Inspiring People to Care for our Oceans Since 1995

DIVERS FOR THE ENVIRONMENT

WWW.EMIRATESDIVING.COM | MAGAZINE | JUNE 2025 | VOLUME 21 | ISSUE 2

DIGITAL ONLINE

THE UNDERWATER PHOTOGRAPHY & FILM COMPETITION

2025 RESULTS ARE IN

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UNITED ARAB EMIRATES

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جمعية الإمارات للغوص
Emirates Diving Association

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EDA IS A NON-PROFIT NGO ACCREDITED BY UNEP AS AN INTERNATIONAL ENVIRONMENTAL ORGANISATION

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's. The magazine is 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 released in September 2025. Send your articles, feedback or comments to: magazine@emiratesdiving.com

COVER

PHOTO BY PHILIPPE LECOMTE
Digital Online 1st Place Winner for Best of the UAE 509 pts

DP WORLD This issue is brought to you by DP World

UNDERWATER PHOTOGRAPHY

DIVING DESTINATIONS

HEALTH & SAFETY

EDITOR & GRAPHIC DESIGNER

ALLY LANDES
Ally is EDA's Project Director, Event Planner, Graphic Designer, Editor, and Photographer. She created and introduced 'Divers for the Environment' back in December 2004 as a free educational tool to share information by scientists, conservationists, underwater photographers, and other like-minded individuals from all over the world with a passion to conserve and protect our delicate marine life and underwater world.

THE CONTRIBUTORS

Meet the quarterly contributors who share their passions and stories with our readers. Want to contribute? Email: **magazine@emiratesdiving.com**

ISHANI PILANKAR COONEY
A MOHRE-licensed private educator with a background in life and forensic sciences, she has resided in the UAE since 1995. Fascinated by microbiology, ocean science, and forensics, she explores how microbes aid ocean conservation, environmental crime investigations, and forensic analysis. Aspiring to become a technical diver, she seeks to uncover hidden microbial networks shaping marine ecosystems.

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Professionally involved in the diving industry since he started diving in the early nineties, Jesper ran a successful Scandinavian divers magazine for many years. His articles and photos have appeared in books, magazines and websites all over the world. Today he lives in Dubai, involved in marketing but finds time to teach diving to Global Underwater Explorers.

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TONY SIDGWICK
Tony is a communications professional, writer and diver based in the UAE. He began his diving journey in 2016, and is now passionate about ocean conservation, with a Reef Check certification and several ocean clean-ups under his belt.

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.

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ANTHONY LEYDET
A graduate of Marine Biology, Anthony is an underwater photographer, blogger and writer set on sharing articles and holding conferences dedicated to marine life in order to better observe nature underwater.

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EDA IS 30 YEARS OLD!


Faraj Butti Al Muhairbi


Pearl diving.

IBRAHIM AL-ZU'BI
Co-Founder

30 years ago, the late Faraj Butti Al Muhairbi (EDA's first Chairman) was a man with a vision. He believed that a small group of passionate like-minded individuals could make a difference to ocean conservation, and that their passion would inspire others to do their bit for our planet. He was right!

30 years ago, EDA had less than 10 members. Today we have had over 3,000 from all over the world over the years who believe in what we stand for and who help us keep the beaches, oceans and its inhabitants cleaner and safer. Every single one of us has made a difference over the years, and it's thanks to Faraj that we have had a platform to be able to do so. Faraj passed on the 27th of April 2015, but his legacy continues to live on through our work at EDA.

One of Faraj's happiest places was at sea where he spent the majority of his life diving, pearl diving and protecting oceans around the world. Through continuing his legacy at EDA, his life will be celebrated by us and the next generation of individuals, young and old who want to make a difference in the world.

Faraj was a dedicated pearl (as well as SCUBA) diver who had been involved with the sea for the last 70 years. His positions ranged from dhow boy, to pearling vessel captain. He started annual post pearling-era dive expeditions mostly in the western coastal areas of the Emirates where oyster beds were found in abundance despite the offshore human and industrial activities

Faraj focused his observations on the condition of oyster beds on which he was an expert. His message had always been, "If the oysters are healthy, the sea is healthy, and we are all going to feel it. If the oysters are sick, the sea is sick, and we are all going to feel it".

Faraj had enormous respect for the sea. His message and dedication will live on at EDA – may his soul rest in peace.

Not only have we just celebrated EDA's 30th year, but we have also celebrated Digital Online's Underwater Photography and Film Competition's 16th year!

A huge congratulations to all of this year's winners! We continue to see some breathtaking work in our talented ocean enthusiasts' images and videos. It's truly heartwarming to see such fantastic submissions from all the competitors, supporting our mission to reveal the underwater world we care about so deeply to audiences across the United Arab Emirates and the world. I am always so deeply grateful to our sponsors for this very special event. They never fail to provide superb prizes to reward the winners for their exceptional work. The competition could not succeed without you!

I cannot thank the judges enough who have the toughest role of all, Print Works and Giga Works who provide us with the beautiful exhibition prints each year, Deep Dive Dubai for the continuous support and venue to host these wonderful events, and the EDA team for bringing all of these events together.

Since the start of the year, we've held 7 clean-ups so far, 4 beach clean-ups and 3 underwater clean-ups which have amounted to a total of 1,540.63kg of ocean waste. Clean-ups are now on pause until the weather cools back down again from November. We will have other small upcoming activities to announce during the summer months, so keep a look out.

I do hope you enjoy reading our summer issue.

Happy reading and safe diving,

Ibrahim Al-Zu'bi

AN EDA MOVIE SCREENING
FIGHTING FOR FLORIDA

PHOTOGRAPHY BY **ALLY LANDES**

It was such a privilege to host the first ever screening of Wilson McCourtney's new documentary film, Fighting for Florida on the 6th of March for our members at Deep Dive Dubai. This inspiring film is a must watch!

The remarkable outcome of the Kristin Jacobs Ocean Conservation Act bill which was signed into law in 2020 banning the import, export, and sale of shark fins in the state of Florida was a highlight. We all have a deep connection to our marine life, motivating us more than ever after this powerful message to not despair and to drive the change we want for the future!

Here's to our natural world, fighting for its wellbeing and the preservation of biodiversity.

SYNOPSIS

Fighting for Florida is an eye-opening, environmental film that celebrates the natural beauty of Florida while promoting shark conservation and exposing the abuse of Florida's natural habitats and precious resources.

Growing up in a coastal gem like Sarasota, allowed Florida native and documentarian Wilson McCourtney to witness the ebb and flow of the tides on a molecular level. Issues that have plagued the gulf coast are completely unknown to people living in other seaside regions of the United States, proving to be hyper local issues that only affect the residents. Now that Florida has become the top growth state in America with approximately 1,000 people moving there per day, the numbers are unsustainable and with the population continuing to boom, so do the environmental issues. There is a great opportunity to create change and make Florida a shining model of conservation for the rest of the world. With such lush wetlands teaming with birds and reptiles, immense biodiversity, and an abundance of marine life, Florida attracts adventure seekers and animal enthusiasts from all corners of the globe. However, on the flip side of that coin, it is also plagued by corporate exploitation, widespread pollution, algal blooms, irresponsible fishermen, trophy hunters, shark finning, and wildlife abuse.

McCourtney illuminates the need for conservation and illustrates small changes that every Floridian family can make in order to keep Florida beautiful with thriving ecosystems that act as safe havens for the breathtaking wildlife.

WANT TO JOIN OUR EVENTS?
Acquire EDA membership, or renew it here to register to all our social events and activities:
www.emiratesdiving.com/membership-form


FIGHTING FOR FLORIDA
THE TRUTH HAS SURFACED
WARNING RED TIDE
DREAM REEF CINEMA PRESENTS A WILSON MCCOURTNEY FILM "FIGHTING FOR FLORIDA"
WRITTEN, DIRECTED, PRODUCED & EDITED BY WILSON MCCOURTNEY CINEMATOGRAPHY BY ELI MEYER, DAMIAN SANTOS, DAN FARIAS & WILSON MCCOURTNEY
STARRING RAY JUDAH, SCOTT WILSON, JIM ABERNETHY, STEFANIE BRENDL, DAVID MCGUIRE, CADE STEURMER, ELLA SAVES THE OCEAN & KRISTIN JACOBS
EXECUTIVE PRODUCER BEN LEE SOUND EDITOR CHRIS MUNYON ADDITIONAL UNDERWATER CINEMATOGRAPHY BY MIKE DORNELLAS, TANNER MANSELL & MICKEY SMITH
SPECIAL THANKS TO SHARK ALLIES, SHARK STEWARDS & SHARK ADDICTS SCORE BY MUSICBED GRAPHIC DESIGN BY EMILY BLEGVAD

A CLEANUP ARABIA EVENT
UNDERWATER CLEAN-UP AT THE DUBAI OFFSHORE SAILING CLUB

PHOTOGRAPHY BY **ALLY LANDES**

We have successfully completed another underwater clean-up! This one was hosted by our partner, the Dubai Offshore Sailing Club (DOSC) on Saturday the 19th of April in celebration of Earth Day with 33 divers and 8 surface supporters! There were unfortunately 12 no shows by members. We ask our members to please make sure to inform us as soon as they know they are no longer able to take part in these events so we can fill their places with members on the waiting list who can take their tanks and weights.

Our divers collected a total of 461.2kg of underwater waste! Out of all the items removed from the marina, the rarest find was a Pepsi bottle from the 80s.

Thank you to everyone for all the hard work committed to cleaning our marine environment, to DOSC for hosting us, Imdaad LLC, EDA's waste management partner, the Dubai Voluntary Diving Team for the extra logistical support, and to EDA's Strategic Partner, DP World who allow us to hold more of these events throughout the year.

We also want to thank our surface support team for the dedication in volunteering to help our divers. We're so proud of our community!

DIVE CLEAN-UP | DUBAI Dubai Offshore Sailing Club (DOSC) 33 Divers | 8 Surface Support Volunteers	
MOST LIKELY TO FIND ITEMS	**TOTAL**
Grocery Bags (plastic)	25
Other Bags (plastic)	163
Beverage Bottles (glass)	63
Beverage Bottles (plastic)	75
Beverage Cans	85
Bottle Caps (metal)	1
Cups, Plates (plastic)	8
Food Wrappers (candy, chips, etc)	28
Lids (plastic)	1
Utensils (plastic)	2
FISHING & BOATING	
Line, Nets, Traps, Rope, etc	59
Foam Dock Pieces	11
PACKAGING MATERIAL	
Other Plastic Bottles (oil, bleach, etc)	13
Strapping Bands	1
ILLEGAL DUMPING	
Appliances	1
Construction Materials	51
Tyres	6
OTHER ITEMS/DEBRIS	
Clothing	34
Electronic Waste (phones, batteries)	3
Footwear (shoes/slippers)	2
Tobacco Products (lighters, wrap)	2
Toys	1
Other Plastic Waste	52
Other Waste (metal, paper, etc)	38
OTHER ITEMS NOT LISTED	
Chairs	2
Traffic Cone	1
Drinking Glasses	3
Mug	1
Sunglasses	2
Mop	1
Boat Seat Cover	1
Carpet	1
GRAND TOTAL OF ITEMS	**337**
TOTAL BAGS COLLECTED	**12**
TOTAL WEIGHT (KG)	**461.2**

A CLEANUP ARABIA EVENT
DP WORLD TEAM BEACH CLEAN-UP

PHOTOGRAPHY BY **ALLY LANDES**

We had a successful beach clean-up on the 24th of April with the DP World team! They powered on to clean-up our marine environment at the public beach at La Mer which is always in desperate need of TLC. We had some help from a few beach goers and neighbourhood residents who visited the beach for their morning exercise, filling up a couple of bags of rubbish to add to the pile before leaving the beach. Thank you guys!

This beach shamefully continues to be abused by countless cigarette butts, beverage glass and plastic bottles, beverage cans, takeaway food containers, sachets, cups and plates (foam, paper and plastic), plastic cutlery, plastic and metal bottle caps, plastic bags of all kinds, paper takeaway bags, cigarette cartons, e-cigarettes, PPE gloves…and these are just a few of the items we remove each time. This particular morning was the worst we have seen it in a very long time, and we collected a total of 53.4kg! Which is 4-6 times more if you follow the clean-ups we do at this location.

