalists, veterinarians, divers, shopkeepers and students, to name a few. Some of them dedicated lots of their spare time and we are extremely grateful for that. Without them all, we simply couldn't have made it.

Despite our effort put into the field-work, our public awareness campaign hasn't weakened. We reached universities and schools and we can proudly say that now over 1,700 students in UAE know more about the local dolphins. During the past summer, we organized two workshops, training students on the photo-identification data analysis and they have done an amazing job. We participated in many public events and had great press coverage from Dubai One TV to Abu Dhabi Week Magazine, Gulf News, The National, Al Khaleej, the Vision Magazine and also in Iran (the dolphins don't know about boarders). Our advert is still being kindly inserted in many of the ITP Publishing magazines. In return our "Report a sighting" system has hit over 200 sightings and we have an increasing number of small companies involved in water activities offering to contribute. Your sightings allowed us to identify dolphin hotspot areas, like Saadiyat Island, the area in front of the Emirates Palace in Abu Dhabi, the Palm Jumeirah and the Burj Al Arab in Dubai.

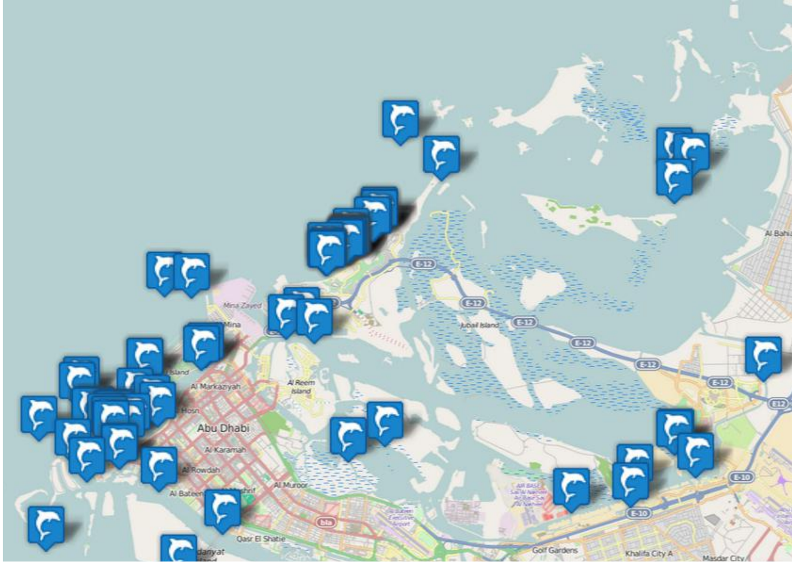
So, after one year of survey, what do we know now about dolphins in Dubai waters? The data analysis is currently ongoing, with the help of volunteers and students and we will soon release the exact picture of the status of Dubai dolphins in an official report and scientific publications.

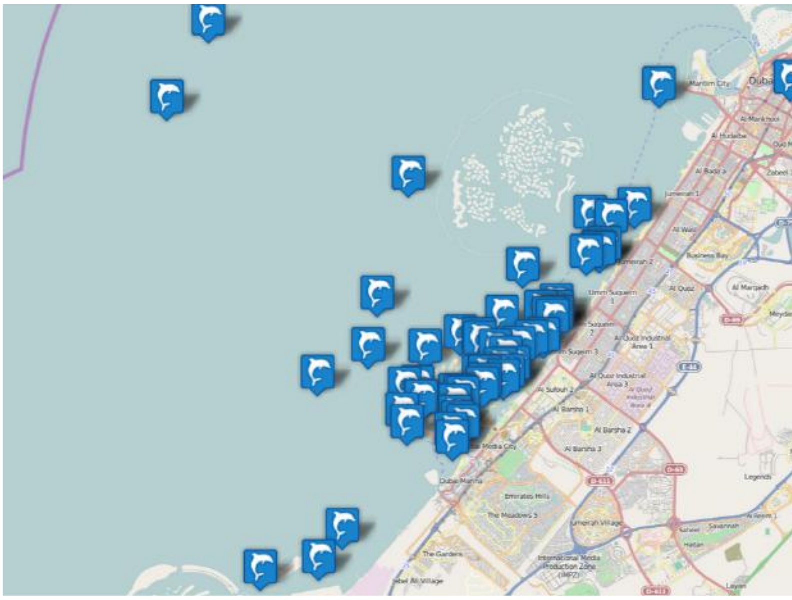
What has emerged so far is that surely dolphins are not so rare in Dubai waters. Going out, you have about 38% probability to see dolphins. That's about once every three times. You don't need to look too far from

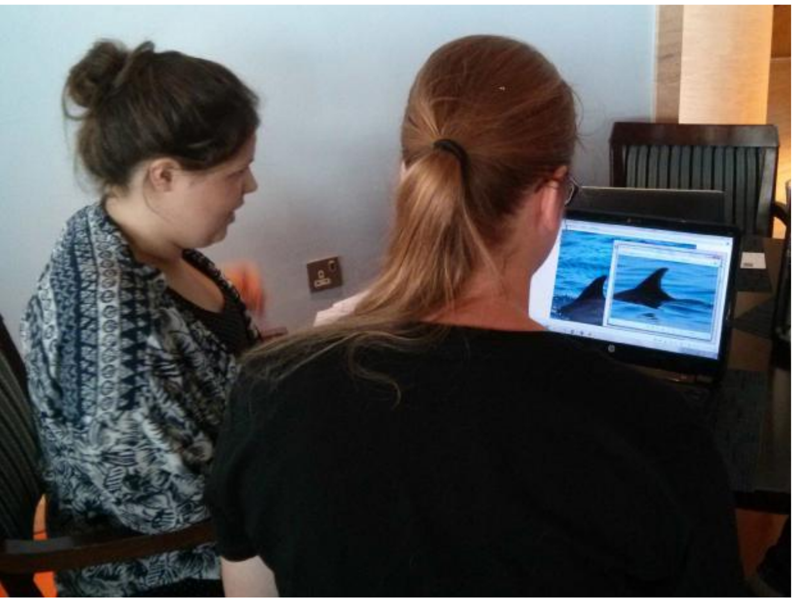
the coast, sometime looking from the shore is good enough. Fifty per cent of our sightings were made within 500 meters from the shore. Keep your eyes peeled and if you see them "Report Your Sighting!"

Among the three species identified, Indo-Pacific bottlenose dolphin, Indo-Pacific humpback dolphin and finless porpoise, the latter appears to be the rarest. However, we need to keep in mind that it is a very small species and the fact that it doesn't have a dorsal fin, makes it even more difficult to spot it. Indo-Pacific humpback dolphins and finless porpoises definitely prefer coastal waters, as they are mostly sighted within 500-600 meters from shore. Indo-Pacific bottlenose dolphins instead tend to occur in deeper waters off Palm Jumeirah and The World Islands. All species have been sighted with calves, suggesting that they possibly utilize these areas as breeding/nursing areas. For both the bottlenose and the humpback dolphins, our photo-identification data indicated that individuals are recurrent in Dubai waters, as the same individuals have been sighted more than once. This also indicates that the population is not very large. Through the photo-identification data, we can now start to follow mother-calf pairs and some of them have already been re-sighted months later.

We haven't notice a clear seasonality in sightings, but our observations suggest that there are some months, February-March and August-September, where dolphins don't seem to occur in Dubai waters. However, we will need







to confirm this with data in years to come.

We only received one stranding call this past year, but unfortunately it was at sea and despite our effort, we weren't able to recover the body. If there are no strandings, this can be a good sign. During our survey we noticed several individuals with clear signs of malnutrition and sadly we witnessed one calf entangled in fishing gear. Yes, plastic is indeed killing our oceans! The only solution is to actually stop using it so much! Please make an effort to carefully dispose of any plastic when you are at sea. Plastic kills marine life!

If revealing the status of the dolphins that still inhabit the Dubai waters is exciting, the prediction for their future is not so promising. Our preliminary data indicate that the population is not very large after all. From long-term studies conducted elsewhere, these three species are renowned to be resident species and rarely undertake long-range migrations. If this is the case and considering the pace of human development, overfishing, land reclamation that is currently ongoing, we believe that steps towards the protection of these vulnerable creatures need to be taken quickly, if we want the next generation to be able to enjoy them as we do now.

Our 2015 challenge is to translate all the scientific data, sightings reported and the efforts made by all the volunteers and sponsors, towards their conservation. Keep reporting and supporting this cause!

THE FREE DIVER

DUBAI ORGANIZES THE 2nd FREE SAFETY COURSE FOR FREEDIVING IN DUBAI

FEATURE AND PHOTOGRAPHY **MOHAMMAD ABDULLA**

Freediving has been rapidly thriving in the United Arab Emirates (UAE) since the early 90's. The sport is becoming more popular by the second! Knowing that the ancestors of these people used to freedive for a living, the domination of such a sport won't be surprising; it's in their genes!

With this fast revolution, it's difficult for the training levels to keep up, many of the freedivers here have zero training in freediving which can be dangerous and in some cases, fatal! And this is something that no one would like to see, it could heavily damage the sports reputation and stand in the way of any attempts of making it a recognized, legal and official sport.

"The Free Diver" provides freediver training and equipment in Dubai, has 5 dedicated instructors, 3 Fii Instructors, Yousuf Alkhaja (UAE National breath hold champion of 2012), Aqil Alkhaja and Musaed Al Haj, and two AIDA instructors, Sid Ahmed and Amro Dabash have come together and decided to provide FREE annual workshops to show divers the basics of freediving safety. The Goal is to raise safety awareness and promote a safety culture between UAE freedivers. What is the point of diving with a buddy if he has no idea how to react if you blackout!

On Saturday the 7th of February, the workshop took place in Hamdan Sports Complex, one of the best facilities and the only one in the country that offers pools with 5 meter depths.

The guys at The Free Diver have divided the workshop into two parts, theory and pool. The theory explained two basic things:

- LMC: definition and how to act.
- Blackout: definition, signs and symptoms, and how to act.

This information is sacred to a freediver and the non-certified participants were shocked to have heard such crucial information for the first time even though most of them had been diving for years.

Most of you as divers probably already know about "hypoxia", which is basically the lack of oxygen in our blood or our bodies. If this happens to you and you don't get oxygen fast enough, bad things could happen resulting in LMC or a Blackout.

LMC: is the Loss of Motor Control (LMC), also

known as "samba". It is a hypoxic fit triggered by low oxygen levels (hypoxia). LMC can occur on the surface, after a dive or from static breath hold. A freediver may not be aware of the LMC, it could be a series of uncontrollable muscle twitches and may be accompanied by confusion and a lack of responsiveness. A person having an LMC would demonstrate some of the following signs:

- Uncontrollable twitches
- Confusion
- Trembling
- Reduced responsiveness

If you ever see a person demonstrating these signs or at least some of them, you should immediately react using specific steps. Here are some examples:

- Gently hold the freediver so his airways are out of the water.
- Remove mask if needed.
- Advise him/her to stop diving for the rest of the day.

BLACKOUT: is simply the loss of consciousness caused by hypoxia towards the end of a breath hold. Blackouts normally have warning signs which are easily visible on a diver. A blackout can happen at any time. It is possible to show no signs, but some that are often seen before a blackout are:

- Irregular kicks
- Escaping air
- Speeding up at end of a dive

What if we reverse the situation? How can you tell if you are about to have a blackout yourself? If you know that you are about to have one yourself, you may have a chance to signal your buddy and ask for assistance. Some of the symptoms that you will have before blacking out could be:

- Ear ringing
- The dive starts to feel easier

What would you do if your buddy blacked out? Not many divers think about this question. We dive with a buddy because it's more fun and because it makes you feel safe. But what if I blackout and my buddy, "the guy that is supposed to make me feel safe" has no idea how to rescue me? What would be the point of diving with him in the first place? In the workshop, the participants learnt how to react if they see a blacked out diver on the surface, below the surface or if he was having an LMC. Here are some examples of how to deal with a blacked out diver:

- Get the diver to the surface.
- Hold them so his/her mouth and nose are out of the water.
- Remove their mask.
- If he doesn't start breathing within 20 seconds, give up to five rescue breaths.

After the theory, the workshop moved to the fun part; the pool demonstration! The Instructors gave examples of both LMC situations and blacked out diver situations, on the surface or underwater, and the participants had to deal with each situation with the practise learnt from the theory sessions.

You cannot avoid an LMC or a Blackout, so it is best to be prepared for the worst thing that could happen, "Better safe than sorry". This is exactly what the instructors at The Free Diver are trying to promote. They put much effort into teaching people the safety precautions to take. That is why I would advise any freediving enthusiast to take at least a safety course or better yet, get certified and maybe one day you could save a life and that life could be your own.

DIGITAL ONLINE 2015 RULES AND GUIDELINES

EDA'S UNDERWATER PHOTOGRAPHY AND FILM COMPETITION

OPENED: THURSDAY, 1st JANUARY 2015 | **CLOSES:** THURSDAY, 30th APRIL 2015 @ 11:59 PM
EXHIBITION & AWARD CEREMONY: WEDNESDAY, 27th MAY 2015 | 19:00-22:00 | VENUE TBA

DIGITAL ONLINE'S MAIN OBJECTIVES ARE:

- 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).
- To discover new promising underwater photographers in the UAE.

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 EDA 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 been working with EDA since December 2004 where she created and introduced the quarterly magazine, 'Divers for the Environment' and is the magazine Editor. 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 brand, 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.

CONTEST OPENS FOR SUBMISSIONS:
Thursday, 1st January 2015

SUBMISSIONS DEADLINE:
Thursday, 30th April 2015 @ 11:59 PM (GST)

AWARDS & EXHIBITION NIGHT:
Wednesday 27th May 2015 | 19:00-22:00 | AUD

GENERAL RULES

- Digital Online is open to all photographers and videographers of all skill levels with a valid EDA membership status. EDA membership must be renewed if expired in order to take part.
- Each competitor can only win one prize or prize package. Entrants with multiple winning entries will be given priority in the points awarded.
- Prizes not claimed by multiple winners, will be awarded to the highest points given to the next image.
- Winners will choose their own prize.
- Participants are obligated to follow environmental conservation regulations and to share respect for the underwater world during the process of taking their stills and video. 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.

ADDITIONAL 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 (photos or videos) must not have already been submitted to previous Digital Online Competitions.
- Photos and videos must be taken underwater unless specified in a category description.
- 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.
- The finalists will be announced and their work displayed at the exhibition and award ceremony on Wednesday, 3rd June 2015. 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 video 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.

PHOTOGRAPHY SECTIONS

Photography will be classified into Section 1, including DSLR and MILC (Mirrorless) cameras and Section 2, for Compact (point and shoot) cameras. Please state the camera section when entering your submissions and where photos were taken.

SECTION 1

DSLR: Digital SLR camera users with or without external strobes.

MILC: Photographers using the mirrorless interchangeable-lens camera (MILC), which is a class of digital system cameras. This type of camera provides an interchangeable lens mount. They do not have a mirror reflex optical viewfinder.

SECTION 2

COMPACT: Point and shoot photographers only (compact cameras).

PHOTOGRAPHY CATEGORIES

Photographers may enter one photo per category:

1. MACRO – ANY DESTINATION (Section 1 and Section 2)

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.

2. WIDE ANGLE – ANY DESTINATION (Section 1 and Section 2)

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.

3. DIVERS FOR THE ENVIRONMENT – ANY DESTINATION (Sections 1 and 2 Combined)

Definition: Any underwater image featuring an environmental impact on reefs or marine life.

4. BEST OF THE UAE – UAE ONLY (Section 1 and Section 2)

Definition: Any underwater image taken in the UAE.

VIDEO CATEGORY

1. BELOW THE SURFACE

Definition: Show off your editing skills showcasing your montage of video footage (can be any style or all, such as macro, wide angle, wreck, etc) to the title 'Below The Surface'. Maximum duration including credits: 5 minutes.

REGISTRATION & UPLOADING ENTRIES

- Registration and entry is open from Thursday, 1st January 2015 and the deadline is on Thursday, 30th April 2015, at 11:59pm (GST – Gulf Standard Time).
- The participant must be a UAE Resident and a valid EDA member. Submit entries via email to photo@emiratesdiving.com with the following information:

- Full Name
- Camera Section
- Photo Title
- Dive Location for each submission.

- File names should include photographer's name and the category. (eg. TSmith-Macro.jpg, TSmith-WideAngle.jpg and TSmith-DiversForTheEnvironment, etc).
- Photo entries must be saved in jpeg format and should be sized between 2000 and 6000 pixels in the longest dimension. Please limit your images to a maximum file size of 5MB. Images will be viewed on a monitor and should be in the AdobeRGB 1998 or sRGB colour space.
- Video submissions must be in mp4 format and sent via Yousendit or Dropbox with file name of the Videographer.
- The preferred method of entry is electronically, however, if this method is not possible due to lack of proper internet connection, you are able to submit via memory card or stick. Please note, media will not be returned.
- You will receive an email to confirm your registration and photo/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.

HOW PRIZES ARE AWARDED

Once the judging is complete, the winners will be able to choose a prize available to them on the list they will receive via email. Digital Online Judges award a 3-way point system to each photograph/video consisting of Technique, Composition and Impact which is added to give the photograph's or video's total grand score. Best of show with the highest points will get first choice. 1st place winners by highest score will choose a prize before all other winners, 2nd place winners before 3rd place winners, etc. Please note, each individual can only win one prize or prize package. Prizes not claimed by multiple winners, will be awarded to the highest points given to the next image.

Good luck to everyone taking part! Dive safely and have fun!

DIGITAL ONLINE GUEST JUDGES

Warren Baverstock, Jonathan Ali Khan, Christophe Chellapermal and Nuno Sá will be judging Digital Online 2015 entries in addition to EDA's Judges, Ally and Reema. We're honoured to have such photographers/videographers be a part of this event.

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

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.

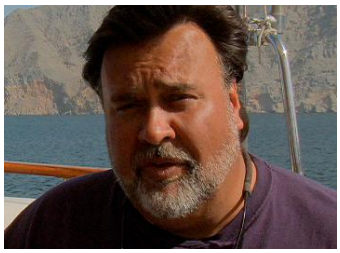
He is the first Portuguese wildlife photographer nominated in some of Europe's major nature photography competitions, such as: Wildlife Photographer of the Year and Asferico International Nature Photography Competition, amongst others.

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

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

CHRISTOPHE CHELLAPERMAL | PADI & TEK TDI REBREATHER INSTRUCTOR

Founder and Owner of Nomad Ocean Adventures

Christophe Chellapermal arrived in the United Arab Emirates when he was 7 years old and has been living in the Middle East region ever since. His love of water started as a young child and he has been a diver since he was 12 years old.

Chris became a PADI Scuba Instructor in 1998 and with 25 years of diving experience and 17 years of teaching experience, he has gained much knowledge in the aquatic realm. He is also a TEK TDI Rebreather Instructor with Submatix and can teach CCR up to 60m.

Founder and owner of Nomad Ocean Adventures since 2004, he loves the ocean and the planet and does all he can to involve Nomad Ocean Adventures with environmental conservation. Being a photography and nature lover, he spends hours in the water taking photos of his underwater adventures.

WEBSITE: www.discovernomad.com
FACEBOOK: Nomad Ocean Adventures Musandam

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EMIRATES DIVING ASSOCIATION
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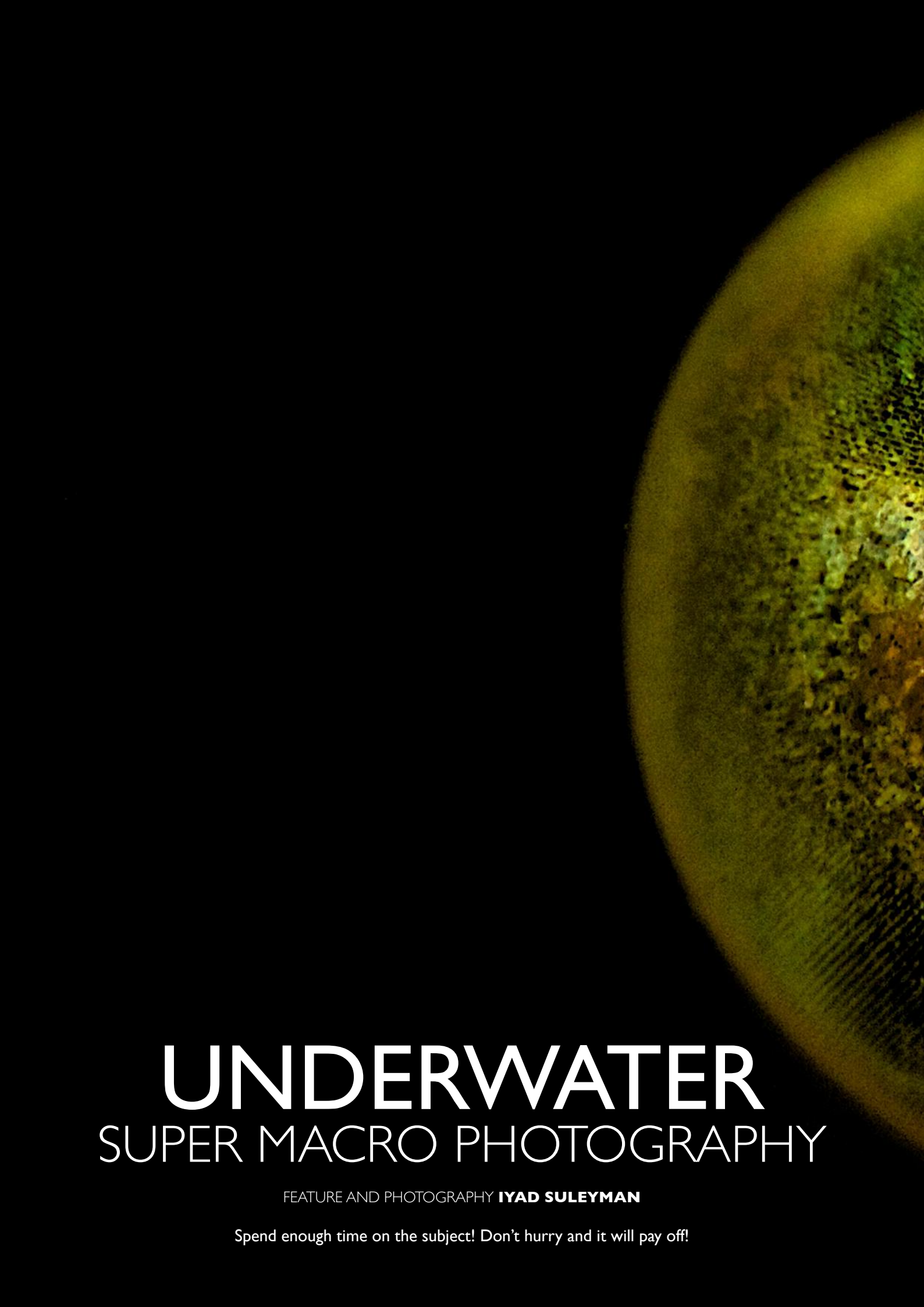
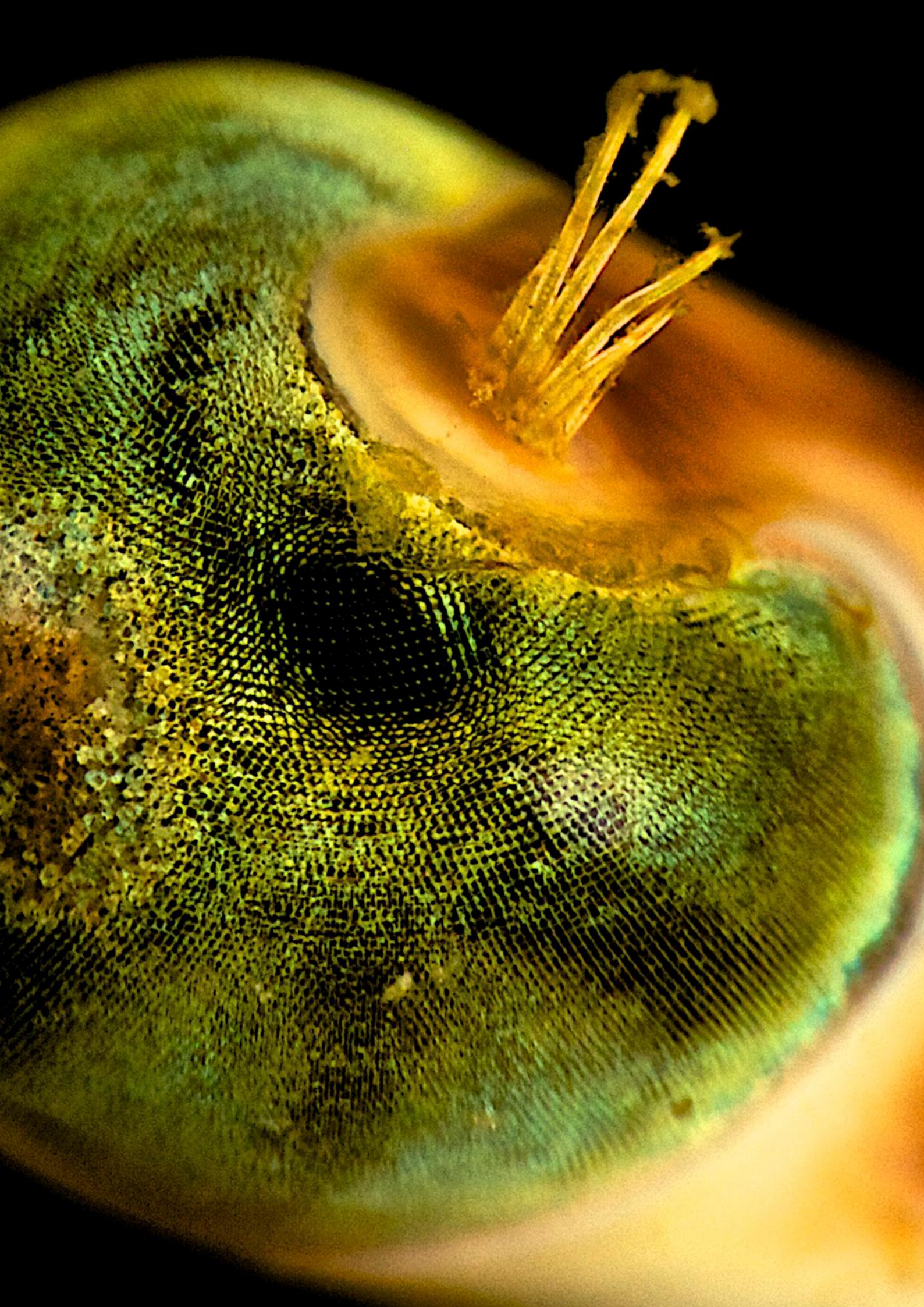


UNDERWATER
SUPER MACRO PHOTOGRAPHY

FEATURE AND PHOTOGRAPHY **IYAD SULEYMAN**

Spend enough time on the subject! Don’t hurry and it will pay off!



Most photographers would agree that super macro photography means the production of photos with reproduction ratios greater than 1:1. Therefore super macro photography leads us to the mysterious world of hidden beauty. Without special equipment our eyes can't see it.