0.9kg of that was 2,458 cigarette butts alone. All our cigarette butts are separated from the rest of the waste and sent to Goumbook towards their Save the Butts – Waste to Value campaign to recycle them into a sustainable alternative to plywood.

DID YOU KNOW?

- Cigarette butts are made of cellulose acetate, a man-made plastic material, and they contain hundreds of toxic chemicals.
- The chemicals released can remain in the environment for many more years beyond the life of the cigarette butt itself.
- One cigarette butt alone, contaminates 500 litres of water
- Cigarette butts are actually the most abundant form of plastic waste in the world, with about 4.5 trillion individual butts polluting our global environment!

BEACH CLEAN-UP | DUBAI LA MER PUBLIC BEACH 15 DP World Staff Members	
MOST LIKELY TO FIND ITEMS	**TOTAL**
Grocery Bags (plastic)	53
Other Bags (plastic)	24
Beverage Bottles (glass)	44
Beverage Bottles (plastic)	113
Beverage Cans	92
Beverage Sachets/Pouches	3
Bottle Caps (metal)	16
Bottle Caps (plastic)	206
Cigarette Butts	2,458
Cups, Plates (foam)	7
Cups, Plates (paper)	59
Cups, Plates (plastic)	71
Food Containers (foam)	2
Food Containers (plastic)	23
Food Wrappers (candy, chips, etc)	212
Lids (plastic)	73
Utensils (plastic)	48
FISHING & BOATING	
Line, Nets, Traps, Rope, etc	1
ILLEGAL DUMPING	
Construction Materials	7
PERSONAL HYGIENE	
Gloves & Masks (PPE)	19
OTHER ITEMS/DEBRIS	
Clothing	3
E-cigarettes	2
Paper Bags	9
Tobacco Products (lighters, wrap)	40
Toys	2
Other Plastic Waste	107
Other Waste (metal, paper, etc)	64
OTHER ITEMS NOT LISTED	
Beach Chair + Cover Bag	1
4 Gallon Water Bottle	1
Picture Frame	1
Candle	1
GRAND TOTAL OF ITEMS	**3,762**
TOTAL BAGS COLLECTED	**13**
TOTAL WEIGHT (KG)	**53.4**

INTRODUCING OUR EXCITING NEW PARTNERSHIP IN SUPPORT OF OCEAN CONSERVATION WITH BAILEY & JOOLS

Bailey & Jools have partnered up with EDA to offer our members a beautiful brand with our own discount code which we know our female divers are especially going to love for all their dive trips and travel! Boys, if these don't match your vibe, you've now got new gift options for the ladies. For every EDA discount code used, Bailey & Jools is giving back 10% to support EDA's Ocean Conservation projects.

Bailey & Jools is a GCC homegrown brand offering Splash-Safe Beach Bags and Pouches designed for both durability and sustainability. The are crafted from a unique technical material that is:

- Waterproof
- Tear-resistance
- Lightweight
- Leak-proof
- Easy-to-clean
- Recyclable
- Free from plasticisers & chemicals restricted by RoHS & REACH

Designed for versatility, these bags are perfect for:

- Locking up your phones, wallets, and car keys in a safe dry space when you're out on a boat for your dives.
- Keeping wet swimwear separate after a dive trip (or any other water activity) – ensuring dry belongings stay dry.
- Storing leak-prone items such as shower gels, lotions or perfumes during travel.

www.baileyjools.com

EDA 15% DISCOUNT CODE: DiveWithBJ15
(can be reused for every purchase you make)

AN EDA MOVIE SCREENING **THE SECRETS OF THE SEA**

PHOTOGRAPHY BY **ALLY LANDES**

We screened the gorgeous short documentary film, Secrets of the Sea for our members on the 1st of May at Deep Dive Dubai.

This beautiful feel good film by Howard and Michele Hall and Jonathan Bird, is a must watch for all the family. Thank you to everyone who joined us, we're sorry to those who missed it.

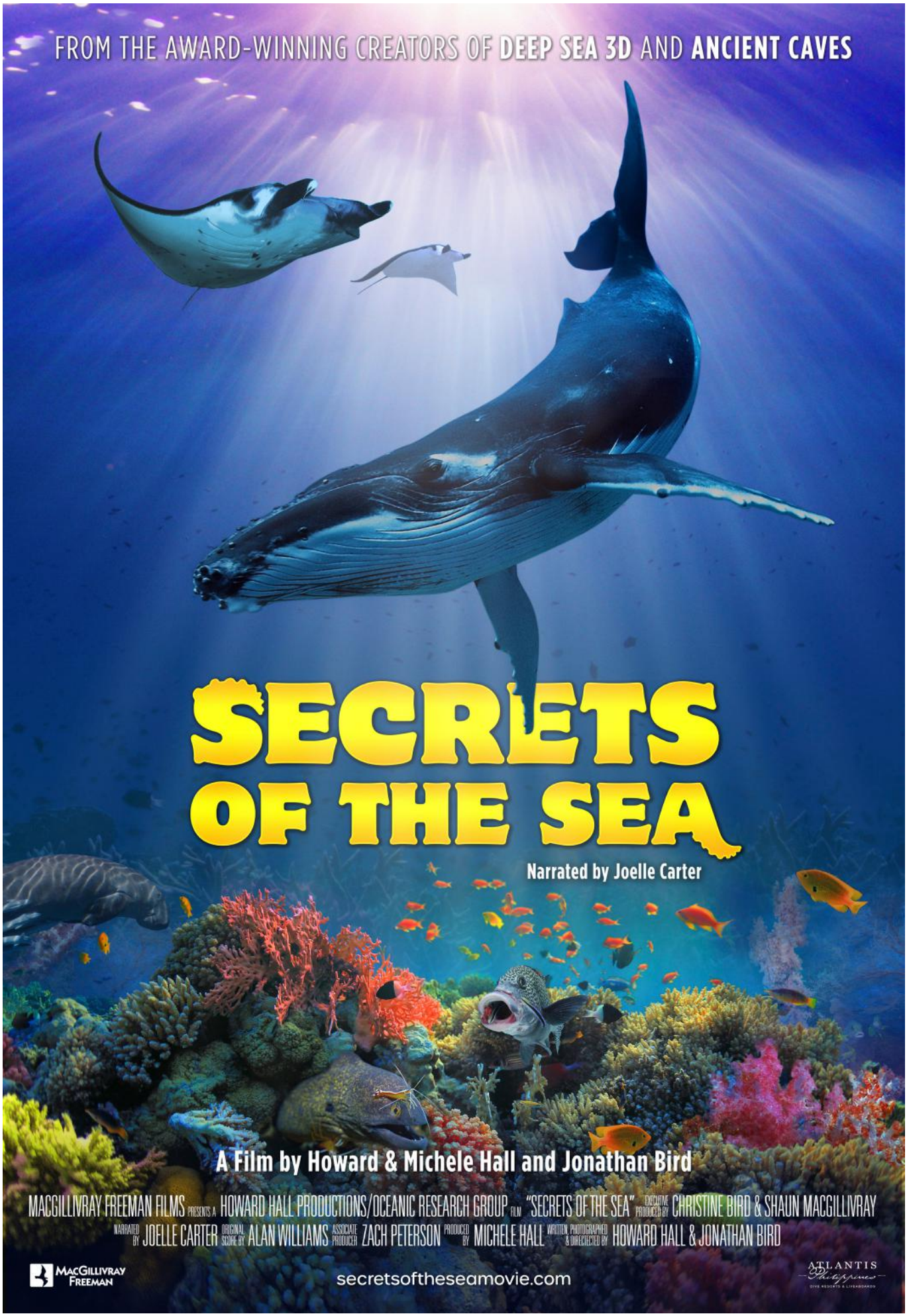
SYNOPSIS

Prepare to meet some of the ocean's strangest and most spectacular creatures in Secrets of the Sea. From adorable pygmy seahorses and opalescent squid to manta rays, tiger sharks, barnacle blennies, a coconut octopus, and much more, Secrets of the Sea takes you face-to-face with an astonishing array of marine critters and shows the fascinating ways they interact with each other and their environment. Many marine animals depend on one another for survival, and Secrets of the Sea demonstrates the critical importance of marine biodiversity to keeping our oceans healthy.

Winner of the Best Film Award from the Giant Screen Cinema Association, Secrets of the Sea was directed and produced by award-winning filmmakers Howard and Michele Hall, who have produced many of the most popular and successful ocean films of the last two decades (Deep Sea 3D, Into The Deep, Under the Sea 3D) and Jonathan Bird, whose giant screen film Ancient Caves premiered to rave reviews in 2020. Secrets of the Sea is narrated by American actress Joelle Carter with a score from renowned giant-screen film composer Alan Williams.

WANT TO JOIN OUR EVENTS?
EDA Movie Screenings are only accessible to EDA members. Members must register by email to join our social events, or to receive the special link (subject to availability) to view the films online.

VISIT OUR WEBSITE TO ACQUIRE OR RENEW EDA MEMBERSHIP HERE:
www.emiratesdiving.com/membership-form


FROM THE AWARD-WINNING CREATORS OF DEEP SEA 3D AND ANCIENT CAVES
SECRETS OF THE SEA
Narrated by Joelle Carter
A Film by Howard & Michele Hall and Jonathan Bird
MACGILLIVRAY FREEMAN FILMS PRESENTS A HOWARD HALL PRODUCTIONS/OCEANIC RESEARCH GROUP FILM "SECRETS OF THE SEA" EXECUTIVE PRODUCED BY CHRISTINE BIRD & SHAUN MACGILLIVRAY
NARRATED BY JOELLE CARTER ORIGINAL SCORE BY ALAN WILLIAMS ASSOCIATE PRODUCER ZACH PETERSON PRODUCED BY MICHELE HALL WRITTEN, PHOTOGRAPHED & DIRECTED BY HOWARD HALL & JONATHAN BIRD
MacGillivray Freeman
secretsoftheseamovie.com
Atlantis Philippines

A CLEANUP ARABIA EVENT
UNDERWATER CLEAN-UP AT DUBAI HARBOUR MARINAS LLC

PHOTOGRAPHY BY **ALLY LANDES**

We had a fantastic finale to our underwater clean-ups this season as we now take a pause during the hot summer months that follow.

This underwater clean-up was done on Sunday the 11th of May at Dubai Harbour Marinas with 29 divers, 11 EDA surface supporters (10 no shows), and 18 Dubai Harbour supporters.

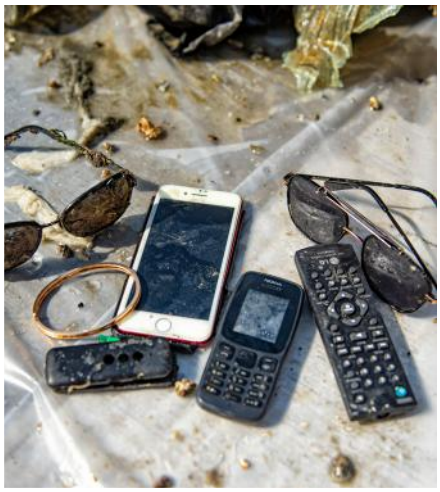
Well done to everyone for persevering through the humidity and heat, and thank you for all your hard work dedicated to cleaning our marine environment.

We want to thank our partner, Dubai Harbour Marinas LLC for hosting this event and for their team's support, Imdaad LLC our waste management partner for retrieving the collection at the end, the Dubai Voluntary Diving Team for the extra support with logistics, and to our Strategic Partner DP World. This was the 7th clean-up of 2025 so far!

Our divers collected 399.4kg of underwater waste within their hour's dive time! Thank you to all the surface support teams for the dedication in volunteering to assist our divers.

Out of the most unusual items brought up, there were 4 trollies, 1 tyre, 3 pairs of sunglasses, 2 phones, a gold bangle, 2 sun hats, an LG remote control, 2 fishing rods, e-cigarette, lighters, a glass drinks dispenser with tap, metal trays (looked like an entire collection of catering supplies for a buffet) an incredible amount of plastic and glass cups, plastic and glass bottles, drinks cans, the list goes on and on.

We look forward to doing more with Dubai Harbour when we start clean-ups back up again in Q4. Well done team, and thank you!