Generally, in order to achieve these levels of magnification, we need to use a 'normal' macro lens with one or more additional specialized tools such as a dry diopter, wet diopter, teleconverter or an extension tube.

The 60mm for Canon or Nikon and the 100mm for Canon (105mm for Nikon) – are basic macro lenses. They are used often and they work well for macro photography. But for super macro photography, the 100mm Canon (105mm Nikon) macro lens works best. It allows us to keep the distance and provides more space for stacking diopters.

The 60mm macro lens combined with wet diopters is also used, but the focus distance will be extremely short. The 60mm lens has a small working distance, which means we will be fairly close to the glass of the wet diopter when shooting small subjects. We can use it with static, slow or not shy subjects (e.g., tiny nudibranch, skeleton shrimp etc.), but for shy or moving subjects (i.e., tiny fish, pygmy seahorse) it is better to use a 100mm with wet diopters.

Let's move on to the additional specialized tools. As I mentioned earlier, these tools are: dry diopters, wet diopters, teleconverters and extension tubes. I tried all of them and my choice is using wet diopters for super macro photography.

There are some disadvantages while using the other tools which I prefer to avoid, namely:

- The disadvantage of "dry" diopters is that the diopter must be used for the entire dive. It's not possible to add or to change the diopter underwater. The lens will no

longer focus at longer distances.
- The cons of a teleconverter is the loss of light, therefore slightly dimmer viewfinder. The camera can't focus fast enough.
- The extension tubes will make the port needs much longer and we have to deal with loss of light again, so I don't recommend them.

I recommend a wet diopter (or a combination of two) for super macro photography. Wet diopters that can be placed over a port, will allow for increased magnification by reducing the minimum working distance. A big advantage of a wet diopter is that it can be added and removed during the dive. It gives us more flexibility. Please note, when using a wet diopter, the camera lens should be as close as possible to the port, to reduce the distance between the camera lens and the wet diopter.

There are several ways to attach a wet lens to the camera, including a bayonet mount which simply rotates and locks on, a "quick adapt" mount that snaps on in one motion. I prefer to use a screw mount which must be screwed on the port. The distance between the port and wet lens is short in this case. That gives more sharpness and detail to the picture. 1cm (0.4 inches) or even 0.5cm (0.2 inches) can make a big difference on the focus and can affect the sharpness. That's why I don't recommend a bayonet mount. The best choice is a screw mount.

You must be careful with air bubbles which may appear by screwing on the wet lens above water. These small bubbles may appear invisible to our sight, but they can disturb the focus. To avoid them, screw the wet lens on underwater.

Nowadays there is a big choice of wet diopters to choose from. I use different brands: SubSee +5, +10, Epoque DML 2, Inon UCL-165, SAGA Pro +5, +10.

For a larger magnification, we can stack two







wet lenses together using adapters or threads. We can achieve truly large magnifications. By stacking wet diopters, attached on a 100mm macro lens, we can even take subjects as small as 8mm and fill the entire frame.

My favorite combination of wet diopters is SubSee +10 stacked with Inon UCL-165 used with a 100mm macro lens.

HOW TO PHOTOGRAPH SUPER MACRO

While shooting super macro, you should be extremely accurate and precise. It's very important to get a sharp focus on eyes, or rhinophores, or the mouth (depending on your subject), especially when the subject may be a mere 1cm itself. Super macro photography calls for specific skills and knowledge.

Using Manual exposure mode will give you complete control. The aperture is more important than the shutter speed. Start by setting this to F/13. For greater depth of field, use a smaller aperture such as F/16 or F/22.

Before I go underwater, I prepare and set the basic camera settings to: ISO 100, F/13, 1/160s. Depending on the underwater conditions and subjects, I adjust the settings underwater. But my favorite aperture figures for super macro are in the range from F/6 to F/16. With these apertures, the images produce the best details.

Stacking diopters on a DSLR means focusing on distances so close that it may be hard to illuminate a subject without strobes. You must be very careful in placing the strobes to light up the scene. I always use manual mood for lightening. I put the strobes on with the diffuser on ¼ power and place them close to the port.

Shallow depth of fields make autofocus perform very slowly. It is more effective to use manual focus instead, rocking the camera slightly back and forth and pressing the shutter when you see that the subject is in focus. This may take several attempts and some time, but the results can be fantastic.

Make sure to find a stable and relaxed position that doesn't damage the surroundings when attempting the shot. It can take some time to achieve the shot desired, so you need to get comfortable.

Use a focus light whenever possible to help achieve focus.

Always ensure the well-being of the subject during the photo taking process, as it can be easy to touch them with the front of the diopter.

Spend enough time on the subject! Don't hurry and it will pay off!

Yawning fish make a nice behavioral shot and many other interesting things can happen in front of your lens, if you can be patient. Show detail! In fact, the secret for success in super macro photography in my view, is showing the finest details!

Don't leave your subject if you have enough time, air and the subject is, "in a good mood" to be photographed! Get the shot you planned.

And last but not least, with its emphasis on detail, pattern and texture, super macro photography can give unique results.

THE ALIWAL SHOAL
FOR HARDCORE SHARK LOVERS

FEATURE AND PHOTOGRAPHY **SIMONE CAPRODOSSI**

Aliwal is not for the faint hearted or inexperienced diver, but if you love sharks and feel comfortable about having lots of them circling around you in the blue, it is an incredible experience.

I have recently been going through my shark photos to provide some imagery for a shark book publication I am involved with and I thought I would share an article on the Aliwal Shoal that is one of the greatest shark diving destinations relatively close to Dubai.

ARRIVING AT OUR DESTINATION

The Aliwal Shoal is a rocky reef which is the remains of an ancient sand dune approximately 5km off the coast of KwaZulu-Natal, South Africa and is an easy destination to reach from the UAE. With a direct overnight flight to Durban, a couple of movies and a nap, you're out in the fresh air and ready to be picked up by your dive guides to start a great shark diving adventure.

We dove with Scuba Addicts, one of the longest running dive operators in Aliwal. They pick you up at the airport and in less than an hour, you are having a coffee by the ocean in their lovely lodge in Umkomaas.

A far cry from a postcard picture perfect Maldivian holiday, the landscape is very rugged and dramatic. It is a beautiful rather northern landscape and the sea looks quite uninviting, dark, very rough and cold.

We went in November which is the end of Spring in South Africa thus the weather should have been quite warm, but we managed to catch the tail end of a cyclone that actually brought back quite wintery weather. Not lucky, but not too unlucky either as the people that were there a week earlier, had not been able to go out a single day due to the very rough weather.

We had 6 days of diving booked alternating baited dives with tiger sharks and other sharks in the blue and some diving on the shoal where we hoped to see Raggies – the nickname of sand tiger or grey nurse sharks (*Carcharias taurus*) – the same ones that roam around the Dubai Mall Aquarium.

We had to actually sit out the first couple of days as the wind was still too strong and going out would have been dangerous and the visibility was very poor. Luckily we were in South Africa so we could entertain ourselves and go and enjoy a safari day in a nearby reserve and get a few land animals in.

THE RAGGIES

On the third day, we were finally ready to get wet as the sky had cleared and the wind had died down a bit. We started with the shoal diving as conditions were still a bit rough for the baited dives.

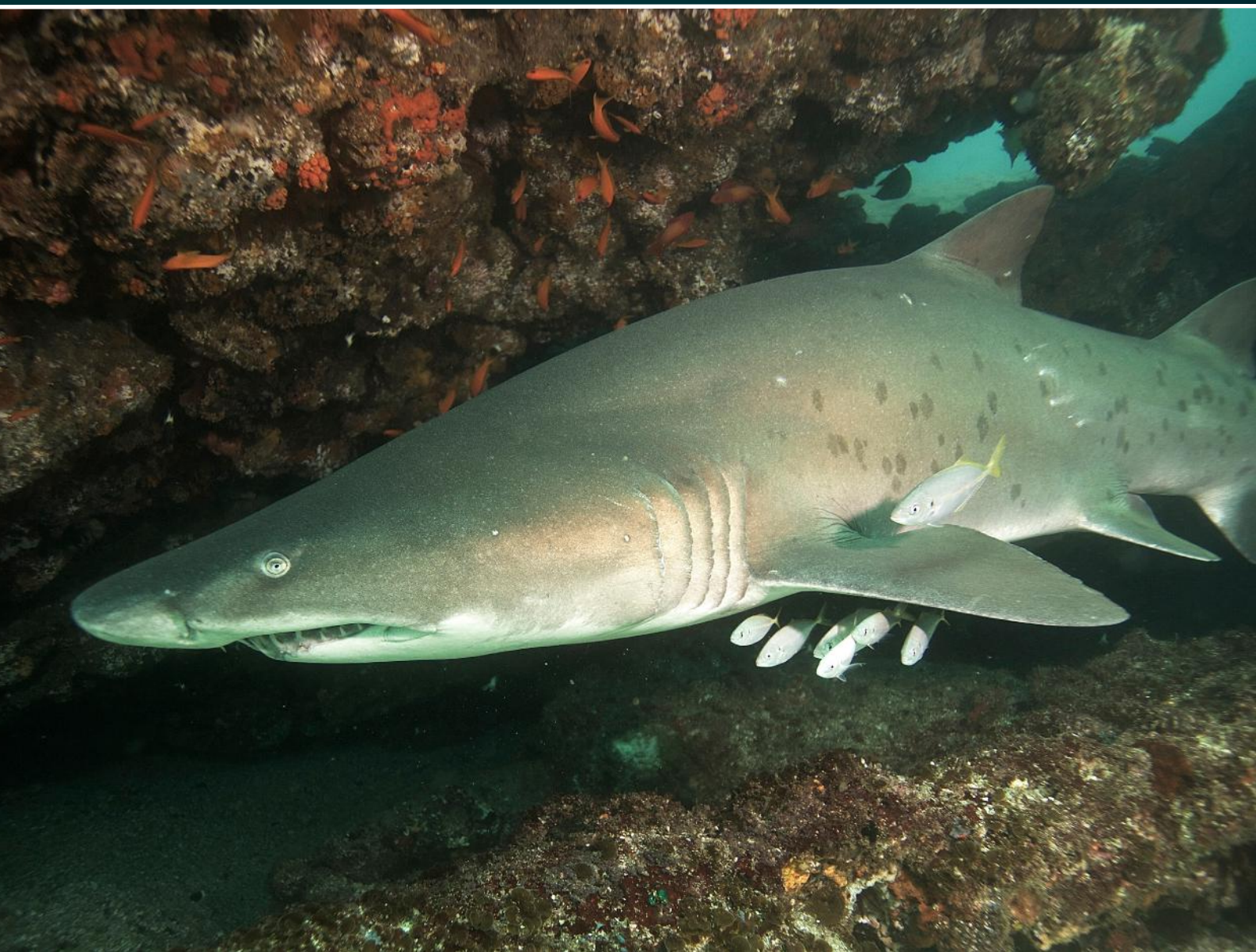
We immediately understood why an extra rough sea was a no go for diving. Even in the best of conditions, the trip out to the shoal about 5km offshore was very hardcore. The diving rib actually launched from the Umkomaas river. You are instructed to hold on very tight with hands and feet on ropes along the rib's sides and to be ready for the big jumps. As the river streams into the sea and meets the inward current, it creates some massive waves that you have to basically fly over. Adrenaline and fun, mixed with worry and emotion for the poor camera housing that smashes up and down on the rib's bottom.

After quite a long and bumpy ride, you reach the shoal.

Aliwal Shoal is a submerged rocky reef reaching up to 6 meters in the shallowest part and sloping deeper. All the dives are done via a negative entry as the surface current is strong so there is no time to linger at the surface. A negative entry means you dive in without inflating the BCD and you continue straight down into your dive.

November is normally the borderline season for the raggies that tend to disappear as the waters get warmer in the summer so we were hopeful but ready not to find any. I was quickly reassured on seeing them as I nearly hit one as I reached the bottom, a good scare for us both. Probably due to the colder water, the raggies were in the numbers and not shy so we had some really fantastic close encounters. They have some pretty scary looking and indeed very messy and pointy teeth, but are actually extremely peaceful and friendly sharks. The shoal is very rich beyond the sharks with huge schools of fish, beautiful honeycomb rays and turtles aplenty.

So after two dives with the raggies, we were very satisfied and made our way back to the



lodge, happy to curl up into blankets with a hot cup of tea.

THE BAITED DIVE

The next day was finally our tiger shark dive that we had primarily come over for.

The baited dive is quite a distance out at sea as you need to be as far as possible from the murky line that is created from the mix of the river water with the sea. The murky area is extremely dangerous as sharks there are in hunting mode, particularly bull sharks openly searching for any movement in the water.

We hopped aboard the rib again and headed out, holding on tightly during our usual wave jumping ride and reached far out where the water was a nice and clear blue. The team started baiting and for a while things were very quiet. Normally they wait for a few sharks to be around and ideally the tiger to appear, but it looked like a quiet day so as soon as a few fins appeared, we jumped in to get some shark action.

Again, a negative entry leaves you a bit confused in the blue and as visibility was relatively limited, I at first could not see the dive guides and actually got a little scared considering how many sharks were in the blue. I soon saw a couple of flashes and realized I had gone a few meters too deep, so I went back up to join the group and started photographing the many oceanic black tips (*Carcharhinus limbatus*) and dusky sharks (*Carcharhinus obscurus*) all around us. These are really beautiful majestic sharks. The tiger sharks never came out, but we came back absolutely thrilled by the rest of the experience.

SHARK ALLEY

The next day was about more raggies at a dive site called Shark Alley. Very true to the name, we immediately found lots of raggies moving up and down a sandy stretch between two lines of reef, very much like that of a busy shark highway. You just hang about and watch the sharks swimming by and stopping to have a close look at you.

THE LAST DAY FOR TIGERS

After having had another amazing day's diving prior, we now had all our hopes up

with the last chance to see the tigers on our last day. The wind had actually picked up again so we were afraid we were going to be told we would have to miss this one out. Fortunately, conditions were acceptable but the current had stretched out over from the murky line so we had to go out further still to dive safely. As a good premonition, we had a couple of little hammerhead sharks swim by the rib as we were getting ready to start baiting.

This time sharks came quicker and we were soon in the water with the black tips and the duskies. They seemed more active and circled fast between us and the drum containing the bait. The Scuba Addicts team had a person by each of us with a stick to make sure encounters did not get too close.

As I was getting into my element of taking photos, I got really excited as I seemed to get better and better close shots of the sharks. Then one actually hit the dome port of my camera and that's when I realized the closeup image quality was due to the sharks circling

a little too close. Not surprisingly, a couple of minutes later, the dive leader gave us the sign to go back up as the action was getting too rowdy.

As we surfaced, exhilarated from the super close encounters, we realized how the murky water was slowly reaching us, a sign to close our diving day. So in the end, we did not manage to see a tiger shark, but we were honestly so overwhelmed by the rest of the experience that we forgot we were even hoping to see them.

Aliwal is not for the faint hearted or inexperienced diver, but if you love sharks and feel comfortable about having lots of them circling around you in the blue, it is an incredible experience. I look forward to planning another trip over there.

WAKATOBI DIVE RESORT
WHERE NATURE AND LUXURY MEET

FEATURE **WAKATOBI DIVE RESORT** PHOTOGRAPHY **DIDI LOTZE**

The resort sits in isolated splendor on a white-sand beach overlooking a pristine reef in a remote corner of Indonesia's Sulawesi Sea. This location was chosen not only for its natural beauty, but also because it is at the center of the world's richest coral reef environment.

Photo by © Mark Snyder

Photo by © Warren Baverstock

Photo by © Walt Stearns

A visit to Wakatobi Dive Resort creates a rare opportunity to relax in one of the most scenic venues on the planet, enjoy five-star personal service and immerse yourself in nature at its finest and most pristine. The resort sits in isolated splendor on a white-sand beach overlooking a pristine reef in a remote corner of Indonesia's Sulawesi Sea. This location was chosen not only for its natural beauty, but also because it is at the center of the world's richest coral reef environment. As recent guest Darby Langdon puts it, "The Wakatobi reefs are like swimming in a King's aquarium!".

Though far removed from the trappings of civilization, Wakatobi is neither spartan nor difficult to reach. Direct charter flights from Bali whisk guests to the island in under three hours. Once there, they settle into richly-appointed waterfront villas and beachside bungalows, sample tempting chef-prepared offerings and allow themselves to be indulged and pampered by attentive and caring staff. A fleet of custom-built dive boats provides comfortable access to an exciting range of dive and snorkel sites that have been named some of the "world's best," while multilingual staff provides support and assistance for participants of all levels, from casual snorkelers to advanced divers. Ashore, a range of beach and water sports activities, plus land-based activities await you, as well as diversions such as nature walks, birding, local village tours, and cultural immersion programs. Guests also enjoy touring Wakatobi's turtle nursery and when the timing is suitable, can partake in turtle releases from Wakatobi's beach; this can be a particularly enjoyable experience for families.

Photo by © Warren Baverstock

For most guests, it is the underwater landscapes that take center stage. And the submerged treasures that are our reefs, are further enhanced by a proactive approach to conservation and protection that includes ecologically-friendly operating principles and responsible tourism practices, while also engaging the local community to create sustainable benefits for all. Our marine reserve, which covers some 20 kilometers of reef, is funded by portions of resort revenue, with payments going directly to local fishermen and villages, in exchange for their assistance in honoring and enhancing this underwater sanctuary. This unique partnership allows our reefs to thrive and nurture a diverse population of marine life that includes numerous rare and unusual species. Upon immersion, divers and snorkelers are enveloped in an enthralling environment that is both panoramic in scope and intricate in detail. From precipitous walls bursting with colour, to dramatic seamounts cloaked in swirling schools of fish, or sun-dappled coral gardens, you can follow the daily rhythms of life on the reef, or take a closer look to discover intricate details and diminutive creatures. Each in-water encounter is enriching, creating long-lasting memories that remain vivid and rewarding long after the visit to Wakatobi is concluded.

Isn't it time you experienced Wakatobi for yourself?

Learn more at **www.wakatobi.com** or contact Henrik Rosén directly at **henrik@wakatobi.com**.

NEW CALEDONIA

FEATURE AND PHOTOGRAPHY **PHILIPPE LECOMTE**

We can still find some places where time stands still and where the modern world does not yet exist.

New Caledonia is an island that lies 1,500km off Brisbane's coast, Australia. This island has a certain mystery which contributes largely to its charm. A nature destination, measuring 400km long and 70km wide, it possesses the second largest lagoon in the world.

With its 120,000 habitants, the town of Nouméa concentrates nearly half of the population of the territory. Due to the risk of excessive urbanization, part of the coastline of Nouméa has recently been redeveloped in a green pedestrian space which offers very enjoyable coastal walks and is a favorite jogging spot for the residents of Nouméa.

You can also enjoy sauntering in the "Place des Cocotiers" and dream of escaping reality on the pontoons of the marina of "Port Moselle", amongst the masses of sailing boats coming from all over the Pacific region.

Even if there may be too much asphalt, the municipal market is nonetheless worth the visit for its highly colorful and richly scented fish, fruits and vegetables coming from all corners of the "Grande Terre".

With its marinas, trendy terraces and white sandy beaches, Nouméa has an all year long air of the tropical Saint Tropez. The Baie des Citrons and Vata Cove are tourist highlights of the capital that offer relaxation areas as well as sports activities. While strolling near the Meridian Hotel, one can admire the spectacular kitesurfing displays and the flurry

of rich coloured sails blowing in the wind.

With its stylish shops, night clubs and restaurants by the sea, The Baie des Citrons is a trendy spot for a shopping spree. At sunset, the terraces are swarming with tourists and residents of Nouméa who enjoy the gentle French-style way of life.

The Tjibaou Cultural Centre is also one place to go in order to discover the history of the island. A visit to the Nouméa Aquarium should not be missed. An initiative of Dr Catala, the aquarium was created in 1956 and opened its new facilities in September 2007. The extended aquarium now has a 2,250m² surface area with a sea view opening onto the Vata Cove.

It welcomes over 150,000 visitors every year and focuses on educational aspects. The aquarium singles out above all for its open circuit functioning. The aquarium is directly supplied water from the lagoon which provides all the elements required for the development of invertebrates and fish.

In the South of Nouméa, the Blue River park offers mountain biking or hiking day trips for families. With its paths running along an immense lake, this nature reserve will give you magnificent souvenirs. In the forests, the Cagou, an endemic bird of New Caledonia, is now protected. It is a flightless bird, once hunted by the colonists and had been on the brink of extinction.

Fortunately, with the work of scientists and protection plans put into place, we are still able to see this weird bird in the forests. Further north of Nouméa, along the coast, you will find fields and hills with cows, sheep and goats. If you are lucky, you'll have a chance to see deer. Indeed, during the colonization of the island, people imported the deer of Java as well as black pigs.

Now, these animals are free and hunted for their meat. The rest of the island is constituted by wet areas and mountains. The highest summit is 1,650m and is in the North of the island. White sandy beaches, creeks and other unoccupied islands can be counted by the tens. It just shows how much the island can offer you with the various dive spots, snorkeling and other places to be discovered.

Like most other islands, trade winds often blow and it is then not permitted for pedestrians or equestrian riders to be out or to take on other extreme sports such as kitesurfing, mountain biking, paddling in the mangrove swamps or rafting and paraglading. On the other hand, when the weather allows it, dives around Nouméa, is easily practiced. Lagoon, wreck, coral reef or passes, will delight you. Indeed, numerous islands and some parts of the barrier are declared nature reserves.

During the week, between island visits, resting or mountain biking, I chose the Iatok Diving Paradise Club to do some dives around Nouméa. Their team is great and they focus on dives only outside of the barrier in order to approach mantas, sharks and other big fish. They are very professional and will be happy to help you discover the rich sea life of the reef.

They have 2 inflatables of 9 meters long and they are very comfortable. They offer 2 dives in the morning only because the winds get stronger in the afternoons. It will give you enough time to finish your day visiting the town.

Iatok Diving Paradise is situated at Moselle's Marina. You can visit the web site at:
www.iatok-diving-noumea.com

As an avid freediver aswell as diver, I did some research before going to New Caledonia on Facebook through divers' groups to see what underwater photos existed of this place. By chance, I found a group made by Jean-Rene

Deleforterie who was posting new photos on an almost daily basis. He does a lot of underwater photography by snorkeling and it just shows how rich the lagoon is.

I managed to contact him via Message and he invited me to meet with him when I arrived on the island. We dived together every weekend. He showed me some great places, such as Amedée Light Island, Ténia Island, and Mouara Beach next to Thio city on the East coast.

We also did a shore dive from Nouméa's town and I was surprise to see how much life was there. It was very rich even at the door step of a 150,000 populated town.

Jean-René has lived on the Island for 14 years now and gave me some good plans on where to go and what to do. We spent 4 weekends together and did some amazing dives together.

FACEBOOK GROUP: Nouvelle-Calédonie, Photos Sous-Marines Bleu Lagon.

One of the most beautiful islands near Nouméa is the island of The Phare Amédée.

Phare Amédée, is an island just in front of Nouméa. A daily boat goes on the island. If you don't have your own boat, you have to book with a travel agency for the trip. It includes the round trip, a buffet and a Tahiti dance show. At only 20 minutes, you will arrive on a beautiful island with a huge light house in the middle. It's possible to visit it and give you a great panoramic view of the island and all around the barrier and the lagoon. With a long white sandy beach and a lot of coconut trees, surrounded by a coral reef barrier, this island takes you directly to an unforgettable day.

René and I snorkeled for 3 hours in the morning, around the island. The sea life is wonderful and masses of fish with amazing colors don't stop swimming. We swam with beautiful green turtles, whitetip reef sharks and groupers. The visibility in Nouméa is 15 to 20 meters in a mini lagoon, and 20 to 30 meters outside the barrier. On this particular day, the clarity of the sea was +20 meters. The island is surrounded by a little barrier and it's easy to go on the side in order to snorkel along the deep part. In front of the beach, there is a sea grass area with a few rocks and sea turtles resting or eating around.

Another weekend and we decided to drive to Thio, on the North East coast. Thio is a little town at only 120km from Nouméa. By car, you need 1h45 to reach the city. When you reach Thio, you have to go right at only 2-4km, toward a beach named Moara. You'll arrive to a place where there are facilities such as showers or toilets and a camping area too. The famous interest in this place are the manatees. In fact, for severals years now, one manatee swam around the area without any fear of humans. So you can swim or dive with these amazing animals. Unfortunately, on this day, the manatee was not there, but the reef around will give you plenty of satisfaction. Corals just next to the beach don't look very healthy but if you go further, you will see some untouched reefs with beautiful colours. Huge anemones with clown fish, red gorgonians and caves with plenty of soft corals are still there, near the beach. It was so incredible to see so many fish and corals full of colour.

Another plan with Jean-René, was to book a little boat with a captain in order to visit some island further north of Nouméa at only a 45 minute car drive. Leaving Nouméa at 6am, we were 4 snorkelers to go to a little marina called, Port Ouenghi. From there, we went between the channel and the big island Hugo. It took 20 minutes and you then reach an area with just one or two boats around in the distance. You can see huge areas in the lagoon waiting to be visited not far from the city. This day, I had decided to do macro photography. The captain of the boat was very nice and brought us where we chose to go. At a depth of 4 to 12 meters, we visited some beautiful coral reef. As I have an interest in sharks, I looked around in order to find some. At the second spot, just 2 minutes after I jumped out of the boat, I rose my arm above the water and started to swim as fast as I could. Fortunately, my friends saw me and started to follow me. They were amazed to see a graceful leopard shark swimming just under me. Suddenly, it decided to rest on a white sandy patch. At this moment, we did several dives next to him. It was a great moment and Jean-René was very happy. During the rest of the day, we saw white tip sharks swimming or resting under rocks, a hawksbill turtle, clownfish, schools of surgeonfish, boxfish and lot of other fish. It's difficult to focus on only one species as there are more than 300 species reported in this lagoon.

During the last week, my family and I went to the north of the island at Hienghène city. Hienghène is on the East coast, a 4 to 5 hours drive from Nouméa. You definitely discover the beauty of this island by road. During the drive you will see clear rivers, canyons and a tropical forest. The magical side to the island is that just after a few kilometers you'll feel like you've changed island as the landscape, towns or villages are very different from the main city, Nouméa. Further North definitely brings you to the middle ages. Over there, the villages still follow the traditions of visiting the chief and giving gifts in order to visit around.

At Hienghène village, there is only one dive centre, the Babou Dive Club. The manager's name is Thierry. He has been there for more than 10 years. He is in fact a friend of my childhood friend. I did only 2 dives but they were amazing. In the north of the main island, there are less divers than around Nouméa town. So, the dive spots are more beautiful than in the south. The dive club will reveal its favourite sites in order to see what the area's fantastic rock formations look like underwater. The seabed of Hienghène is renowned for its coral wealth and coral architecture carved with a multitude of arches, faults, tunnels and canyons. Some 320 coral species have been identified and the biodiversity is simply remarkable. A setting full of colour and abundant wildlife in the heart of the first Protected Marine Area off the World Heritage Site of the northeastern coast, draws divers from around the world. There is a large concentration of fauna and flora in the median area (up to 20 meters deep), allowing divers of all levels to enjoy these underwater treasures. Some 15 sites are regularly visited by beginners and seasoned divers alike. These playful dives also provide an opportunity for beautiful encounters in the blue depths, where one can come across various predators and impressive sea mammals such as the humpback whale, which visit these waters for a few months from July each year.