DIVE CLEAN-UP | DUBAI	
DUBAI HARBOUR MARINAS	
29 Divers | 19 Surface Support Volunteers	
MOST LIKELY TO FIND ITEMS	**TOTAL**
Grocery Bags (plastic)	3
Other Bags (plastic)	7
Beverage Bottles (glass)	134
Beverage Bottles (plastic)	121
Beverage Cans	137
Bottle Caps (metal)	7
Bottle Caps (plastic)	49
Cigarette Butts	4
Cups, Plates (foam)	24
Cups, Plates (paper)	3
Cups, Plates (plastic)	402
Food Containers (plastic)	15
Food Wrappers (candy, chips, etc)	25
Utensils (plastic)	15
ILLEGAL DUMPING	
Appliances	2
Construction Materials	2
Tyres	1
OTHER ITEMS/DEBRIS	
Clothing	14
E-Cigarettes	1
Electronic Waste (phones, batteries)	3
Footwear (shoes/slippers)	2
Tobacco Products (lighters, wrap)	4
Other Plastic Waste	44
Other Waste (metal, paper, etc)	25
OTHER ITEMS NOT LISTED	
Trolleys	4
Boat Tarpaulin Cover	1
Sunglasses	3
Rug	1
Gold Bvlgari Bangle	1
Sun Hat	2
Glass Dispenser Jar with Tap	1
Fishing Rods	2
Wallet	1
Electric Cable & Spool	1
GRAND TOTAL OF ITEMS	**1,062**
TOTAL BAGS COLLECTED	**21**
TOTAL WEIGHT (KG)	**399.4**

EPAA SHARJAH CONDUCTS FIRST STUDY IN THE MIDDLE EAST ON SEABIRD MARINE DEBRIS INGESTION

WORDS BY **FADI YAGHMOUR – SCIENTIFIC RESEARCHER (EPAA)**

Marine and coastal birds play an essential role in sustaining marine ecosystems, particularly in nutrient poor coastal regions like the Arabian Peninsula. By transferring nutrients and organic matter from sea to land through their feeding and nesting activities, these birds contribute to coastal productivity and serve as bio vectors in fragile ecosystems. However, their ecological importance is increasingly threatened by a combination of human activities, including coastal development, habitat degradation, overfishing, climate change, and marine pollution.

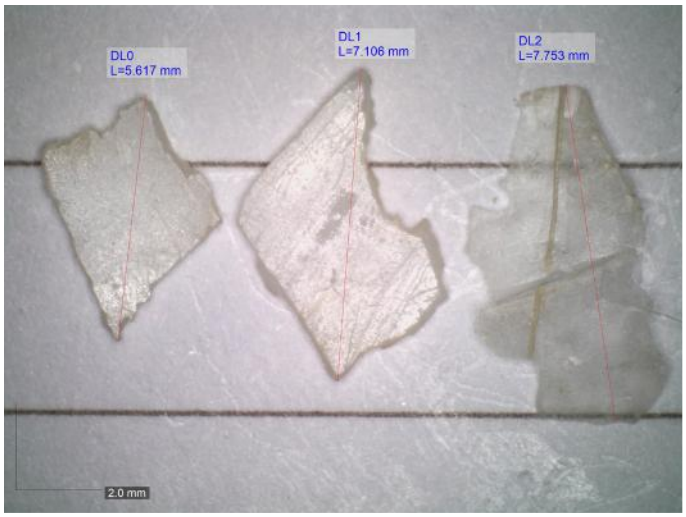
As sentinels of ocean health, seabirds offer critical insight into the condition of marine ecosystems through stranding and ingestion data. The ingestion of marine debris, ranging from plastics and glass to metal, oil, and tar, can cause serious harm to wildlife, including blockages, injury, toxicological stress, and even death. Over time, macroplastics fragment into microplastics, which may accumulate in tissues and trigger sublethal effects such as inflammation, altered immune function, and reduced fitness. Oil pollution further exacerbates these risks, particularly when birds ingest oil through preening or contaminated prey, potentially causing internal damage and physiological stress.

Despite the UAE's strategic location along major migratory flyways and its rich marine biodiversity, the impacts of marine pollution on seabirds have remained largely unquantified. Addressing this gap, the Environment and Protected Areas Authority (EPAA) has completed the first study of its kind in the Middle East under the Sharjah Strandings Response Programme (SSRP), recently published in the Marine Pollution Bulletin. This study represents a major milestone in understanding marine debris ingestion by seabirds in the region and provides essential baseline data for long term monitoring and conservation efforts.

The research team examined the gastrointestinal tracts of 478 stranded marine and coastal birds across 17 species along the Arabian Gulf and Gulf of Oman coasts in Sharjah. Marine debris was found in 12.8 percent of all birds examined. 11.1 percent had ingested solid debris, while 1.7 percent contained oil globules. Plastics were the most frequently encountered debris, with polyethylene (PE) identified as the predominant polymer type, especially in Black headed Gulls (*Chroicocephalus ridibundus*). Glass was the second most commonly ingested item in this species. Notably, juvenile large white headed gulls ingested significantly more debris than adults, suggesting age related susceptibility to pollution.

A subset of 20 seabirds was analysed for microplastics, with microfibers comprising 77.8 percent of all particles detected. This finding points to domestic wastewater discharge, especially from laundering synthetic fabrics, as a major pathway for microplastic pollution in the marine environment. In addition to microplastics, the study documented fishing hooks and oil globules in several individuals, highlighting two of the most acute threats facing marine and coastal birds in the region.

While the ingestion rate of debris by seabirds in this study appears relatively low compared to global figures, this should not be mistaken for limited exposure. Studies on sea turtles in the Gulf of Oman provide compelling evidence of increasing marine debris in the region. In the late 1970s, green sea turtles (*Chelonia mydas*) showed no evidence of debris ingestion. However, more recent assessments in the UAE



and Iran have documented ingestion rates of 75 to 86 percent, signalling a dramatic increase in environmental contamination. Additional studies report that hawksbill (*Eretmochelys imbricata*), olive ridley (*Lepidochelys olivacea*), and loggerhead (*Caretta caretta*) sea turtles in the region ingest debris at substantially higher frequencies than the seabirds assessed in this study. Moreover, while limited necropsies on mysticete whales have not yet revealed debris ingestion, this absence of evidence does not equate to a lack of risk.

Importantly, similar to seabirds, sea turtles were also found to ingest fishing hooks, a particularly dangerous form of debris that can cause immediate lethal injury. These findings collectively suggest that the relatively lower rates of debris ingestion in seabirds likely reflect differences in feeding behaviour, ecological exposure, and sample size, rather than a cleaner marine environment.

This landmark study not only provides essential regional data on the ingestion of plastic and other pollutants by seabirds but also lays the groundwork for future research and conservation planning. EPAA's findings highlight the urgent need to mitigate marine pollution through targeted policy interventions, improved waste management, and regional cooperation. Continued research and systematic monitoring will be key to protecting marine biodiversity and ensuring the health of the region's marine ecosystems.

هيئة البيئة والمحميات الطبيعية
Environment & Protected Areas Authority
SHARJAH الشارقة

ABOUT EPAA:

In line with the vision of His Highness Sheikh Dr Sultan bin Mohammed Al Qasimi, Supreme Council Member and Ruler of Sharjah, the Environment and Protected Areas Authority, under the leadership of Her Excellency Hana Saif Al Suwaidi, aims to protect Sharjah's natural environment and conserve its rich biodiversity. This is achieved through data driven policies and increased public awareness and participation in supporting the principle of sustainable development to preserve natural and environmental capital to the benefit of present and future generations.

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EAD LAUNCHES ABU DHABI CORAL GARDENS INITIATIVE, THE LARGEST PROJECT OF ITS KIND IN THE MIDDLE EAST

Under the directives of His Highness Sheikh Hamdan bin Zayed Al Nahyan, Ruler's Representative in Al Dhafra Region and Chairman of the Environment Agency – Abu Dhabi (EAD), the Abu Dhabi Coral Garden initiative has been launched by the agency. The largest project of its kind in the Middle East, the project is a significant step in protecting the marine environment and enhancing marine biodiversity in Abu Dhabi.

The initiative, which will be implemented between 2025 and 2030, aims to create coral gardens in the emirate by deploying 40,000 artificial reef modules made of environmentally durable materials and designed in different shapes and sizes to support the growth and reproduction of marine organisms. The coral gardens will extend over a total area of 1,200 square kilometres, equivalent to approximately 200,000 football pitches, in Abu Dhabi's coastal and deep waters, especially in areas devoid of coral reef or seagrass habitats.

Several artificial reef modules will also be implanted with live coral reef fragments raised in the coral reef nursery of Abu Dhabi. The fragments are selected from the highly resilient coral species, that are tolerant to high marine water temperatures. This will support the coral reefs' growth, reproduction, and help restore the natural marine ecosystem. In addition, these gardens will provide safe havens for the release of local farmed fish species to support their natural growth and reproduction in the marine environment.

His Highness Sheikh Hamdan bin Zayed Al Nahyan said, "Protecting the marine environment and enhancing its sustainability is an essential part of the UAE's vision to ensure a sustainable future for future generations. The Abu Dhabi Coral Gardens initiative embodies Abu Dhabi's commitment to implementing innovative, nature-based solutions to support marine biodiversity, rehabilitate, and restore natural resources in line with economic development plans.

"We are proud that Abu Dhabi is a regional leader in implementing this ambitious initiative, which not only contributes to enhancing fish stock and protecting marine habitats, but also affirms the emirate's position as a global model in addressing environmental challenges and achieving a balance between development and nature conservation. The success of this initiative is the result of continuous cooperation with various entities and partners, and we look forward to seeing the positive impact of this initiative in protecting our coasts, supporting eco-tourism and food security, as part of our efforts to achieve environmental sustainability."

Her Excellency Dr Shaikha Salem Al Dhaheri, Secretary General of EAD said, "Abu Dhabi is a pioneer in implementing sustainable nature-based solutions, and the Abu Dhabi Coral Gardens initiative reflects our firm commitment to preserving the marine environment and enhancing biodiversity, in line with our wise leadership's vision for achieving sustainability. Through this ambitious initiative, we seek to improve marine ecosystems, support fisheries, and address the challenges of climate change. This initiative will also contribute to promoting ecotourism in the emirate by increasing tourist attractions for divers, making it a comprehensive project that achieves a balance between development and environmental sustainability.

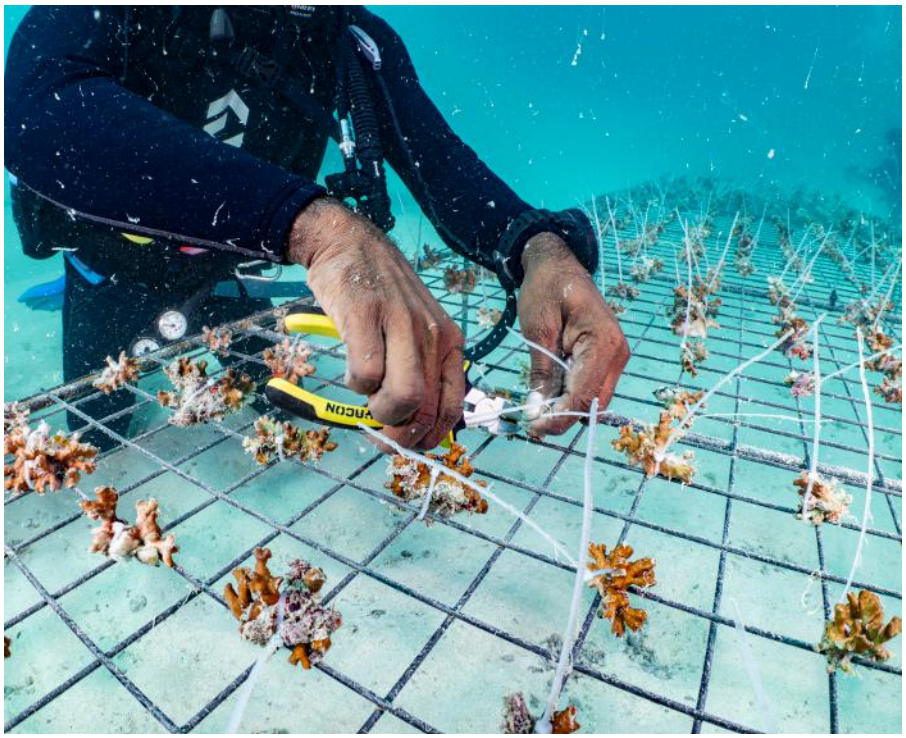
"We aspire towards positive change that contributes to enhancing marine resources and providing a pioneering regional model in the field of innovative environmental solutions. Results of studies have revealed the effectiveness of artificial reefs in attracting and incubating fish and supporting the growth of many marine species at a rate three times that of natural coral reefs."