SECOND PART: LOYALTY ISLAND, LIFOU

During our 4 weeks holiday, we decided to visit one of the 4 Loyalty Islands. In fact, further East, approximately 100km off the coast of the main island, 4 isolated islands are forgotten from the rest of the world. Ouvéa, Maré, Tiga and Lifou will show you something different from the main land. It's another world and you will think you are in another country.

We decided to spend 3 nights at Lifou. Lifou is the biggest island of the group but with only a population of 10 thousand and 1,150km² of untouched coast. As soon as we were onboard the plane, we were surprised by the beauty of rain forest we could see all around the island, small wooden houses, coconut tree plantations and a small road. It's easy to navigate your way around, so we rented a small car to do it ourselves.

Our hotel, The Drehu Village, lies on a pure white sandy beach surrounded with coconut trees. There is only one diving club situated at Easo. Easo is on the west coast of the island. This little village is situated on a beach 50km long till Peng. Above Easo, on the cliff, the little church, Notre-Dame de Lourdes gives a beautiful view of the island. Just behind Easo is a little bay nicknamed, The Aquarium, where you can see the beauty of the reef of Lifou. With easy access, snorkelers can get in and out with no fuss, so at this destination, I chose to take only my camera and snorkeling equipment. In fact, to go on these islands you have to take a small plane and KGs are limited to 12. But don't worry, snorkeling is more than enough to discover the beauty of the sea world around Lifou. At the dive club, rental equipment is also available. If you dive, you may be have a chance to see the mysterious nautilus. In fact, you have a chance to observe this weird animal only in this part of the world. It only comes up to the surface at the end of the day and during the night in order to hunt. If like us, you take a walk on the beach, you may have a chance to find some of their shells instead of buying them. The nautilus is in fact a squid in a hard shell with white and red stripes.

One day, we spent an afternoon at the turtle beach. During this day, we swam with 4 to 5 green turtles next to a coral reef. The beaches, cliffs and rocky area are all beautiful on the island. If you drive across the island, you will see vanilla plantations. Do not hesitate to ask information about this delicious plant to the local people. They are very nice and helpful. They will appreciate to talk with foreigners, too. They can also show you some beautiful features on their island such as caves, which kind of plants they use for medicine or show you some amazing creatures such as the coconut crab. Going on the Loyalty Island is a wonderful experience and it was so magical. We can still find some places where time stands still and where the modern world does not yet exist.

SCUBA DIVING IN CYPRUS

FEATURE AND PHOTOGRAPHY **PAUL WARWICK**

A LITTLE HISTORY

Cyprus, one of the alleged birthplaces of the Greek Goddess Aphrodite (goddess of love, beauty, pleasure and procreation) also known as Cytherea (Lady of Cythera) and Cypris (Lady of Cyprus) and daughter of Zeus and Dione. The island sits in the Eastern Mediterranean Sea, a mere "stone's throw" from Lebanon and Syria to the East and Turkey slightly farther to the North. Similar to Istanbul, (Constantinople as was) Cyprus sits at a geographic, historic and cultural "crossroads" as well as a strategic and maritime location in the region. As a result, Cyprus has been invaded and occupied by many cultures and civilizations dating back almost 3,000 years BC, including the Phoenicians, Greeks, Romans and Turks to name but a few, but the English/British are the only nation to have occupied Cyprus on two separate occasions. Physical evidence of these occupations can be seen all over the island and is captured in the cultural heritage, architecture and traditions of its people today.

The English/British enjoyed two periods of occupation, the first during the Third Crusade under Richard I (The Lion Heart) when Richard used Cyprus as a forward operating base or staging post from which to launch his campaign into the Holy Land. The second was from the mid 19th Century after the collapse of the Ottoman Empire, right through until Cypriot Independence in 1960. This was predominantly during the "Days of Empire" when once again, the value of Cyprus as a strategic "launching platform" into the Middle East and North Africa was evident and latterly, it covered the approaches to the northern end of the Suez Canal which was vital to global sea movement. Cyprus to this day still remains a vital strategic outpost for a number of nations, not least of which is still the UK which retains two Sovereign Base Areas (SBAs) on the island as one of the three "Guarantor Powers" which along with Greece and Turkey, assure the international legality and rights of Cypriot Independence.

Multiple and concurrent occupations and mixed populations have created their own problems even before Cypriot Independence. The EOKA campaign which started in the mid 1950s through until the early 1960s, initiated terrorist acts against British Colonialism which were also used as a guise to carry out atrocities against the ethnically diverse populations in and around Nicosia. As a result the United Nations deployed a small Peace Monitoring Mission in 1962 to oversee the early stages of Independence and assure the safety of the mixed population. EOKA B were Pro Enosis (full union with Greece) and were not supported by the population at large. Their campaign arose in the 1970s as a result of the outstanding issues surrounding Independence and against the policies of the then Cypriot Government. Supported by the Military Junta in Greece, they tried to initiate a "coup de tat" which failed and resulted in the Turkish invasion of Cyprus in 1974. Having taken over 3% of the northern part of the island, a ceasefire was declared in August 1974 and a United Nations Force was deployed to Cyprus to maintain peace. The Turks deployed a "Standing Force" to the island, ejected over 60,000 Cypriots of Greek antecedence from the North and set up a guarded border to protect the Turkish population which still exists today. The ceasefire line became known as the "Green Line" and is manned by a standing United Nations Force which remains on this "divided" island paradise.

A LITTLE GEOGRAPHY AND CLIMATE

Cyprus is not a large island by any means and you can drive from the East to West in about 3-4 hours and North to South in about 2 hours. The island has an almost "lunar landscape" feel about it in parts with small coastal hills to the West and North, and plains to the East and up the central corridor from Larnaca to Nicosia. The island is overshadowed by a central mountain range called the Troodos Mountains which rise to almost 2,000 metres (Mount Olympus – yes Home of the Gods) and can be seen from almost everywhere on the island. The coastal geography of Cyprus has been shaped by the sea and its position in the Mediterranean. There are not many sandy beaches, most are gravel and stone beaches and a sizeable portion of the coastline is made up of cliffs and rocky bays.

Temperatures are very mild, although it can get cold in winter (relatively speaking); Troodos often sees annual snowfall in January and February and there is even a small (very small) skiing area. The position of the island makes it extremely susceptible to many weather patterns originating in North Africa, the Eastern Mediterranean (Egypt) and the Middle East. As a result, they do experience Scirrocos, mild sand/dust storms and Shamals which are entirely predictable and linked to annual weather in these areas.

Cyprus is surrounded by the warm waters of the Mediterranean Sea where sea temperatures can range from a balmy 28-29°C in the summer to 16°C in the winter. During the winter, it is not uncommon for water temperatures to be much higher than the air temperature, making post dive changing a must. There are also multiple thermoclines, some of which can be "chilly" if you are summer diving in a "shortie", but which can also be somewhat refreshing and invigorating during the periods of high humidity.

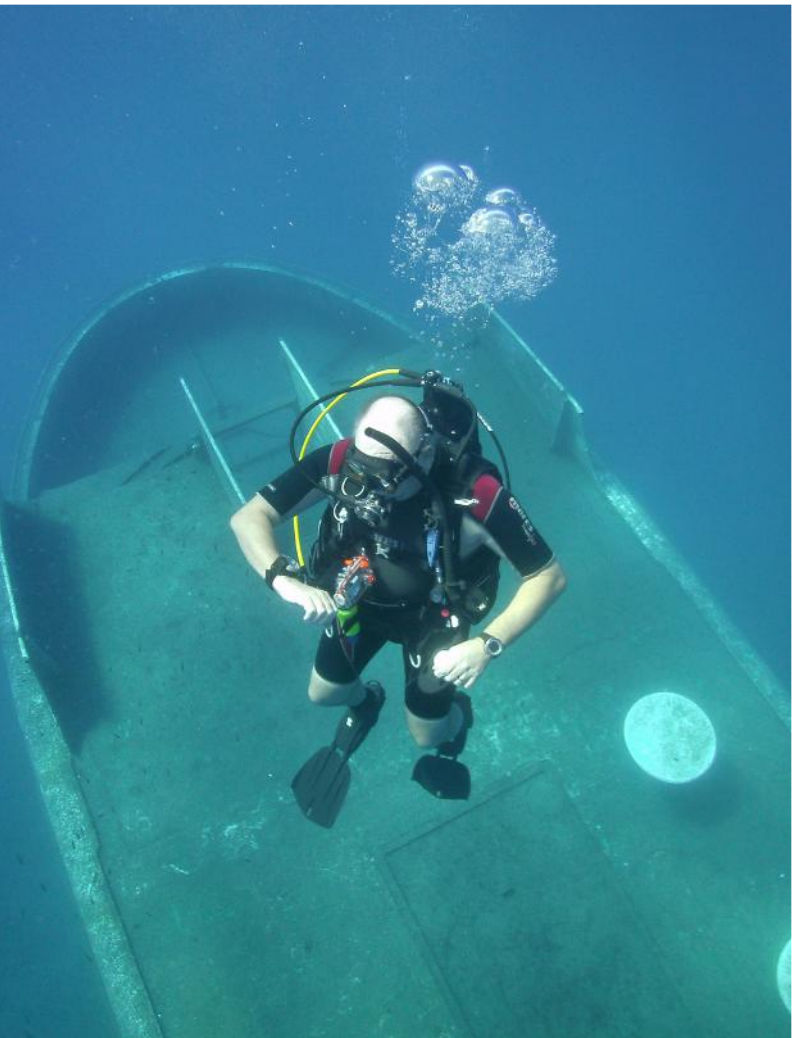
A LITTLE MARINE NATURE

The propensity and variety of sea life in and around Cyprus varies greatly depending on where you are. Cypriot appetites for all manner of living things is huge (the Mezze) and so much local sea life has been largely "fished out", apart from a few enclaves where they still thrive and are protected either by topography, local fishing restrictions or the locals do not know about them. Life is beginning to return slowly and as the Mediterranean begins to "warm up", we are beginning to see more unusual marine species not normally associated with this part of the world, which appear to be migrating and "filling the biological gap". Turtles are also making a come back and settling into a few of the coastal areas and some of the larger species such as Barracuda, Tuna and large Wrasse are also beginning to return to the shallower waters. The rocky coastline, local reefs and sea grass expanses continues to provide a safe haven for Octopus, Squid and Cuttlefish, as well as a variety of crustaceans and eels.

Being an island and a holiday destination, Cyprus has realised the importance of the sea to tourism and especially "activity based" tourism such a scuba diving. There is a growing conservation and marine management movement headed up mainly by the island's scuba diving community which is coordinating the establishment of artificial reefs around the island in order to create safe havens and new eco systems for the entire spectrum of indigenous marine life. These new reefs are strictly "out of bounds" to all classifications of fishermen until they are well established and the populations of sea life verified as being sustainable.

SCUBA DIVING IN CYPRUS

Well the one thing that Cyprus has, like much of the Mediterranean, is visibility which can reach up to 30-40 metres in the summer and at its worst, 15 metres (who would complain if they were visiting from the UAE where visibility can be 2 metres!) The diving varies greatly depending on which part of the island you want to visit and dive as the local geology both on land and in the sea has shaped the dive sites. With not too much sea life to see, most divers are interested in the geology and topography of the island, as well as the archeology, much of which is underwater. In addition there are an expanding number of wrecks being established, fortunately as part of a planned conservation and marine management programme and not as a result of a catastrophe or disaster.



There are Dive Centres aplenty, especially in the South which is where most tourists venture and you can really take your pick depending on which area of the island you decide to base yourself. All will offer diving to the main marine attractions wherever you are staying. Diving is not cheap and a couple of dives on the island's main diving attraction, the Zenobia can set you back between Euros 100-140. Shore diving is definitely a good option in Cyprus and there are some excellent sites all around the island offering interesting and varied dive profiles and experiences, enough to satisfy those with interests in topography to archeology or biology. It is also a lot cheaper than venturing out to the many wrecks which require the not inexpensive services of a boat.

Diving in the North of the island is almost all boat diving as the local topography does not provide for as varied a coastline as in the South. Dive Centres here are not so abundant and tend to be based upon the small number hotel and resort complexes which stretch from Kyrenia eastwards up towards the Karpas (the pan handle in the North East of the island) which is not so populated.

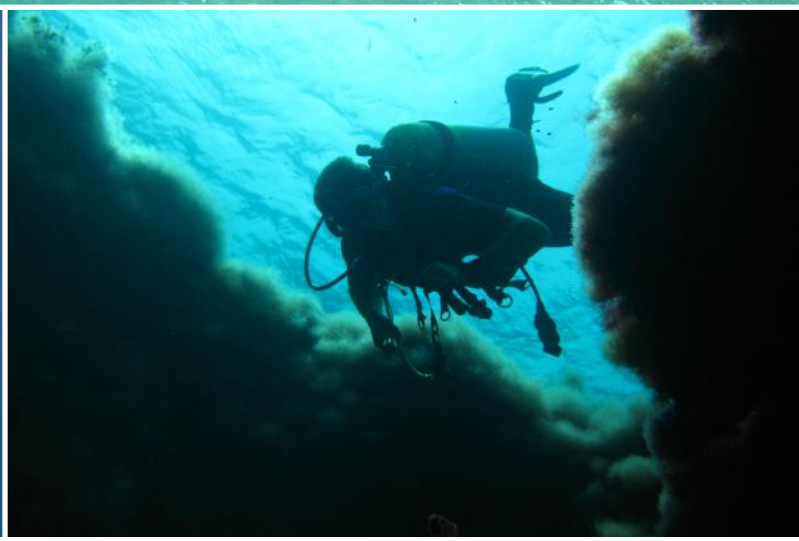
We would certainly recommend booking your diving well in advance to ensure that you get to dive where you want and when you want – it can be extremely busy during the summer months. If you can, base your diving on one Dive Centre and arranging a multiple dive package – this does work out to be much more cost effective. We decided on Dragon Divers in Protaras, (South East) mainly because we had carried out most of our early dive training with the owner Mick Smith, his safety and standards are of the highest order, he is also very competitive pricewise and always lives up to his company credo of "Putting the Fun back into Diving". Every dive was an absolute "hoot" and we never stopped laughing.