The initiative aims to produce more than 5 million kilogrammes of fish annually, consisting of various surface and bottom-dwelling species, which will help restore fish stocks and enhance recreational fishing. The reefs will also protect the emirate's beaches and islands from the expected effects of climate change and support blue carbon habitats. The agency's experimental studies conducted on artificial reefs have confirmed their effectiveness in enhancing the marine environment and biodiversity. The research included the evaluation of different types and designs of reef building materials, which were installed in 30 marine sites. The emirate is a national and regional leader when it comes to specialised experimental studies on artificial coral reefs to evaluate their effectiveness and role in supporting marine life.

The results showed that the artificial reefs were able to attract, retain, and incubate marine organisms at rates higher than those of natural coral reefs, reflecting their potential to improve the marine environment, enhance biodiversity, and sustain fish stocks, thus enhancing the balance between economic development and natural resource conservation.

UNDER THE DIRECTIVES OF HAMDAN BIN ZAYED, EAD EXPANDS CORAL REEFS REHABILITATION PROJECT

PLANTING MORE THAN FOUR MILLION CORAL FRAGMENTS IN EMIRATE'S WATERS



Following the successful restoration of one million coral colonies in Abu Dhabi since 2021, His Highness Sheikh Hamdan bin Zayed Al Nahyan, the Ruler's Representative in Al Dhafra Region and Chairman of the Environment Agency – Abu Dhabi (EAD), has directed the expansion of the scope of the agency's coral rehabilitation project to outplant more than four million coral colonies in the emirate's waters by 2030. This will cover an area estimated to be more than 900 hectares, making it the largest coral rehabilitation project in the world.

EAD's coral rehabilitation project had successfully reached the target of one million colonies whereby restoration took place in eight different sites, covering over 300 hectares. This has led to an increase in Abu Dhabi's coral coverage as the restored coral areas have seen over 95 per cent success rate.

The restored sites are already showing signs of recovery, as life is starting to form around them, with more than 50 per cent increase in fish biomass and diversity. Furthermore, exceptionally and atypical of corals, those in the nursery and across restored areas continued to grow even during the summer, which indicates their ability and high resistance to withstand severe climatic conditions.

The scope of the coral restoration project included the development of coral nurseries that help mitigate the adverse impact of both natural and anthropogenic pressures on coral reefs arising from coastal development and climate change, including the immediate threat of rising seawater temperatures.

The first phase of the project included an evaluation, which highlighted resilient reefs and potential donor sites, and identified nursery sites to ensure a protected growth environment. This is based on different criteria such as water quality, currents, depth, and temperature.

This was followed by the establishment of several underwater nurseries to nurture and grow corals collected from suitable reefs, with a production capacity of up to one million coral colonies. In the second phase, the nursery stock was harvested and transported to various sites for rehabilitation and to restore the integrated coral ecosystem. The third phase includes the completion of nursery stock harvesting and site restoration through coral translocation to degraded areas.

Her Excellency Dr Shaikha Salem Al Dhaheri, Secretary General of EAD said, "Following the successful outcomes of the coral restoration project so far with us planting one million coral colonies, the Environment Agency – Abu Dhabi is now even more committed to continuing and expanding the Coral Restoration Programme. This strategic initiative aims to increase its scope to restoring more than four million coral colonies by 2030, underscoring EAD's dedication to marine conservation and ecosystem restoration. The project is also in line with Abu Dhabi's vision, and biodiversity resilience goals, creating resilient ecosystems.

"Despite the Arabian Gulf's harsh environmental conditions, coral reefs can adapt and provide habitats for a variety of marine species in the region. They are highly flexible, enabling them to adapt and withstand the hottest seas, distinguishing them from other types of coral reefs around the world."

Her Excellency emphasised that the project "is a nature-based solution to address the effects of climate change and rising temperatures on the seabed, will increase the emirate's total coral reef area and rehabilitate affected sites. This is part of efforts to preserve this important ecosystem and one of the most diversified marine habitats."

Her Excellency reiterated EAD's commitment to continue to monitor and rehabilitate coral reefs to enhance the emirate's marine ecosystems and help mitigate the effects of climate change, in line with the objectives of the Abu Dhabi Climate Change Strategy.

Ahmed Al Hashemi, Executive Director of Terrestrial and Marine Biodiversity Sector at EAD said, "Our aim is to increase the resilience of coral reefs in Abu Dhabi in the face of climate change by selecting the most heat-tolerant coral species that have survived successive heat waves, and harvesting small parts that are sent to a nursery to monitor their growth. These can then be transported back to degraded coral reef areas to enhance their adaptability to climate change."

Corals used in the EAD restoration project are some of the most resilient corals in the world, as they have withstood several heat waves that hit the region.

They play a crucial role in combating climate change and supporting carbon sink habitats and also play a key role when it comes to supporting biodiversity, including the endangered hawksbill turtles, that nest around Abu Dhabi's islands. Furthermore, corals are key for supporting the local fish stock, acting as a home to diverse fish species, across different life stages which will help boost fish stocks.

Abu Dhabi alone has 34 different coral species spread across the emirate's coast, including sites at Ras Ghanada, Al Nouf, Saadiyat, Al Heel, Barakah, and Al Yassat. Since 2005, the Agency has been implementing a programme to monitor the condition of coral reefs via seasonal surveys that collect data from 15 different locations.

SHAPING TOMORROW'S ENVIRONMENTAL LEADERS:
EAD AND EMIRATES NATURE-WWF LAUNCH 5-YEAR CITIZEN SCIENCE STRATEGY TO IGNITE YOUTH ACTION THROUGH CONNECT WITH NATURE

As part of the Year of the Community, the Environment Agency – Abu Dhabi (EAD) and Emirates Nature-WWF, the founding partners of the Connect with Nature programme, announced the launch of a new 5-year strategy (2025-2029). The strategy aims to empower a new generation of young leaders in environmental conservation by promoting Citizen Science.

A Memorandum of Understanding (MoU) was signed between Her Excellency Dr Shaikha Salem Al Dhaheri, Secretary General of EAD, and Laila Mostafa Abdullatif, Director General of Emirates Nature-WWF, to renew the long-standing partnership between the two parties on the details of implementing the new strategy.

The new strategy builds on the tremendous success of the Connect with Nature programme, which has reached more than 2.5 million youth since its launch in 2019. It connects youth with nature and provides students in public and private schools in Abu Dhabi, Al Ain, and the Al Dhafra region with the opportunity to participate in field activities that promote environmental conservation and Citizen Science. It also underscores a steadfast commitment to inspiring and empowering young people in society. The programme continues to engage youth, particularly younger audiences, providing them with opportunities to cultivate their potential and grow into the leaders of tomorrow.

Commenting on the launch of the strategy, Her Excellency Dr Shaikha Salem Al Dhaheri said, "The new 5-year strategy represents an important stage in our journey towards promoting environmental responsibility in society and preparing leaders capable of effecting environmental change. By integrating Citizen Science and practical experiences in environmental conservation into school programmes and activities, we are working to create an ecosystem that combines knowledge and action to achieve a green economy, in line with the UAE Vision 2030. Our partnership with Emirates Nature-WWF provides an opportunity to strategically expand the scope of the programme, ensuring that our combined efforts and cooperation protect our natural heritage and advance a green and sustainable future for future generations."

The new Connect with Nature Field Trip Series for schools will accommodate 2,000 students annually, offering participants a unique opportunity to work alongside conservationists and environmental experts as citizen scientists. From venturing knee-deep into muddy mangroves to measure the growth of new saplings to kayaking across the nation's vibrant coastal areas and shaping environmental policies, these field trips are designed to inspire a deeper appreciation for nature while also contributing to conservation impact.

Ahmed Baharoon, Executive Director of Environment Information Science and Outreach Management said, "At EAD, we recognise that the path to a sustainable future starts with education and active participation. The 5-year strategy for Connect with Nature is a testament to our unwavering commitment to equipping young minds with the knowledge, skills, and experiences needed to become future environmental leaders. By incorporating citizen science and conservation into school programmes, we are fostering a generation that not only understands the importance of protecting our ecosystems but is also empowered to take meaningful action. We are confident that their contributions will be instrumental in realising our shared sustainability vision."

Laila Mostafa Abdullatif said, "Connect with Nature was founded with a simple vision of inspiring young people to experience, celebrate and safeguard nature in the UAE. Over five years, we have seen firsthand how time spent in nature – learning about the environment and actively protecting it – has had a profound impact on the nation's youth, motivating them to pursue green careers and advocate for sustainability on the local and global stage. During this period, the programme has inspired more than 14,000 youth to volunteer over 32,000 hours of work for the environment, through 250 citizen science events and activities. Today, with the launch of our new five-year strategy, we are excited to inspire similar connections amongst school students and nature and welcome our newest changemakers to the movement."

The Connect with Nature Field Trips Series is open to students aged 9 to 18 across public and private schools in Abu Dhabi, Al Ain and the Al Dhafra Region. Parents, teachers and educators can learn more about the programme and school field trips at the Connect with Nature website.

FOR MORE INFORMATION, VISIT:
https://connectwithnature.ae/schools

IUCN WORLD CONSERVATION CONGRESS 2025 TO BE HELD IN ABU DHABI

Under the patronage of His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the UAE, the IUCN World Conservation Congress will be hosted for the first time in the GCC region, in the UAE in Abu Dhabi. Organised by the International Union for Conservation of Nature (IUCN), the environmental event will take place from 9-15 October 2025 at ADNEC Centre Abu Dhabi.

The UAE President's patronage of the IUCN Congress confirms the UAE's interest in protecting the environment and preserving biodiversity as an essential part of its vision for a sustainable future, in line with His Highness's directives. The UAE's hosting of the IUCN World Conservation Congress reflects its commitment to supporting international environmental dialogues and initiatives, providing a global platform that gathers leaders, experts, and decision-makers to collaborate on effective solutions to the most pressing environmental challenges, while further enhancing the UAE's leadership position in nature and biodiversity conservation, and species protection.

The UAE was awarded the opportunity to host the IUCN World Conservation Congress in Abu Dhabi following a comprehensive review process conducted by the International Union for Conservation of Nature (IUCN) Council in 2023. The successful bid was submitted by the UAE Ministry of Climate Change and Environment (MOCCAE), in collaboration with the Environment Agency – Abu Dhabi (EAD). Subsequently, MOCCAE signed the Host Country Agreement on behalf of the UAE Government.

The IUCN Congress is expected to attract in excess of 10,000 participants from more than 160 countries around the world, including government leaders, environmental specialists, scientists, and experts.

Her Excellency Dr Amna bint Abdullah Al Dahak, Minister of Climate Change and Environment said, "The UAE's hosting of the IUCN World Conservation Congress 2025 in Abu Dhabi, solidifies the nation's position as a global hub for dialogue and action in addressing the most pressing environmental challenges facing the world today. This event underscores the UAE's ongoing commitment and significant contribution to environmental protection and sustainability. The Ministry of Climate Change and Environment will play an active role in the congress, driving forward the UAE's commitment to climate action and environmental sustainability, thereby shaping the future of our planet. Protecting our natural

ecosystems – both on land and at sea – is of the utmost importance to the UAE. As leaders in sustainable and inclusive climate action, we are pioneering innovative programmes and initiatives to protect our precious natural resources, not only within our borders but at both the regional and global levels."

Her Excellency Razan Al Mubarak, President of IUCN and Managing Director of EAD, said, "Under the visionary leadership of His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the UAE, the country has demonstrated global leadership – from making nature central to the success of COP28 to now hosting the IUCN World Conservation Congress, the UAE has long recognised that climate action and nature conservation must go hand in hand. This Congress will be a defining moment to build on that momentum, bringing together the world's leading voices in conservation to accelerate nature-based solutions, strengthen biodiversity, and enhance resilience. The UAE's role in shaping global environmental action continues to grow, and Abu Dhabi will provide a critical platform to forge the partnerships and commitments needed to secure a more sustainable future.

Her Excellency Dr Shaikha Salem Al Dhaheri, Secretary General of EAD said, "The Environment Agency – Abu Dhabi is dedicated to delivering a truly impactful and inclusive Congress that extends beyond regional boundaries on a global scale. The Congress will serve as a platform to discuss and develop a global agenda for conserving biodiversity and as a commitment to preserving nature, which is fast becoming a priority for all governments in the world. The IUCN Congress will be a wonderful opportunity for the region to showcase conservation actions and the unique challenges it faces, and learn from world experts. Building on the legacy of Marseille, we will amplify this platform through our conservation success stories, especially in species restoration, and foster collaboration among governments, NGOs, the private sector, indigenous groups, and IUCN members worldwide."

Dr Grethel Aguilar, Director-General of IUCN, said, "We are grateful for the support and are looking forward to delivering the IUCN World Conservation Congress 2025 together in the UAE in Abu Dhabi. The IUCN Congress is the largest gathering of governments, civil society, Indigenous peoples, and experts around the world united by one purpose: to achieve a just world that values and conserves nature. Our planet is at a crossroads and facing unprecedented challenges. In this critical moment, the congress will allow IUCN and the global community to come together to make a real impact, and work towards our shared goal of protecting this precious planet that provides for us. We look forward to bringing together changemakers and leaders in Abu Dhabi, and to be inspired by the rich and unique culture and biodiversity of the region."

Held once every four years, the IUCN World Conservation Congress brings together several thousand leaders and decision-makers from government, civil society, business, and academia. It is the highest decision-making body of the union, where accredited delegates from IUCN members convene. One of its key mandates is the election of the next term's President, Treasurer, Regional Councillors, and Chairs of Commissions, who will comprise the IUCN Council.

IUCN has more than 1,400 member organisations including states and government agencies at the national and subnational levels, a diverse range of NGOs, indigenous peoples' organisations, scientific and academic institutions, and business associations.

The UAE has full IUCN membership. The MOCCAE is a state member, while the Mohamed Bin Zayed Conservation Fund, Emirates Environment Group and Emirates Nature-WWF are NGO members. The Environment Agency – Abu Dhabi, the Dubai Desert Conservation Centre (DDCR), International Fund for Houbara Conservation (IFHC) and Al Ain Zoo are government members – with all the aforementioned members making up the UAE IUCN National Committee, chaired by Her Excellency Dr Shaikha Salem Al Dhaheri, Secretary General of EAD, who is also the Regional Councillor for IUCN in West Asia.

EAD LAUNCHES FIRST OF ITS KIND PROJECT IN GULF REGION
TO SURVEY, EVALUATE AND RESTORE TRADITIONAL OYSTER HABITATS

As part of its efforts to preserve marine habitats, ecosystems, and protect cultural heritage within the framework of the Abu Dhabi Climate Change Strategy, the Environment Agency – Abu Dhabi (EAD) has launched a project to survey, evaluate, and restore traditional oyster habitats in the emirate.

The project, which is the first of its kind in the Arabian Gulf region, aims to reduce the effects of climate change and improve seawater quality by expanding the area of oyster habitats that help to absorb and store carbon dioxide from seawater during shell formation. The project also seeks to enhance the marine environment and biodiversity, as well as preserve the cultural heritage of Abu Dhabi.

EAD's database will be enhanced via a comprehensive survey and assessment of traditional oyster beds to create a modern interactive digital map. The project also aims to increase environmental awareness about the importance of protecting and restoring marine habitats by involving school students under the Sustainable Schools Initiative (SSI) to assemble the artificial reefs. The new initiative represents a step toward strengthening the emirate's leadership related to studies and research regarding the restoration of oyster habitats and associated ecosystems.

In the project's first phase, which focused on collecting data on traditional pearl diving sites, EAD was able to identify 335 diving sites using multiple scientific sources, including maps, historical books, and the agency's database, as well as consultations with traditional fishermen in the emirate. After completing the survey of the identified sites and assessing the status of their oysters, the EAD will begin formulating a plan to restore the degraded sites and design rigs using oyster shells produced at the Abu Dhabi Pearl Centre in the Mirfa area, while developing an updated digital map of the current oyster habitats in the emirate.

In the second phase of the project, EAD completed evaluation of 150 traditional beds out of 335, discovered 200 new oyster habitats and developed a plan to restore affected beds. Among the assessed sites, the agency selected Umm Al Salsal, a degraded traditional diving site near the eastern side of Marawah Island, for oyster restoration efforts.

As part of the oyster restoration plan, EAD designed, developed, and installed 64 differently shaped structures at Umm Al Salsal. Around 30 students from Al Marfa schools participating in the SSI helped assemble the structures made from sustainable materials, including oyster shells from the Abu Dhabi Pearl Centre. A monitoring plan is currently underway to assess the progress and success of the selected site for restoration.

Ahmed Al Hashemi, Executive Director of the Terrestrial and Marine Biodiversity Sector at EAD said,"Before the advent of cultured pearls and the discovery of oil, the Arabian Gulf was a major centre for the pearl trade, famous for producing the finest, world-renowned pearls. Diving was not only a profession or a means of livelihood, but also an integrated social system that had a profound impact on the region's culture and traditions. However, this industry required the extraction of thousands of oysters to obtain a few precious gems. Today, the Environment Agency – Abu Dhabi seeks to revive this rich cultural heritage in a modern and sustainable way by supporting and adopting pearl farming practices.

"We are keen to expand aquaculture activities in the emirate of Abu Dhabi and, through the pearl oyster restoration project, we seek to benefit from its great benefits, such as enhancing biodiversity, supporting various marine species, and improving the health of the ecosystem in general. In addition, pearl oysters have historical and cultural significance to Abu Dhabi and their restoration enhances this connection. Pearl oysters also contribute to water purification and help maintain the balance of marine ecosystems, which directly impacts environmental sustainability," he added.

The EAD's future plans for the Pearl Oyster Restoration Project include a wide range of environmental, and community initiatives and will see a gradual expansion of restoration sites as initial efforts demonstrate success – identifying additional suitable sites and increasing the number of oysters being cultured and rehabilitated. In the long term, these efforts may stimulate investment in scientific research to develop more efficient and effective restoration techniques, which may include genetic studies of pearl oysters, advanced breeding programmes, and innovative aquaculture techniques.

PADI ANNOUNCES 11TH ANNIVERSARY OF THE MOST CELEBRATED DAY IN DIVING

WOMEN'S DIVE DAY 2025

For the 11th year straight, PADI®, the world's largest scuba diving organisation, is calling on their 6,600 Dive Centres + Resorts and 128,000 Professionals around the globe to join them in hosting local events for the annual PADI Women's Dive Day that sets the standard for gender inclusivity in scuba diving on 19 July 2025.

Over the past decade, PADI Dive Centres and Instructors have created a powerful movement that has inspired more women of all ages to discover the transformative power of diving. More than 1,500 events in over 100 countries have encouraged scuba divers, freedivers, and mermaids to come together to continue their dive education, plant new coral nurseries, perform beach and underwater cleanups, set a world record for the longest underwater female human chain, fundraise for breast cancer research and local women's shelters, and take their first breaths underwater as the newest PADI Divers.

"Since launching in 2015, PADI's Women in Diving initiative has been a catalyst for the dive community to break down barriers and empower divers of all genders, ages, races, backgrounds, and abilities to explore and protect the ocean," says Kristin Valette Wirth, Chief Brand and Membership Officer for PADI Worldwide. "Women are being celebrated for their achievements in ocean exploration, marine conservation, education, visual arts, science, technology, technical diving, and social leadership. They are driving a collective movement that empowers women of all ages to elevate their voices, lead with purpose, and inspire others to explore, protect, and celebrate the ocean."

Before PADI Women's Dive Day began, female certifications made up under 35% of total yearly PADI Certifications. As of 2025, they have grown to make up nearly 40% of total certifications – closing the gender gap in diving at all levels.

PADI is encouraging members to plan their own events and register them as soon as possible, inviting their communities, both divers and non-divers alike, to participate in a PADI Women's Dive Day event on 19 July 2025. These events will be promoted on the PADI Women's Dive Day Event Locator – allowing people to easily find events within their own community.

"We invite the global PADI Membership to continue with setting the standard for gender inclusivity in ocean exploration by celebrating diversity in diving, empowering female divers, fostering connections, and inspiring ocean exploration," continues Valette Wirth. "PADI Women's Dive Day provides PADI Members a unique opportunity to connect with your local community, motivate new students to take their first breath underwater, entice divers to earn their next certification, or simply give a reason to connect with the ocean and each other."

TO REGISTER A PADI WOMEN'S DIVE DAY EVENT, VISIT:
padi.com/women/hostanevent.

NEWLY CERTIFIED REEF CHECKERS

MORE EDA MEMBERS TRANSITION INTO ECODIVERS

WORDS BY **RANIA SHAWKI MOSTAFA** PHOTOGRAPHY BY **ALLY LANDES**

Green Turtle (*Chelonia mydas*)

Rania Shawki Mostafa tests everyone on their Substrates, Invertebrates & Fish.

Alison Smith

Damien Basa

Meet our newest Reef Checkers! We had a beautiful morning out on the boat on Sunday the 25th of May with Divers Down after a cancelled dive the weekend before due to weather conditions.

6 of our students escaped the Dubai heat and spent the morning in Fujairah waters exploring different fish indicator species, counting invertebrates and seeing first hand the different types of substrates and corals. And we got to see a beautiful green turtle at the end of our dive!

Congratulations to Alison Smith, Damien Basa Joan Conde, Deeann Gallagher, Ali Salman, and Norbert Csuzda. A big shout out to Ali and Norbert who had their practical exam postponed three times due to weather conditions. You finally made it!

A big thank you to Captain Joey and the Divers Down crew for always taking such good care of us. Our next survey will be in June – stay tuned!

If you're interested in joining our Reef Check courses, please contact: reefcheck@emiratesdiving.com.


Joan Conde


Deeann Gallagher

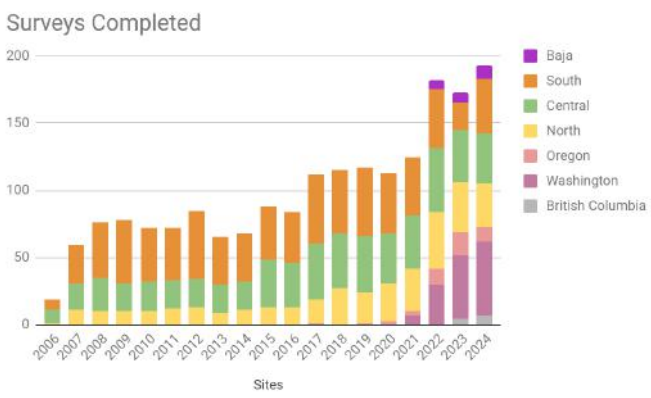

Norbert Csuzda


Ali Salman

DATA NOW AVAILABLE
FROM THE 2024 KELP FOREST MONITORING SEASON

Reef Check's Kelp Forest Monitoring Programme continues to expand with 2024 being our biggest year yet! In 2024, we completed more than 190 surveys in California, Oregon, Washington, Baja California, and British Columbia. Since data collection began in 2006, Reef Check has conducted almost 1,900 surveys. All data is now available through our Data Request Form.

Additionally, over the past year, Reef Check staff has been hard at work formatting the kelp forest monitoring data into easy-to-use formats, so that scientists, managers, and members of the public can quickly and easily analyse our dataset to get a picture of the health of our kelp forests and of the numerous species who depend on them. The dataset is available in its raw form of species counts by transect, and summarised by survey with mean values for each species. For more information on export formats, as well as our data management procedures, see the Reef Check Data Management document.



REEF CHECK MALAYSIA

CELEBRATES COMMUNITY CONSERVATION ACHIEVEMENTS

WORDS BY **REEF CHECK MALAYSIA**

Reef Check Malaysia (RCM) has recently made great strides in its community conservation efforts:

Tioman Marine Conservation Group (TMCG) Turns 10! TMCG started as a pilot project in 2014 to engage local communities in conservation activities. An initial group of 10 recruits has since grown to over 80 full-time members, and TMCG is present in all seven villages on Tioman Island.

We have provided training in a variety of skills, from diving certification through reef surveys and ghost net removal, to rehabilitation and other conservation actions. Members now participate in weekly conservation programmes and are paid a small sum for their time.