DIVE SITES

Almost all the Dive Centres have a detailed listing of dive sites which you can read about online, but here are a few "special ones" which I have picked out mainly because they are our personal favourites:

WRECK NUTS

For those scuba divers who are into "iron and



steel work", Cyprus has a lot to offer, especially around the south of the island with some very recent additions to the "wreck profile".

LARNACA WRECKS (SOUTH CENTRAL)

There are a few wrecks in and around the Larnaca Area which are definitely worth a visit or two if you are venturing to Cyprus on a diving holiday, or even a "balanced" holiday (a bit of diving, a bit of relaxation, a bit of sightseeing).

ZENOBIA: Widely recognized as one of the "Top Ten" wreck dives in the world, she is (or was) a RORO Ferry (Roll On Roll Off) built in Sweden in 1979 which sank in 1980 on its maiden voyage after a problem with her computerised ballasting system during the transit to Larnaca. Left at anchor a mere 1,500 metres from the shore Zenobia slipped beneath the waves on 7 June 1980 with no loss of life apart from sheep! At 178 metres long and 28 metres in the beam, she is a big ship that was loaded with 104 Trucks, carrying freight as well as other vehicles and cargo. Zenobia is a fantastic dive, lying on a sandy bottom at 42 metres on her port side at 60° to the vertical. Her starboard side is only 16 metres from the surface and so within recreational limits, even for entry level divers. There is much to see, even on the outside and a short sojourn into the bridge and cafeteria which have alternate exit points is also worthwhile. You will never get enough dives on this wreck in a single holiday to be able to see it all! The wreck and the dangers are not to be underestimated, especially if you intend to penetrate the hull beyond natural light and especially into the engine room and lower holds. A Night Dive on the Zenobia is truly an incredible experience not to be missed, especially when the visibility is good – you will never experience anything like it anywhere else. Do not however, succumb to the lure of diving beyond your training and experience, seven lives have been lost since Zenobia sank, as well as a quite few "scares" for some divers!

ALEXANDRIA: Alexandria is a small fishing boat about 35 metres in length lying upright on the sandy seabed at about 36 metres fully intact. She is only about 1km way from the Zenobia and so is a good second or alternate dive. Sunk deliberately as part of

the reef project, she is beginning to develop encrustation and hard and soft corals. Limited penetration is possible, but given the depth and dive profile, this little wreck is more than enough to see on a single dive.

HMS CRICKET: An old British "Aphis Class" Gunboat which having survived two world wars was eventually used as target practise by the Royal Air Force after World War II and sunk in 1947. Lying in about 33 metres on a sandy bottom, she is upside down and partially broken, but at 80 metres long and 12 metres in the beam, she is a good dive. It is possible to dive under the wreck and into the hull to see the engines and interior workings. Well encrusted with hard and soft corals she is a haven for all kinds of local sea life which uses the wreck as shelter from local fishermen.

LIMMASSOL WRECKS (SOUTH CENTRAL)

The Constandis and the Lady Thetis are very new additions to the "metal work" around Cyprus, having only been sunk in early 2014. Both lie upright on a sandy bottom about 400 metres from shore in about 20 metres of water and about 300 metres apart. Lady Thetis is a trawler which was converted to a pleasure craft whilst the Constandis was a straight trawler. Both have been prepared for deliberate sinking and almost all hazards removed so that natural light is showing through all penetration areas. Lady Thetis did a bit of a "nose dive" during her sinking and so has built up a bit of "bow wave" of sand and silt which is gradually dissipating with time. Both are easily penetrable and will, with time, develop into outstanding wreck dives.

PROTARAS AND PARALIMNI WRECKS (SOUTH EAST)

Protaras now boasts it own wrecks in the form of the Liberty and Nemesis III both of which were sunk as part of the reef project. Both lie in about 25-28 metres, about a 5 minute boat ride from the Gold Coast and about 150 metres apart. Liberty is a fully stripped out small cargo vessel which was sunk in 2009 and is worth the first 5-7 minutes of your dive. Nemesis III, sunk in 2013 is much more interesting and can be reached on the same dive in about 5 minutes via a "Statue of Christ" which marks the "way point" between the two wrecks. Again, you will really have to go and see for yourself how they have laid down these two wrecks.

PAPHOS WRECKS (SOUTH WEST)

Not to be outdone, Paphos also boasts a couple of wrecks, unfortunately these were not sunk deliberately. The Achilles which sank in a storm having turned turtle, lies in only 11 metres, but the wreck is strewn over a 300 metre radius as she broke up. It is possible to dive around, under and in the wreck. The Vera K was a Turkish freighter that struck a reef and ended up sinking in a small hollow within the reef, now making the wreck part of the reef.

REEFS AND WALLS

Given that the sea life is not as abundant as it has once been, the main reason for diving around the coastal areas is the unique and interesting geology features, topography and historic relics which lie at various sites around the island. Almost all the shore dive sites are a relatively easy entry and exit, although one or two offer an interesting and challenging pre or post dive or both!

THE TUNNELS AND CAVES (CAVO GRECKO)

Entry is from a ledge cut into a small cliff with easy access down to the water – giant stride or an "unceremonious or undignified fall in" will do. There are lots of swim thrus on this dive site which hide a few interesting features and sea life, and will certainly test your buoyancy and manual articulation as you weave your way through and over the reef. However, it is the exit that is the greatest fun – essentially you swim into a cave, stand on a small rock, take your fins off and exit through a blowhole about 7 metres from the water's edge. The hole is quite large and most can haul themselves out without assistance, but others (with short legs) need a bit of a helping hand or two. Lots to see and take in on this dive and definitely worth a try, especially when you get to see the odd stingray and turtle hovering around!

THE CANYON (CAVO GRECKO)

This is definitely an energetic entry and exit having to haul the scuba gear from the nearest car park over some rocks down to a metal ladder which leads to a large ledge from where you enter and exit the water. The Dive site is varied and interesting and can take you down to 30 metres and a sandy bottom. Sea life is scarce but it is one of those sites that always produces a surprise in the form of turtles, cuttlefish, octopus or rays. However, when you exit you then have to "hump" the scuba equipment back up the ladder, over the rocks and to the car park! To avoid over exertion, only one dive is recommended here, with your second dive at one of the easier dive sites.

GREEN BAY (PROTARAS)

Perhaps the most perfect natural dive training facility I have ever seen, offering confined water (controlled environment for the instructors amongst us) and open water options. Any Dive Instructor could not have designed a facility better even if they were building their own. A simple walk in walk out on a shingle bottom; shallow out to about 50 metres before dropping down to 8 metres and then to a maximum of 12 metres. Fish Plateau and the Statues are features of this dive site as well as being an outstanding venue for a night dive offering relatively easy navigation – Octopus, Squid, Cuttlefish, curious Pipefish and Sand Eels – guaranteed! A great place for a check dive or for those who want to gain confidence before tackling the "Mighty Zen".

THE AMPHITHEATRE (PAPHOS)

A site to the north of Coral Bay with reasonably good access and an entry from a ledge using a giant stride into 3 metres. The fascinating feature of this dive is what appears to be an amphitheatre at 9 metres which is actually a natural geological feature. The water is so clear that you can watch the waves crash above you, offering a fantastic light show. Swim along an 8 metre wall and explore the various overhangs this site has to offer. Look out for Octopus, Moray Eels, Sand Eels, small Grouper, Pipefish and Trumpet Fish.

BUBBLES (PAPHOS)

This is a short boat trip from Paphos (which "bumps up" the costs a bit) and is a little like

the Tunnels and Caves at Cavo Grecko. This site is littered with small overhangs, swim thrus and caves and called Bubbles because of the exhaled air which constantly filters through the rock formations from the multitude of divers who visit the site. It is a nice easy relaxed dive for the less experienced diver and a calming dive after previous ones.

SEAL SNOUT (ST GEORGES ISLAND – POLIS)

Located overlooking St Georges Island near Laatchi and Polis on the Northwestern most part of Southern Cyprus, this shore dive offers a little added excitement. Start the dive from a partially submerged cavern and exit under water. This beautiful dive offers caverns, swim thrus and a variety of marine life ranging from a variety of small crustaceans to Octopus and Squid, Morays, Rays and even the odd Turtle.

There are lots and lots of varied dive sites to occupy even the most avid, enthusiastic, committed or overzealous scuba diver, just take your pick and plan. Weather can be a factor but that will depend on when you visit, generally there should be little problem with shore dives.

GETTING THERE

Getting there could not be easier, provided you want to visit and dive in the South (Republic of Cyprus). There are two main airports, Larnaca in the East and Pahos in the West – Nicosia International Airport has been closed since 1974 as it sits in the Green Zone! Flights are generally direct and it is probably easier to fly into Larnaca which is about 3½ hours from Abu Dhabi. In the South car hire is plentiful but does vary in price greatly so shop around. Similarly, accommodation types and costs vary greatly depending on whether you want a hotel or self catering. As tourism is the major attraction and source of income on the island, when you visit take into consideration if you want to keep costs down i.e. high and low season.

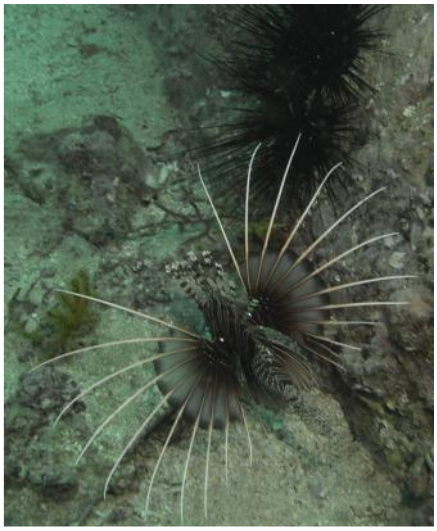
If you want to stay and dive in the North, you can still fly into Larnaca, but it is a little more complicated. You will have to pick up a hire car, pay the additional insurances costs to drive in the North "in cash" at the Border and it is not cheap. Get some Turkish Lira and then find one of the Border Crossings or you can fly via Izmir or Istanbul into Ercan Airport which in North of Nicosia in the Turkish Republic of North Cyprus (TRNC) – Not heard of it? Not surprised, it is only recognized as an independent state by Turkey. Accommodation is not quite as plentiful as the South, but neither is the availability of diving, so shop around.

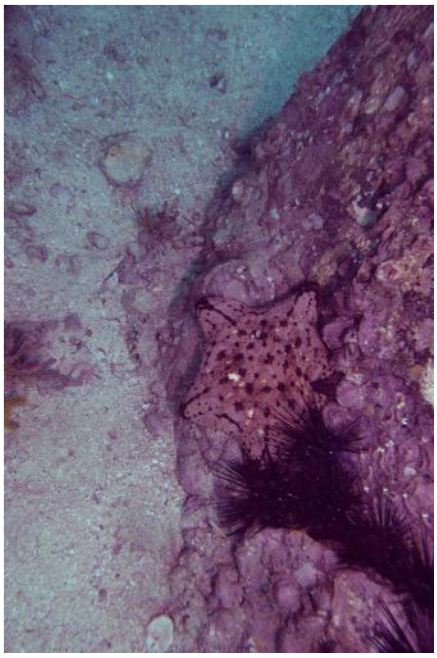
Well is Cyprus worth a visit? We would say a definite yes, whether you are a scuba diver or not, the island has much to offer in terms of culture, architecture, history and just downright fun. Provided you plan well, you can "mix and match" your visit to take in a "little bit of everything" and the best that Cyprus has to offer. The wrecks are definitely worth a visit and at least a of couple dives on the "Mighty Zen" is a must, whatever your level of qualification – the size of this behemoth is overwhelming and on clear days, you can get a true perspective as you see the wreck stretching out below you as you carry out a free descent almost like parachuting.

"Always Keeping the Fun in Diving"

LET'S ENJOY A MARTINI (ON THE) ROCK

FEATURE AND PHOTOGRAPHY **NICO DE CORATO – ADMINISTRATOR OF DUBAIBLOG**





EQUIPMENT | Nikon D3200, Lens 18-55mm, underwater housing and lights by NiMAR

This year I decided to spend an unconventional Christmas, giving me the opportunity to experience some of the most beautiful dive sites in the UAE. Despite its long coastline, the United Arab Emirates (UAE) has only recently started to attract dive travelers. Encompassing the tip of the Arabian Peninsula, which separates the Persian Gulf from the Gulf of Oman, the UAE – especially Dubai – has long been known as a retail-therapy and duty-free destination, rather than a sporting attraction.

The sea around Dubai has an average depth of 10-20 meters off the coast, while along the coast, the depth varies between 3 and 10 meters, with a mostly sandy bottom; not the best conditions for a beautiful dive. But within a two hour drive, you can reach several regions to dive along the east coast as well as the Gulf of Oman. Popular areas include Fujairah, Khorfakkan and Musandam along the Gulf of Oman and Dubai, Sharjah and Abu Dhabi along the Persian or Arabian Gulf. On the east coast of the country, the shorelines and reefs are virtually untouched – revealing land that would look unchanged and familiar to ancient seafarers.