Reef Check Malaysia CEO, Julian Hyde, shares our journey since the establishment of the TMCG and the replication of its success in this article.

SABAH COMMUNITY ENVIRONMENTAL LEADERSHIP CAMP (SABAH CELC) 2025

This 8-day programme was organised by Green Semporna (an NGO based in Semporna, Sabah) and RCM, with support from the Youth Environment Living Lab (YELL) and DHI Malaysia. A total of 36 participants from various regions across Sabah – as well as the Redang and Tioman Marine Conservation Groups from Peninsular Malaysia – attended the camp. With the theme "Resilient Communities & Ecosystems – Climate Change Adaptation," the camp aimed to empower communities in addressing the challenges of climate change and strengthening ecosystem resilience. Participants were exposed to various knowledge and skills, including Resource Mapping & Community Project Statistics, Climate Crisis: Adaptation & Mitigation, Grant Writing & Climate Action Day Project Management.

The Pemimpin IKLIM Mabul group (a local Community Marine Conservation Group – CMCG) is among the 11 recipients of the Sabah CELC Mini Grant, along with the Tioman Marine Conservation Group (TMCG). They plan to implement a mini-project focusing on tackling the issue of fish bombing at Mabul Island, through sea patrolling and awareness activities.

INTRODUCING SUSTAINABLE TOURISM PROGRAMMES IN SABAH

In March, Reef Check Malaysia conducted an online workshop on its sustainable tourism programmes, which include Green Hotels based assessments, Green Fins, and the Eco-Friendly Snorkelling Guide. The workshop aimed to introduce these initiatives to various stakeholders in Sabah, with over 60 participants in attendance.

The session highlighted key marine tourism challenges and how these programmes can help mitigate environmental impacts while promoting sustainable tourism practices. Through Green Hotels, Reef Check Malaysia supports accommodations in adopting eco-friendly operations. Green Fins provides best practices for dive operators, while the Eco-Friendly Snorkelling Guide educates tour guides on minimising marine disturbance.

Our team then conducted a 4-day Eco-Friendly Snorkelling Guide Training in Semporna, aimed at equipping snorkelling guides with the knowledge and skills to promote responsible marine tourism. Over four days, participants learned about marine ecosystems, their importance, and best practices for protecting them during snorkelling activities. The training included theory sessions on marine conservation, practical exercises on guide briefings and mock snorkelling tours, as well as first aid training. Nineteen successfully completed the training and were certified as

Eco-Friendly Snorkelling Guides. This initiative was supported by Green Fins and the Malaysia Red Crescent Society.

WORKING WITH LOCAL COMMUNITIES TO IMPROVE REEF RESILIENCE

Following the mass bleaching event that took place in 2024, our colleagues in Tioman Island recently conducted a bleaching exercise with the residents of Kampung Tekek, Genting, and Salang. The exercise aimed to assess the level of coral bleaching and support the implementation of more effective management measures in efforts to conserve marine ecosystems. With a better understanding of coral reef resilience, local communities can play an important role in maintaining the sustainability of marine resources that are their main source of livelihood.

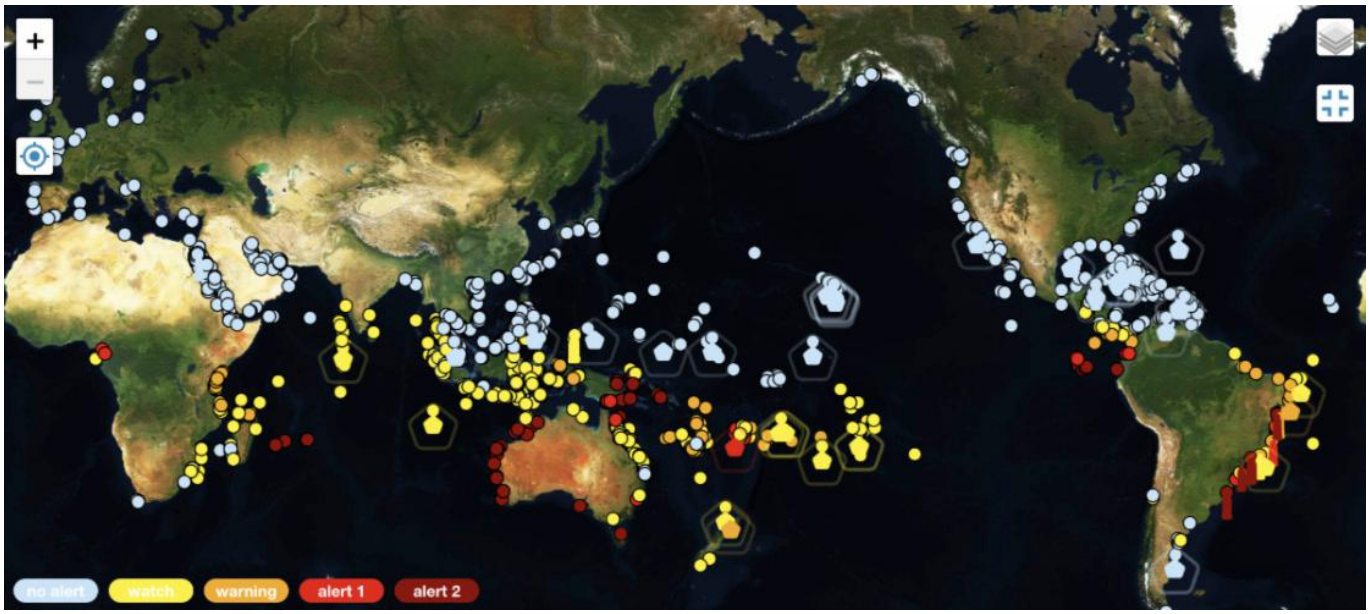
Hands-On Marine Education Activities Towards the end of 2024, all students and teachers from a local school in the South of Johor, along with two volunteers, participated in a session to assess the growth of mangrove saplings and test water quality. The students

learned about the different growth stages of a mangrove, best practices in maintaining a mangrove nursery with optimum conditions, as well as the use of certain equipment for water quality testing.

In February, 24 students from the same school, along with all teachers and three volunteers, participated in a mangrove planting session. After five months of nurturing the saplings in a nursery, they were now ready to be planted. A total of 70 healthy mangrove saplings were planted at a patchy mangrove area along the coast of Kampung Pasir Gogok, Johor. Some parents who were present joined in and learned about mangrove restoration efforts.

Community consultation sessions are a continuous effort to gather feedback from island stakeholders on RCM's conservation initiatives in Mersing. These consultations are essential for enhancing programmes that directly involve Mersing Islands communities. Discussions with the community covered topics such as community recycling efforts, past training programmes, and future training needs for the community. The team has received positive feedback on the ongoing recycling programme in Pulau Sibu, Pulau Tinggi and Pulau Aur. Community feedback and comments to improve the programme were also recorded to improve the implementation of the programme to encourage higher community participation.

REEF CHECK AND AQUALINK PARTNER UP FOR CORAL REEFS



Reef Check is excited to announce Aqualink as an official Global Reef Tracker partner for Reef Check's coral reef data. Aqualink, a groundbreaking non-profit offers an open source tool for people on the front lines of ocean conservation and showcases Reef Check's worldwide coral reef database of over 17,000 surveys, alongside Aqualink's collection of data from sensors, models, satellite observations, community member surveys, images, and video to give an instant view of real-time reef conditions.

WITH JUST A FEW CLICKS, USERS CAN:

- View Reef Check survey data going back to 1997 .
- Access ocean temperature data from satellites or smart buoys .
- Track heat stress and bleaching events.
- Compare reef images over time.

Completely free, Reef Check and Aqualink are making high-tech reef monitoring accessible and collaborative – because ocean conservation should be a team effort.

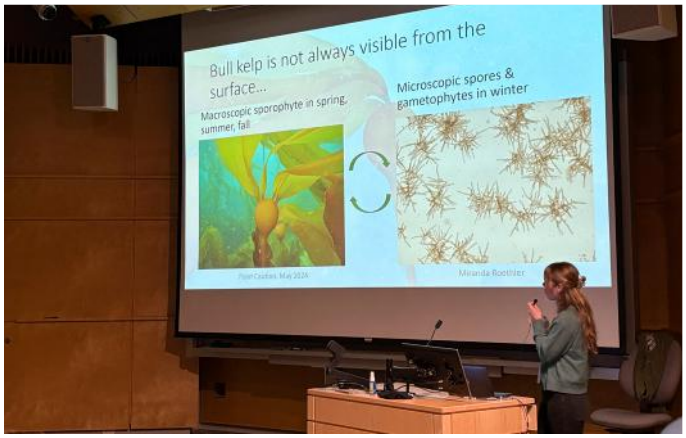
HOW DO I EXPLORE REEF CHECK DATA FROM THE MAP?

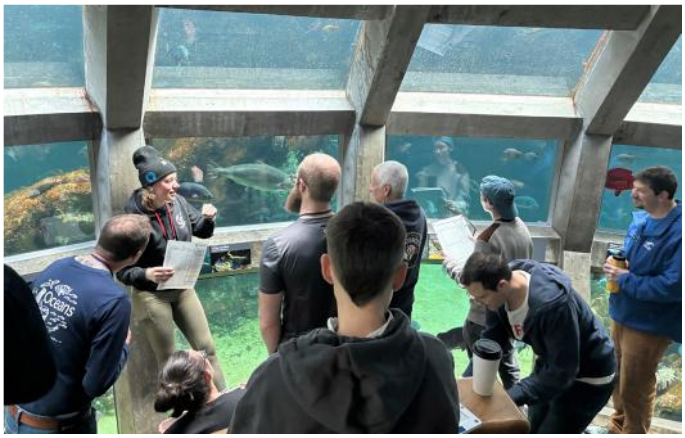
1. Click on a site and press 'EXPLORE'.
2. Scroll down to 'SURVEY HISTORY' to find all the Reef Check survey data for the site.
3. Click on 'VIEW DETAILS' to access the full table with all of the data.

FOR MORE INFO, VISIT:
https://aqualink.org

REEF CHECK PARTICIPATES IN 2025 AAUS SYMPOSIUM IN WASHINGTON

WORDS BY **JACKIE SELBITSCHKA, REEF CHECK WASHINGTON REGIONAL MANAGER**





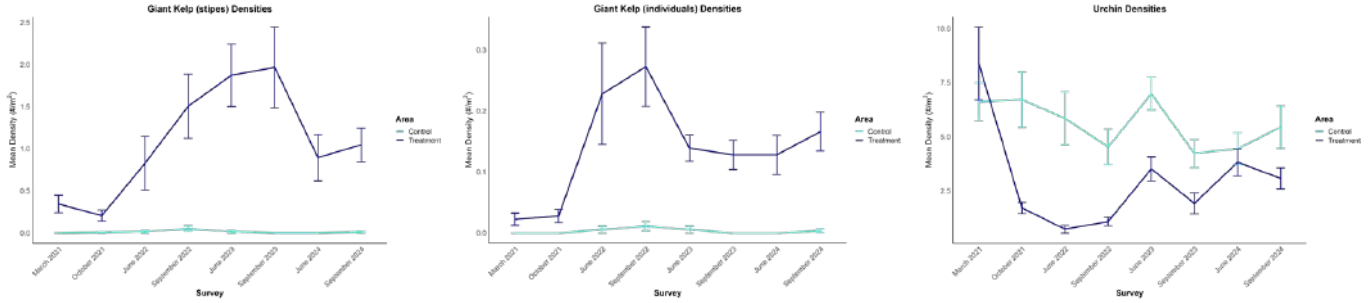
Every year, scientific divers from all over the world come together for the American Academy of Underwater Sciences (AAUS) symposium to learn about organisational updates, participate in professional certification courses and share current scientific diving research with the goal to advance and facilitate safe and productive scientific diving. In March, the symposium was held in Seattle, Washington and hosted by the University of Washington, NOAA and the Seattle Aquarium. With the symposium being hosted by partner organisations in the backyard of our Washington region, Reef Check was asked to lead a couple of events throughout the week – a local fun dive, and a Reef Check experience workshop.