Martini Rock and Shark Island, often dived as a pair, lie 25 minutes by boat south of Al Aqah, In Khor Fakkan. The was my Christmas gift.

MARTINI ROCK

Location: 25°20'05"N; 56°22'53"E
(Al Fujayrah, Indian Ocean side of the United Arab Emirates)
Description: Large rock formation close to shore
Depth: 3-22 metres (10-72 feet)
Visibility: 5-15 metres (15-50 feet)

A pleasing and colorful site that makes you feel like you're diving in an aquarium. Martini Rock is a small submerged coral outcrop, the top of which is visible from the surface at 3 meters. The variety of fish life is excellent and the top 5 meters is like an aquarium: schools of snapper, fusiliers, anthias, triggerfish and large-mouth mackerel are present most of the year. Lovely rich orange soft coral everywhere and some deep purple and bright yellow soft coral as well. Every other metre you see something interesting, starting with cuttlefish on the sand, nudibranchs, lionfish, scorpionfish, puffer and burrfish, snapper, broomtail wrasse, and geometric and yellow-margined morays. You should be able to dive all around the rock (which is supposed to look like a martini glass on its side) in one dive, starting off at about 12 metres, moving to 20 and then going back to shallower depth again.

SHARK ISLAND

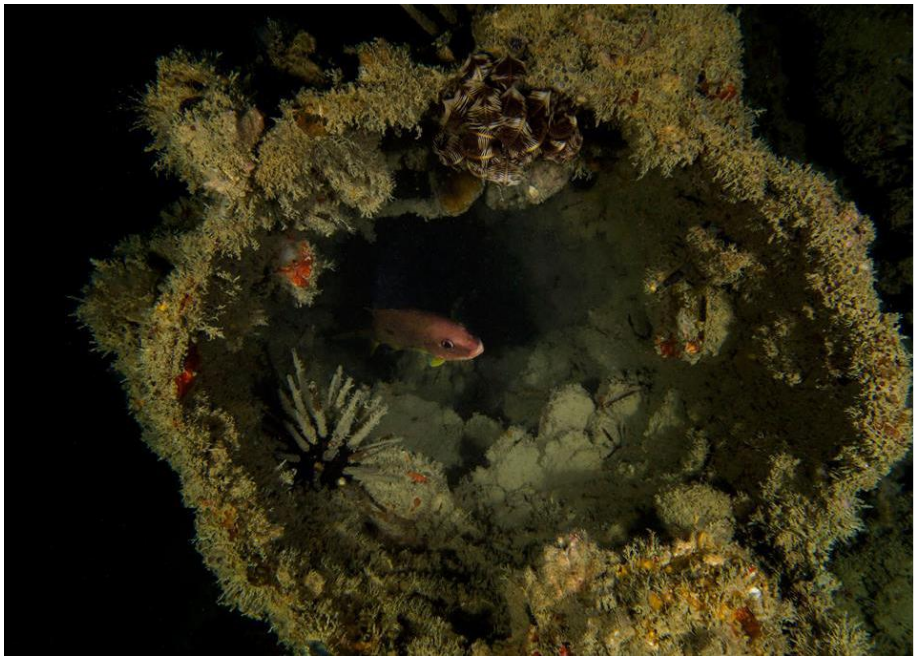
(also known as Khor Fakkan Island)
Location: 25°21'12"N; 56°22'36.2"E
Description: Large rock formation
Depth: 16 metres (55 feet)
Visibility: 5-15 metres (15-50 feet)

Shark Island is one of the deeper sites on the east coast, bottoming out at around 16 metres. Marine life here includes much of the same species as Martini Rock, due to their close proximity to each other. The west side of the island provides an excellent shallow area for snorkelling. Visibility is regularly very good and the coral life forms are very colourful. Cowtail rays have also been seen inhabiting both the deeper and shallower waters around the island.

During the second dive of the day, we got to meet a huge sea turtle, very close to us. As the name suggests, this place is favorable for spotting certain types of sharks, especially black tips. There are also numerous anemones, natural homes to the clownfish (Nemo…just to be clear).

THE SINKING OF THE AJMAN GLORY

FEATURE AND PHOTOGRAPHY **FREESTYLE DIVERS**



THE DOLLARD

The Ajman Glory was a cargo ship originally named The Dollard, 55 metres, 497 gross tons, built in the Netherlands in 1957.

On the 28th August 1989 the ship left Hamriyah Port, Sharjah, to travel to Bandar Abbas in Iran carrying a cargo of toxic and inflammable chemicals.

Approximately 15 kilometers off the coast of Umm Al Quwain the crew abandoned the vessel whilst she was still afloat. Shortly afterwards, the vessel sank. The reason for the vessel going down is not known; the weather was recorded as being calm on the day. It's also believed the vessel could have drifted some distance before it went down.

The wreck of the vessel remained a mystery until 2003 when it was discovered by Chris Lobel, a diver from the Desert Sport Diving club (BSAC 1339) in Dubai. Chris and a team of divers searched for the wreck on co-ordinates given to him by fishermen. Chris took some notes and a sketch which were kept at the Dubai club.

For many years efforts were made by divers but unfortunately no one was able to locate the wreck.

In 2009, 10 years after Chris first discovered the wreck, he and a team of divers from BSAC 1339 spent 3 hours searching in vain.

However, the Ajman Glory was not forgotten. In 2012 a group of divers from the World Sea divers were diving a wreck in the same area. They were not aware of Chris Lobel's prior discovery of the wreck in 2003, the wreck they found, they named the Mullah.

The divers gave their co-ordinates of the Mullah to The Sharjah Wanderers Diving Club (BSAC 406).

Now that they had some specific and checkable information, the divers from BSAC 406 returned to the wreck several times to make further investigations. The team which included Ian Hussey and Brian Lugg, (a member from the Desert Sports Diving Club) realized that it was possible the two ships might be one and the same.

When two former members of the club were able to send photographs and information which resembled the Mullah wreck, Ian was confident that the Ajman Glory had finally been found.

Final confirmation was made when BSAC 406 recorded a video and a visual inspection of the wreck. All this information was sent to Nelson McEachan at the UK Hydrographic office for final verification. Mr McEachan agreed that this was the long lost Ajman Glory.

The Ajman Glory lies off the coast of Umm Al Quwain in 28m of water to the highest point of the wreck.

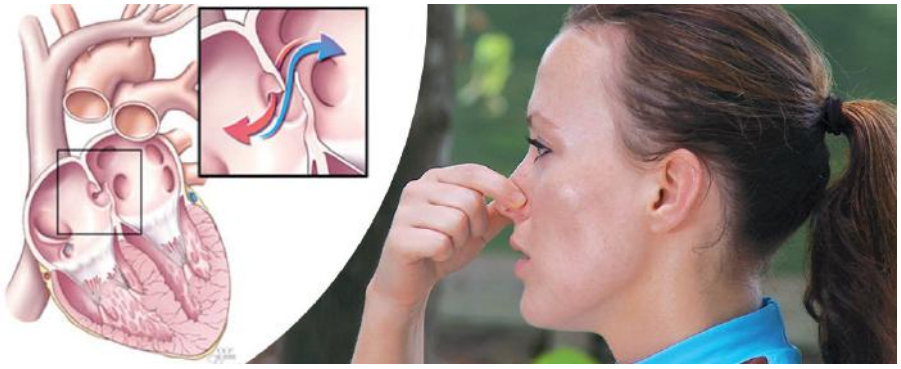
It is upright with the bow pointing in a northerly direction. The masts are horizontal and have possibly been knocked by a passing ship. Apart from this, the ship is still intact. There is no sign of the cargo on the wreck and the vessel offers no physical clues as to why it went down.

The hull is heavily encrusted and teeming with marine life.

A HEART UNDER PRESSURE

IMPLICATIONS OF THE VALSALVA MANEUVER FOR DIVERS WITH PFO

FEATURE **JOLIEN SPOORMANS** PHOTOGRAPHY **DIVERS ALERT NETWORK EUROPE**



Diving is a very relaxing but also physically demanding hobby and descending several meters underneath the water's surface, means exposing the body to the pressure of the great quantity of water above the diver. That is why divers are being taught exercises to help their bodies adapt to the pressure changes and to equalise the pressure in the middle ears with the ambient pressure underwater. These maneuvers start a chain of internal pressure changes, allowing your body to accustomise itself to the new environment. However, what happens if there is a small defect in your body, let's say in the heart, causing a disruption in the chain of your body's automatic adjustments? What could be the implications of a defect in the heart, so small that in normal circumstances it would pass by unnoticed, but when put under pressure in diving, may cause serious risks? I am talking about a Patent Foramen Ovale (PFO), a small opening in the interatrial wall/septum seperating the two upper heart chambers and the health concerns it may create for a diver.

Scientific studies have shown that the Valsalva maneuver, performed by using your hand to block your nostrils and trying to exhale against a closed mouth and nose, sets a series of pressure changes in your body in motion. The Valsalva maneuver starts with inhaling deeply, decreasing the pressure in the pleural cavity between the lungs (intrathoracic pressure). Sequently, you exhale against the resistance of a tapped nose and mouth for several seconds. The strain of this maneuver causes a high intrathoracic pressure. The pressure in the thorax hardly allows the blood to flow into the heart during a time-lapse of some seconds. Finally, the release of the Valsalva maneuver leads to a fall in pressure in the thorax and the blood, that during the strain could not flow into the heart, is now pooled out into the right upper chamber. This rebound of blood loading, increases pressure in the right part of the heart in expense of the left and pushes against the wall dividing the two heart chambers, causing a leftward bulging of the interarterial wall. In case of a Patent Foramen Ovale, a trans-esophageal echocardiography showed that this pressure reversal from the left to the right chamber, creates a marked opening of a PFO.

A PFO is a rather common phenomenon and many divers may have an opening in the atrial septum (the internal wall) without even knowing it. As the Valsalva maneuver is used in diving and other maneuvers to equalise, it may have a similar pressuring effect on the heart. DAN Europe realized the need to study if these maneuvers can cause the same internal pressure changes and have the same effect on a diver's PFO. DAN did a research study on sixteen experienced divers, 4 females and 12 males, age ranging between 22 and 39 years. The divers were asked to do the following maneuvers used in diving: Control, Gentle Valsalva, Forced Valsalva, Calibrated Valsalva, Cough, Knee Bend with Valsalva, Free-breathing Knee Bend, and Final Isometric Contraction. The researchers analysed the level of intrathoracic pressure caused by the exercises and the measured values were compared to the original pressure value. In this way, it could be calculated whether a maneuver caused a rise or fall in intrathoracic pressure. The gathered data of each maneuver were compared to one another. The results of the study showed that the Valsalva maneuver used in diving and other usual maneuvers for equalisation, only cause a slight increase in intrathoracic pressure. It is unlikely that these small changes in pressure cause a major blood shift through a PFO. On the contrary, if a Valsalva maneuver is forced, meaning using the abdominal muscles, DAN researchers found that it caused pressure changes in the right part of the heart, large enough to allow significant blood flow through the PFO.

As said earlier, such an opening in the heart atrial septum is not uncommon and people do straining exercises that causes blood to flow through the opening from the right upper chamber into the left, on the daily. So how come a PFO only becomes truly dangerous when diving? The reason is because it allows bubbles to travel! The blood containing these bubbles, which were created during the dive, passes through the right upper heart chamber and the blood will normally be sent to the lungs, where the bubbles are captured and the nitrogen is exhaled. Now, when the blood shifts through the PFO from the right upper chamber to the left upper chamber, the nitrogen bubbles can flow from the right part of the heart to the left part. The left upper chamber will send the blood with the bubbles back into circulation and these bubbles will thus remain longer in the blood flow, creating a risk for nitrogen gas emboli. DAN encountered cases where older and experienced divers, who never had any problems while diving, suffered unexplained Decompression Sickness after a dive, even though they had followed all diving safety rules. In many of these cases, on a trans-esophageal echocardiography, a large PFO could be detected.

DAN's research study showed that the "forced" Valsalva Maneuver caused a rise in intrathoracic pressure high enough for the rebound blood in the right chamber to cause an opening of a PFO. A diver should therefore always be taught to avoid forceful Valsalva maneuvers. The study pointed out that other, less straining equalisation maneuvers do not lead to significant changes in intrathoracic pressure and do not create a risk for divers with PFO. Special attention should be paid during dive training to rely on these maneuvers, that only use jaw and throat and not the abdominal muscles, for equalisation. As a direct result from this study, the advice from DAN researchers to divers with a PFO is to never perform maneuvers that increase the intrathoracic pressure while ascending. It is also recommended not to do abdominal straining exercises, such as climbing the ladder with the gear still on or inflating orally the BCD on surface, or strenuous leg or arm exercises after a dive. Silent bubbles can be present in the veins until two hours after a dive and these activities, using the abdominal muscles, will put pressure on the heart, opening the PFO and allowing the blood to flow in the wrong direction, carrying travelling bubbles around. So after a dive, just relax and don't put your heart under pressure!

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ASSESSING BASIC VITAL SIGNS

ARE YOU READY TO HELP YOUR BUDDY?

FEATURE **BRIAN HARPER, EMT, DMT** PHOTOGRAPHY **DIVERS ALERT NETWORK EUROPE**

Assessing vital signs ("vitals") is a key component of good first aid. It consists of taking a series of simple measurements that provide data about a body's functioning. These measurements can help reveal how sick or hurt a patient is and when taken over time, whether he is getting better or worse. While the full meaning of these measurements might elude the lay provider, a carefully documented series of vitals can be very helpful to the health-care professionals who will eventually take over the care of an injured person.

Vital signs can be helpful even to first aid providers with limited medical training. Sets of vitals that are outside normal ranges typically indicate the need for some treatment or possible evacuation to a higher level of care. As an example: Anxiety, elevated heart rate, elevated respiratory rate and pale, cool, clammy skin may indicate shock, a potentially life-threatening medical condition. Shock is relatively easy to address, but it can go unnoticed if vitals aren't monitored. Vital signs that move increasingly further from their normal range over time may indicate an even more urgent need for evacuation.

TIME

To organize and keep track of your measurements, it is very important to document the time of day along with each set of vital signs. This allows you (or a subsequent caregiver) to make comparisons between sets of vitals and observe trends in the patient's condition. The frequency with which vitals are taken depends on the patient's condition. Seriously injured or ill patients should have their vital signs reassessed every few minutes, while hourly checks are reasonable for those who are stable.

LEVEL OF RESPONSIVENESS

An injured person's mental status, or level of responsiveness, is probably the most important vital sign. Since the brain has top priority in the body's distribution of resources, a decline in its status is especially important to recognize. To assess a patient's level of responsiveness, begin talking to the person. If the person is able to respond to you, ask him the following questions:

- What is your name?
- Where are we?
- What time is it (approximately)?
- What happened?

Answers to these four questions allow you to gauge a patient's orientation to person, place, time and event. If the patient can answer all four appropriately, he would be considered "Alert and Oriented to Person, Place, Time and Event" or, more commonly, A+Ox4 (read "A and O by four"). In addition to quantifying the patient's level of responsiveness, it's also helpful to write down a qualifying term. Helpful qualifiers include "irritable," "anxious" or "combative." Words like these help round out your description of the patient's mental status.

In the event that an injured person is awake and can respond to you but does not know the answers to any of these questions, that person can be considered alert but disoriented.

A common scale used to describe a person's mental status is the AVPU scale. AVPU is an acronym that stands for alert, verbal, painful and unresponsive. The paragraph above describes patients who have an A rating on this scale, but sometimes ill or injured people are not alert. If the person does not respond when you attempt to engage him in conversation, talk louder. In a loud voice, ask if he is OK.

If he responds to this elevation in volume, he can be considered responsive to verbal stimulation or V on the AVPU scale. The person doesn't have to respond verbally to be considered V; he may simply grimace or open his eyes, but any response to sound means he is a V. If the person does not respond to your verbal stimulus, you should assess his responsiveness to pain. It is important not to cause harm, but simply elicit a response. A good way to do this is to pinch the patient's tricep, just above the elbow. If this causes the patient to respond, by moving or groaning, for example, the patient is a P on the AVPU scale. Finally, a patient who does not respond to verbal or painful stimulation is considered unresponsive, or U, on the AVPU scale.

PULSE

A strong heartbeat is required to ensure an adequate supply of oxygenated blood to the body's tissues. To assess the pulse in an unconscious person (V, P or U on the AVPU scale), you can use the carotid artery in the neck. Place two of your fingers gently on the patient's trachea and slide them laterally. Do not reach across the trachea (use the near side) and do not try to assess on both sides of the neck at once.

You should feel the pulse in the carotid artery right next to the trachea. In a conscious patient (A on the AVPU scale), it is best to find the radial pulse on the wrist; this is less invasive.

To find the radial pulse, place two of your

fingers where the base of the patient's thumb meets his wrist. The pulse will most likely be between that spot and the most prominent tendons of the wrist.

If you are having difficulty finding the heart rate, you may be pressing too hard or not pressing hard enough. Once you locate the pulse, count the number of beats in 15 seconds. Multiply this number by four, and you'll have the patient's heart rate in beats per minute.

In addition to the rate, it's important to document the rhythm and quality of the pulse. The rhythm will be either regular or irregular, and the quality will usually be described as strong or weak. Most healthy adults have a resting heart rate of between 60 and 100 beats per minute, regular and strong. People experience a natural elevation in their heart rate when performing exercise or in stressful situations. The heart beats faster to ensure sufficient oxygenation of tissues, allowing the body to respond quickly in emergencies. A person's pulse may be elevated shortly after an emergency, but this should stabilize in people who are not seriously injured.

NOTE: ERC guidelines state that lay rescuers do not need to check the pulse but look for normal breathing when assessing an unconscious person. When there is no normal breathing lay rescuers should start CPR and use an AED.

RESPIRATION

Since the body can survive for only a few minutes without oxygen, it's important to check the function of the respiratory system. If a person knows you are trying to count his respirations, he will probably change his rate of breathing and skew your measurement. To get around this, transition smoothly to counting respirations as soon as you are finished checking the pulse. Once you have counted the heart rate, shift your focus to the breathing. Leave your fingers on his wrist, but watch for his chest to rise. If you're unable to detect respirations by watching the chest, it might be helpful to watch the abdomen or the shoulders instead. Folds of the patient's clothing might also aid your observation of respirations.

Since respirations are less frequent than heartbeats, count respirations for 30 seconds, then double the number to achieve an accurate result. As with pulse, measuring the rhythm and quality of respirations is important. Rhythm will be either regular or irregular. Words like "unlabored," "gasping," "wheezing" or "labored" are used to describe the quality of respirations. An adult at rest typically breathes between 12 and 18 times per minute, regular and unlabored.

SKIN

Skin is the body's largest organ and it can be an excellent window into the body's functioning. If the skin is pale, cool and clammy, this is a sign that the body's resources (i.e., blood) are being diverted to more vital organs. When assessing the skin, you should take note of three different characteristics: color, temperature and moisture.

Skin color, of course, varies widely among individuals, but there are non-pigmented areas of the body where all humans are pink. The most accessible of these places is the inside of the bottom lip. Take a look and note whether the color is indeed pink or some other color. It might be pale if the person is cold, blue if he is hypoxic, red if he is hot or even yellow if he is suffering from some illness. Temperature and moisture of the skin are best assessed on the abdomen. These are generally more consistent there than on the hands or the face. The abdomen should be warm and dry, so if it's cool, cold, hot or moist, that is especially important to document.

Level of responsiveness, pulse, respirations and skin condition are by no means the only vital signs, but they are important and relatively easy to assess. The only equipment necessary to measure these is a watch, a pen and paper. Other vital signs include blood pressure, lung sounds, pupils and body temperature. Though training, experience or equipment may limit your ability to care for an injured buddy in a remote environment, assessing basic vitals is something just about anybody can do to help.

DAN FIRST AID TRAINING

In addition to instruction on gathering vital signs, these DAN courses also teach students how to provide necessary treatment in a variety of scenarios.

On-Site Neurological Assessment for Divers. This course teaches the basic steps of recording pulse and breathing rates. Abnormal findings may signal that the body is in distress and may benefit from immediate oxygen treatment.

Basic Life Support and First Aid. Also known as BLS, this course includes airway-management skills such as the log roll and recovery position, one-rescuer cardiopulmonary resuscitation and additional skills like caring for a choking patient, controlling bleeding and caring for a patient in shock. The first aid portion of this program includes key skills such as illness and injury assessments, bandaging and splinting skills and emergency moves.

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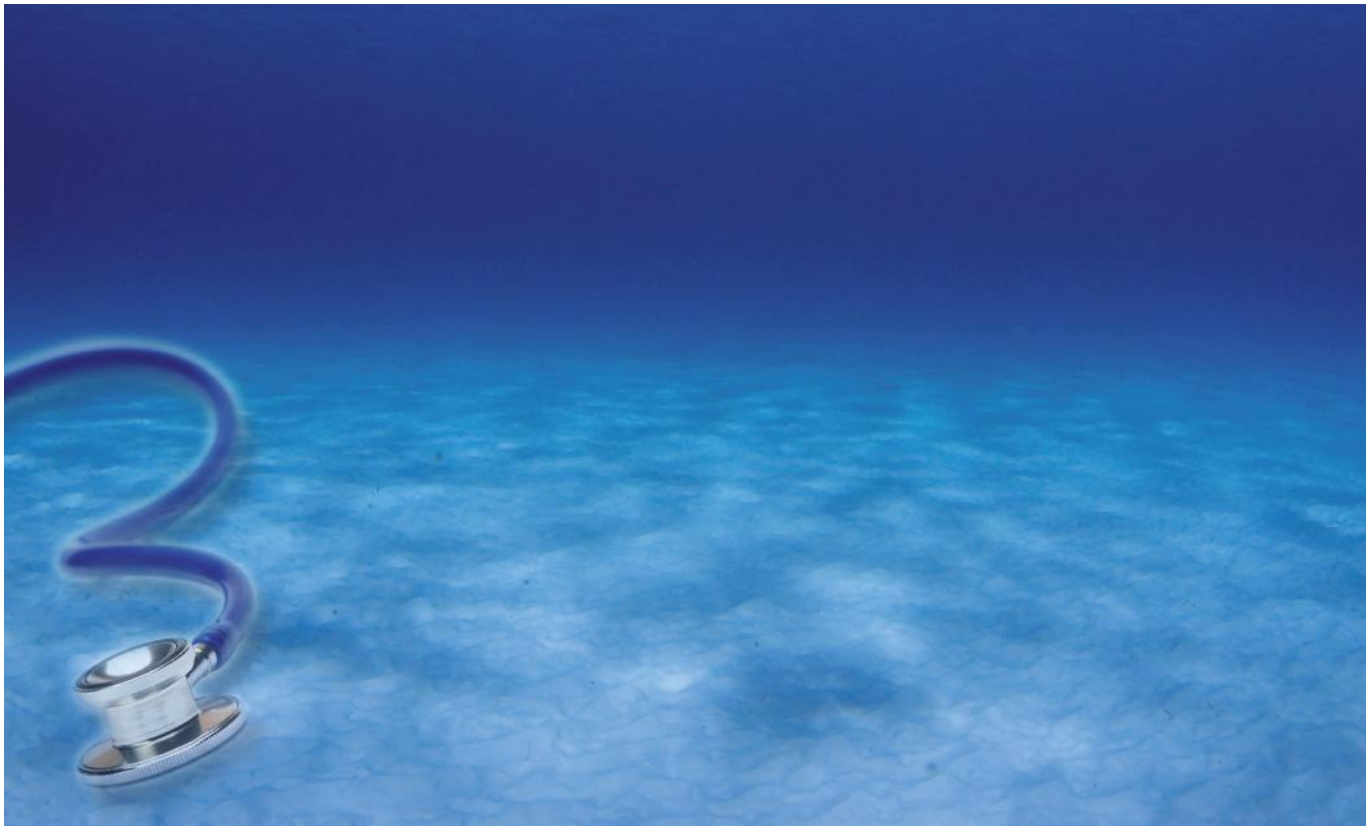
PFOANOIA

FEATURE **BARBARA KARIN VELA, MD**



A few weeks ago I went to Muscat, Oman for a Naval Medicine Conference. There was one whole day dedicated to diving and hyperbaric medicine. One of the speakers was Prof. Simon Mitchell, who used the term PFOanoia: A Scuba diver's fear of patent foramen ovale. As a part of their training, Scuba divers learn basics of diving physiology. Therefore there is some underlying knowledge and concern in the recreational diving community about the presence of patent foramen ovale (PFO) and increased risk of Decompression illness (DCI).

The foramen ovale is an opening between the right atrium and left atrium in the heart. Blood enters the heart through two large veins, emptying blood from the body into the right atrium of the heart. Than it moves to the right ventricle, than through pulmonary circulation and lungs, from where it returns to the left side of the heart: left atrium, than left ventricle and than leaves the heart via arteries and brings blood to various tissues in the body. This is the normal passage of blood in the adult.

In the developing fetus, however, the lungs are not functional. Blood, therefore, bypasses the lungs predominantly through the foramen ovale, directly from the right atrium to the left atrium. After birth, the foramen ovale closes, allowing blood to be pumped through the lungs for oxygenation.

The foramen ovale is initially closed by a "flap valve," which remains closed because the pressure in the left atrium is slightly higher than the pressure in the right atrium. In most people, the flap valve actually seals over, and the foramen ovale completely disappears. In 25-30% of individuals however, there is an incomplete sealing of the valve. This incomplete seal is what is termed patent foramen ovale, although it remains closed because of the pressure differential between the two atria. In some circumstances, this opening allows passage of blood from right to left, when the right atrial pressure becomes higher than the left atrial pressure.

This happens sometimes after a dive. When small micro bubbles that circulate in the venous blood from the legs are exhaled in the lungs, this causes a retrograde pressure rise to the right ventricle of the heart, which in turn causes a pressure rise in the right atrium. This pressure rise may be sufficient to cause bubbles to pass to the left (arterial) circulation and cause decompression illness (DCI). PFO has been found in many divers with DCI "of no apparent cause". This could mean that PFO is a cause of undeserved DCI, or at least one of the causes.

There is an agreement that PFO screening should not be done routinely on all divers; however, when to screen selected divers is not clear. Venous bubbles after diving and right to left shunts are common, but DCI is rare. Why this is the case is not clear, but the divers look to doctors for guidance on PFO screenings and closure; both of which are not without risks.

Even when performing dives, which are inside acceptable and safe decompression algorithms, venous bubbles are very common, and the Divers Alert Network states that: while 20-30 percent of divers might be expected to have a PFO, decompression illness (DCI) in recreational divers occurs after only 0.005-0.08 percent of dives, clearly much lower than the one in five or six that might be expected if every diver with a PFO and venous bubbles developed DCI. Based on current experience, the estimated risk of a DCI incident characteristic of those correlated with PFO is between 0.002-0.03 percent of dives.

Dr. Karin Vela is a Diving Medicine physician EDTC/ECHM IIa and is working in the Dubai London Specialty Hospital.

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MISSION STATEMENT

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

LEGISLATION

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

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

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Emirates Diving Association
Heritage & Diving Village
Shindagha Area
P.O. Box 33220
Dubai, UAE

Tel: +971 4 393 9390
Fax: +971 4 393 9391
Email: diving@emiratesdiving.com, projects@emiratesdiving.com
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