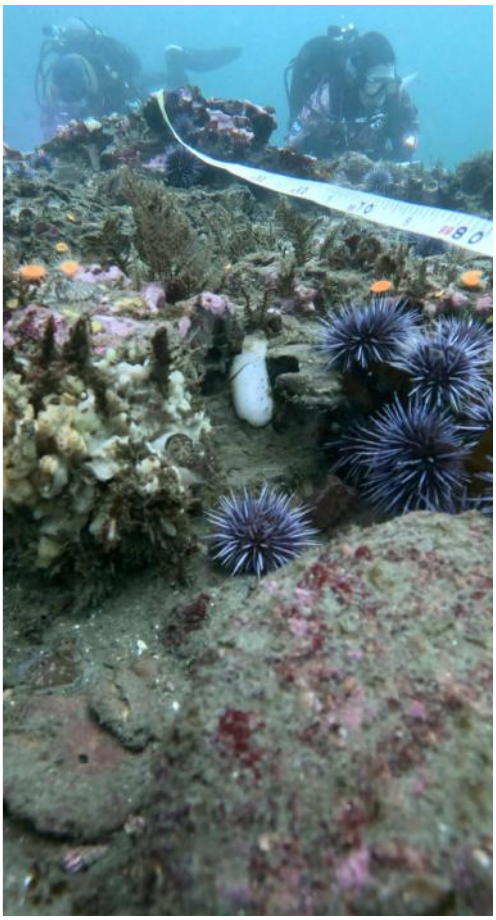
To kick off the week, we gathered at Saltwater State Park on Monday morning to experience some Pacific Northwest diving at its best. Rhoda Green with Friends of Saltwater State Park met us there to give a brief history of the park and the development of the marine preserve. This site used to be home to bull kelp forests, but what is now left is mostly sparse understory kelp. This is a Reef Check monitoring site as well as a planned restoration site with the Friends of Saltwater State Park, but on this day we were going to go for fun and dive a little deeper than our transect typically takes us. This time of year the visibility can be great – around 30ft – prior to the spring plankton blooms. We got to enjoy that water clarity on the artificial reefs that go down to around 80ft deep, with a vertical height of 20ft and about 2-4ft of rock structure that creates habitat for 6-foot Lingcod and large schools of Black, Brown, Copper and Quillback Rockfish. Since 2009 these reefs have become home to large colonies of plumose sea anemones, nudibranchs, urchins and sea stars – all of which we found exploring the cracks and crevices that this reef structure creates.

On Wednesday, the Reef Check workshop was held at the Seattle Aquarium with divers coming to get a taste of what our volunteers learn during their training courses and experience underwater during surveys. Having access to the exhibits at the Seattle Aquarium gave us the rare opportunity to practice species ID with living examples. After a morning of protocol review and a species ID practice, we suited up to have the unique experience of diving in the heart of downtown Seattle right off the pier of the Seattle Aquarium. In Washington, kelp is perennial with bull kelp, as well as most of the understory kelp species, dying off over the fall months, reproducing and recruiting over the winter and starting to grow back in the spring. Because of this, our kelp transects were full of tiny kelp recruits. Most were not large enough to count on Reef Check transects, but it was exciting to see these beds in the early stages of growth. Despite the kelp bed being mostly recruits, our invertebrate transects were full of stars, crabs and even a couple of Wolf Eels! We wrapped up the day sharing our practice transect results and reflecting on the experience. This event allowed us to connect with scientific divers hailing from Minnesota, California, Oregon and Washington to share how we engage citizen science divers to participate in monitoring efforts.

The 2025 AAUS Symposium had record breaking attendance despite many agencies and individuals being affected by federal travel bans leading up to the event. Being able to attend events like the AAUS Symposium that bring together the most experienced scientific divers from around the world creates unparalleled opportunities to build partnerships between agencies, learn from each other and advance safe scientific diving practices.

SURVEYS SHOW KELP FOREST
PERSISTS AFTER URCHIN CULLING CEASES AT TANKERS REEF





In early 2021, the California Fish and Game Commission enacted a regulation allowing the unlimited take of sea urchins at Tankers Reef in Monterey, located just east of the commercial pier and offshore from Del Monte Beach. This three-year rule aimed to assess whether recreational divers could effectively reduce urchin densities to support kelp regrowth and whether they could collect, analyse, and communicate data in a scientifically rigorous manner useful to resource managers.

The regulation expired on the 1st of April 2024, and culling activities are no longer permitted. The coordinated culling efforts, led by the Giant Giant Kelp Restoration Project (G2KR), concluded in July 2023.

With continued funding from Seatrees, Reef Check monitors the Tankers restoration site twice a year (June and September) to evaluate the effects of the removal effort and now to study how the kelp forest can persist without ongoing urchin removal.

In 2024, Reef Check conducted four surveys at Tankers Reef – two at the restoration site (grid) and two at the control site. These surveys involved a total of 74 dives completed by 17 divers, including both staff and volunteers. Volunteers underwent restoration-specific training before each survey day. All surveys were conducted from a boat and required two days to complete.

The most recent surveys from September 2024 indicate that the kelp forest has persisted despite the cessation of coordinated culling efforts over a year ago (July 2023).

- Urchin densities at the restoration site currently average 3 urchins per m^2, compared to 5 urchins per m^2 at the control site.
- Giant kelp densities have remained stable since the fall 2023 surveys.
- Giant kelp stipe densities declined by nearly 45% in June 2024 but showed no further changes in the fall.

These findings suggest that the kelp forest has remained relatively stable, even without continued culling efforts. The fact that density of kelp individuals (plants) are stable while the numbers of stipes decreased suggest that some of the larger plants were lost over the winter 2023/24 and are being replaced by new smaller kelp plants in 2024.

JUMEIRAH PRIMARY SCHOOL
ACTION TOWARDS MARINE CONSERVATION

AN INTERVIEW WITH JPS PRINCIPAL **RACHEL HIGGINS** AND SUSTAINABILITY LEADER **CATHERINE SCHMIDT**
BY **ISAAC AL-ZU'BI**

ABOVE: Mrs Rachel Higgins, Isaac Al-Zu'bi, and Ms Catherine Schmidt.

MS SCHMIDT'S INTERVIEW

1. How long have you been a diver?
I started diving around 30 years ago. I completed my Open Water course in Turkey, and enjoyed it so much that it led to a life long passion and resulted in my becoming a PADI Diving Instructor, a job that I absolutely loved. Every single dive reminds me of how vast, beautiful, and fragile our underwater ecosystems are. It's a privilege to witness the ocean's wonders up close.

2. Where has your favourite place in the world been to dive?
This is such a difficult question to answer as there have been so many wonderful destinations that I have had the pleasure of diving in. However, I will choose the Bay Islands of Cayos Cochinos in Honduras, an untouched paradise. The marine biodiversity there is incredible – from manta rays to vibrant coral gardens, caves that exist 30 metres below the surface, filled with life – and it's a real reminder of what we stand to lose if we don't protect our oceans. I was working for a conservation research company called Operation Wallacea at the time.

3. What is it about diving that you love?
I love the peace and serenity that I feel when I dive. Our world today can be so fast paced so I must say I feel most relaxed when I am in an underwater world.

Diving for me also puts things into perspective. We as human beings are so small and I think sometimes we forget to respect the larger world around us. I am always in awe of our environment and diving is a reminder for me that each impact we make as humans has an impact on the environment, whether it be a positive one or a negative one.

4. You are the Eco Leader teacher at JPS. Is it your love of diving that made you want to take on this role?
My love of diving certainly played a part, yes. In my years as a diver, I have seen firsthand the effects that human behaviour has on the environment. I've seen how trash and plastic can be found floating in the remotest parts of the world, and I've seen the devastating impact it has on marine life.

Diving made me fall in love with the ocean, and with that came a deep responsibility to protect it. Taking on the Eco Leader role at JPS felt like a natural extension of that passion – to inspire the next generation to care for the planet, starting with their own actions.

It's great to be able to share stories with the students at JPS and explain how little things can have a big impact and how using things like single use plastics can negatively affect marine life and eco systems. It's also great to show my students how small positive impacts and changes that they make can have a big positive impact and reverse some man-made damage.

5. How do you encourage your students to have a love for the oceans?
We bring the oceans and natural world into our classrooms, and we learn about the environment through storytelling, art-based

LEFT: Isaac and his ocean loving brother, Idris, who was once lucky enough to swim with a Whale Shark. **RIGHT:** Isaac in his element.

activities, documentaries and real life action. We also invite speakers to come to school to tell our students about their own experiences. For example, we recently had ocean rowers who explained to the students how even in their travels to remote far places such as the Arctic, they had found plastic bottles floating around. The stories of their experiences reinforced to the children that an action in one part of the world influences eco-life in another part of the world, no matter how many thousands of miles away they may be from each other. Their passionate presentations and immersion with our students were completely awe inspiring, encouraging the whole school community to seek further advice on how to protect our oceans and become ambassadors for the ocean. We also take part in Shark and Ray releases and beach clean-ups.

Teaching about the natural world and marine life is embedded into our curriculum at JPS. Our Eco Leaders take part in assembly presentations where they teach children about actions they can do at home and school to help protect our environment, and these ideas then trickle down into each of the classrooms.

We live in an amazing place here in the UAE and we can see marine life all around us. Our younger generations are the key to ensuring these beautiful places stay as protected as possible, and it's our job to help in teaching them how to do that.

6. Do you find that your students have a good understanding of how important it is to protect our environment and in particular our seas and oceans?
Absolutely. The number of children that come up to me daily, proudly telling me the eco-friendly practises that they have learnt at school and implemented at home is truly encouraging.

One such example is, the children tell their parents to reduce the amount of plastic that they use at home, because they know how a plastic bottle can end up in the ocean and is toxic food for a marine animal, causing a very painful death. The Waste Free Wednesday mentioned by Mrs Higgins directly ties in with the children's behaviour at home, based on what they have learnt in school.

We live in a world of convenience, so reducing plastic completely from a household is not realistic for all. But grossly reducing the amount of plastic that enters a home is definitely a step in the right direction and a massive positive impact if all our students managed the same in their homes.

Children are naturally empathetic. They want to help and can see how everything is connected, so for a child to change the mindset of a parent into using more sustainable methods at home is wonderful.

A few weeks ago, we launched JPS Footprint. This is an inspiration board where our families have shared how they have helped the environment based on what they have learnt from their children. The board gives other families ideas and inspirations on how to be and how to live more sustainably. We have many parents telling us how proud they are that their children have such strong opinions and how they come up with new ideas and initiatives to make a positive change.

7. Can you give an example of an activity that one of your students has taken part in to promote protecting our planet or oceans?
We have so many examples! One of our recent student activities was the Shark and Ray release event in Jebel Ali that we partnered up with Atlantis Hotel for. You were a part of that Isaac, and you all did such an incredible job. We released 20 baby sharks as well as a large spotted Eagle Ray back into the ocean. It was certainly a powerful reminder for all students present of the beautiful yet fragile marine life we're working to protect.

I regularly have students coming up to me on a Monday morning to tell me about how they visited a beach over the weekend and ended up collecting and removing bags of rubbish. These activities are done from the students own initiative and during their own time, so I am absolutely filled with pride as these young leaders take real action to care for our planet.

LEFT: JPS Eco Warriors collecting litter during the beach clean-up. **RIGHT:** Some of the JPS Eco Warriors.

8. What activities do you take part in with your Eco Team students?
We have many activities that we partake in at JPS. One of our smaller but very important jobs is monitoring the recycling bins. Our Eco Leaders make sure that the bins are placed in convenient and strategic places for all year groups and monitor the usage of these bins. The team encourages both teachers and students alike to check if the paper has been used on both sides before recycling. Our Eco Leader team visits all year groups from our youngest students in the FS Department, to our Year 6 classrooms. If they have been impressed with the responsible activities such as reusing materials or switching off lights in unused rooms, then they give out House Points as an incentive and encouragement to continue.

We also take part in an initiative called the GEMS Plant a Legacy where students plant trees. As Mrs Higgins mentioned, a small act makes a huge difference; the simple act of planting a tree is probably the best example of that.

Our Beach Clean-up days are also another example of our activities. Our students attend clean-ups where there is normally a lot of trash to collect. This trash is then removed from the area as the students know that we need to remove trash to protect animals and so our eco system can grow stronger. We took part in Scavenger Hunts and trash collection in celebration of Earth Day. The students remove full bags of rubbish from the desert or the beach.

Based on the large amounts of plastic waste the students witnessed, we initiated a Plastic Pledge at JPS, where students have pledged to reduce plastic consumption as much as possible in their school and home lives.

9. What advice would you give a child who wants to learn how to look after the planet but doesn't know where to start?
I would start by reading and researching as much as possible about ways in which we can look after our environment. Talking to teachers and students at school and sharing information would also be a great help for some inspiration and ideas.

Think about activities that you could play an important role in. For example, if you are going grocery shopping, then remind the grown up to take a shopping bag so that you don't need to use plastic bags at the check-out. Whilst you're in the supermarket, have a look at the food stuffs and buy ethically sourced products as much as possible. This is something that you could learn more about through books in our JPS libraries.

We are lucky to live in an amazing place with beautiful beaches, so when you are out and about and see rubbish, go ahead and just pick it up. You never know, you might inspire someone else to do the same.

10. Where is your next diving destination?
This is a tough choice but a location that has been on my wish list for a long time is the Galapagos Island. I think this is probably number one on the wish list for most divers!

MRS HIGGINS' INTERVIEW

1. Have you ever dived?
I have indeed! I dived a great deal during my early 30s and absolutely loved it. I enjoyed it so much that I proceeded to do my Advanced diving course in Oman and Fujairah.

2. When and why did you implement an Eco Leadership department at JPS?
It was such a long time ago, probably around 15 years. Our head of Wellbeing at the time was a keen environmentalist and so when some of our students went to her with eco-friendly ideas for the school, she was thrilled. Alongside them, she created a plan to build Eco Warriors.

Our Eco Leadership is proudly the result of a teacher-student initiative that has just gone from strength to strength with every passing year. Today, the initiatives from our students working alongside Ms Schmidt really do make such a positive impact, both inside the school and in the larger UAE community.

3. How important is the role of Eco Leader for you at your school?
I'm proud to say that we have many leadership roles at JPS, but the Eco Leader role is one of the most important.

A strong environment is the key to a strong society and community. We are all responsible for making sure that we take care of the planet for our future generations. The initiatives driven by our team ensure that we are able to make a positive impact both inside our school and outside of our school. We are all proud to be able to give back through our teaching and inspiring our students to carry on the job for us.

4. How important do you think it is for primary school aged children to learn about loving and protecting our oceans?
Not only is it important, but I also believe it is vital. We recently learnt that the UAE is going to implement a mandatory AI curriculum in schools for students aged 4 and above. I think this is wonderful, and I believe we should also have a mandatory curriculum for Sustainability. Children should learn about environmental, social and economic aspects and how they can be used as tools of opportunity for present generations without compromising future generations.

I think it should be a GCSE option, and I believe it is just as important as core subjects like Maths and English.

5. How important do you think it is for parents to support JPS teachers in their quest to teach students about their environmental responsibility?
It's so important for teachers to have the support of the parents just as parents need the support of the teachers.

There is maximum impact on learning when there is a connection between home life and school life. It makes such a difference to have both aspects in harmony and sustainable impact can only really take place when the children at school are doing the same things at home.

We must work together so that small changes can have massive influence on the environment.

6. How do you encourage students to be sustainably responsible? Do you encourage recycling? Do you encourage parents to be aware of not using single use plastics in their children's lunchboxes for example?

ABOVE: Isaac is a PADI Open Water Junior Diver, as well as an Eco Warrior member at Jumeirah Primary School (JPS).

We decided very early on to get rid of all single use plastic at school. For example, we don't have plastic in our school café, meeting rooms or staff room areas. We want to develop habits particularly with our students, where single use plastics are not a part or a necessity of the day.

We implemented reusable water bottles that are available for all students. We understand that life is busy and sometimes we can leave the house and forget an item, so if a child comes to school without their water bottle, it's not a problem as we have a supply of reusable ones on hand. These bottles are then washed and ready to be used by the next student.

We ensure that everything is recycled in school. As Ms Schmidt mentioned, we have our observant and driven Eco Warriors that ensure that recycling is utilised correctly, and that the system runs smoothly and efficiently.

During the week, we have what we call our Waste Free Wednesdays where students are invited to bring in a lunchbox that has absolutely zero waste materials. All food should be kept in reusable containers and there should be no single use packaging.

We are trying to develop a healthy habit stacking approach with our students. The more they are engaged in habits where they don't need plastic in their lives, the more they are rewarded for thinking of eco-friendly options. This will lead to them to be more environmentally conscious as young adults.

7. How do you encourage teachers to be sustainably responsible in their practices?
We have the same rule for both teachers and students. We cannot expect our students to work with us to reduce the use of single use plastics if their teacher walks into the classroom carrying a plastic bottle. This is why we ensure that our in-house café sells items that are sustainably packaged.

Our teachers are encouraged just as much as our students, and the learning never stops. Our staff are part of the UNCC educators programme on how to become sustainable knowledgeable teachers. This means they are able to get a deeper understanding of the curriculum, and it guides them to teach skill sets to students through a sustainable angle.

Last year, JPS students took part in the TIMSS tests for Maths and Science. One of the aspects was a set of questions regarding sustainability and the environment. Our JPS students were able to answer deep and difficult questions about environmental issues and JPS came Top 10 out of around 240 schools in Dubai. This shows that our approach is working and that our children really know what they are talking about.

We reiterate the message constantly in our day-to-day activities at school, so we know they are having an impact, and we know that what our teachers and leadership division are doing and teaching is really making a difference.

8. What advice would you give a child who wants to learn how to look after the planet but doesn't know where to start?
Start small. Simple acts such as turning off a light or unplugging a device have a big impact. In our assembly at the beginning of April, we spoke with our students about how overwhelming it can be to think how as a single person we can make a difference when we see how large our planet is. But if every single child can do one small act, that's 1400 students from JPS alone that are making a hugely positive result. One step makes such a difference, so start small.

As Ms Schmidt mentioned, researching and reading are vital for gaining knowledge and understanding. Our libraries are full of factual books about our planet and marine life so take the time to look for one that interests you. The next time you are about to watch a cartoon at home, stop and choose a National Geographic programme instead. The Blue Planet and Planet Earth series can captivate both children and adults alike. If you spend just 10 minutes a day educating yourself, you will soon be an expert and paving the way for a more positive planet.

FOTOCORE GTM UNDERWATER STROBE:

COMPACT POWER WITH PROFESSIONAL RESULTS

WORDS AND PHOTOGRAPHY BY **CHRISTOPHE CHELLAPERMAL**

The Fotocore GTM underwater strobe is a thoughtfully designed tool that delivers consistent, high-quality light in a compact package.

When it comes to underwater photography, lighting can make or break a shot. As photographers, we are constantly looking for a strobe that is not only compact and travel-friendly but also delivers consistent, powerful light with enough versatility to handle various shooting conditions. The Fotocore GTM strobe is a recent addition to this space, offering a promising balance of performance, portability, and value. Over the past few weeks, I had the opportunity to test the GTM in a variety of diving environments, and here is how it held up.

DESIGN AND BUILD

The GTM is compact, lightweight, and clearly designed with the travelling diver in mind. Weighing just 280 grams underwater and measuring 118mm in length, it's easy to mount, pack, and manoeuvre. The aluminium body feels sturdy and well-sealed, inspiring confidence in terms of durability and flood resistance. One immediate bonus: the strobe is powered by two 18650 lithium batteries, which are widely available and offer excellent burn time. At low power, you can expect up to 5000 flashes, and about 800 at full output.

LIGHT QUALITY AND COVERAGE

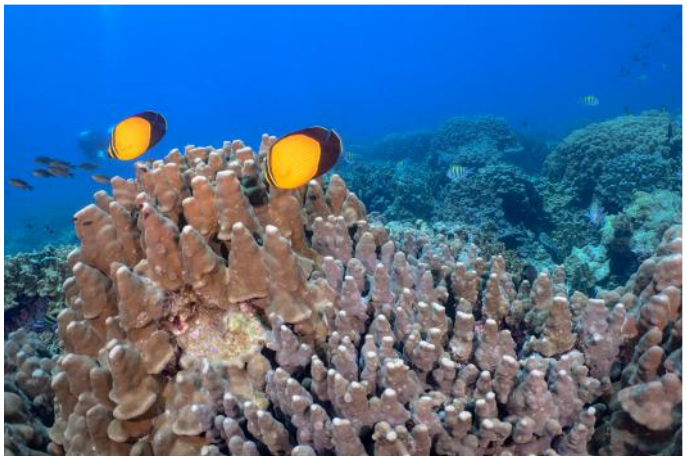
The GTM delivers a wide 160-degree beam angle with soft, even coverage – something that really stood out in use. The light quality is excellent, with a pleasing 5000K colour temperature and a noticeable lack of hotspots. From edge to edge, the illumination is beautifully consistent, making it a fantastic tool for macro work and close-focus wide angle. The included reduction ring allows you to narrow the beam to 110 degrees, which is useful when trying to control spill in more creative compositions.

One of the GTM's greatest strengths is its modularity. Several accessories are available, including colour diffusers, giving you the ability to tailor the light to your subject and shooting style. I was also excited to learn that a snoot accessory is currently in development – this could open up even more creative possibilities for macro photographers.

POWER AND CONTROL

The strobe features seven power levels and a recycle time ranging from 0.1 to 1.1 seconds depending on output. It doesn't offer TTL, which might be a downside for some users, but I found the manual control dial to be intuitive and reliable. There's also a 5W focus light (500 lumens), which helps in low-light conditions, especially when shooting with a mirrorless setup.

The strobe claims a guide number of 24, but this can vary based on factors like measurement



method, camera dynamic range, and ISO used. I prefer watts; the GTM claims 120 watts, which is impressive for its compact size.

The GTM uses optical triggering, which worked reliably in my tests. While some might prefer an electrical sync port, the optical setup simplifies connections and reduces potential points of failure. For most users – especially those not using multi-strobe rigs – this is more than adequate.

ROOM FOR IMPROVEMENT

While the GTM delivers admirably in performance, there's room for refinement – particularly in the user manual. The included manual was printed in very small characters, in both Chinese and English, making it difficult to read even under ideal conditions. A simple fold-out with large, clear images and minimal text would go a long way in improving the user experience, especially for divers with aging eyes like myself.

CONCLUSION

The Fotocore GTM underwater strobe is a thoughtfully designed tool that delivers consistent, high-quality light in a compact package. While it may not replace larger strobes for all wide-angle work, it excels in flexibility, ease of use, and portability. Its consistent beam, modular accessory system, and intuitive manual controls make it a solid option for photographers who prefer to work with minimal gear but still demand professional results.

If Fotocore improves the user documentation and continues to develop modular accessories like the snoot, the GTM could become a go-to strobe for a wide range of underwater creatives. For now, it earns a strong recommendation – especially for macro photographers and anyone who values packability without sacrificing lighting quality, it's price is also very good at AED1,750 (excluding VAT) it is a very affordable aquisation. The GTM strobe is available for Order at XR Hub Dive Center and they are also available for trial for free at XR Hub should you want to try them, contact us.

DNA DETECTIVES OF THE SEAS:
HOW THE UAE IS PIONEERING MARINE eDNA FOR CONSERVATION AND FORENSICS

WORDS BY **ISHANI PILANKAR COONEY**

This article unpacks the science behind eDNA, examining how microscopic genetic traces shed into seawater can reveal marine biodiversity, monitor ecosystem health and expose illicit activities. It also explores how the UAE is forging a nationwide eDNA network by leveraging Jaywun's mobile marine research lab, onshore DNA barcoding facilities and rapid screening protocols to revolutionise conservation efforts and marine forensics.

A sea turtle glides over coral reefs in Abu Dhabi's Marawah Marine Protected Area, a UNESCO site. Photo by Experience Abu Dhabi.

ABOVE: Seized thresher sharks, part of a 26-tonne shark fin shipment from Ecuador to Hong Kong. Photo by Andy Cornish/WWF.

INTRODUCTION

In early 2020, Hong Kong customs intercepted two shipping containers from Ecuador concealing 26 metric tons of dried shark fins sourced from an estimated 38,500 silky and thresher sharks, protected under CITES Appendix II. Armed with a portable eDNA toolkit costing only $1 per test, officers ran on-site PCR assays and confirmed the illicit origins within hours. The following year, researchers from University of Hong Kong piloted drain-water eDNA sampling in local wet markets, uncovering DNA from 144 fish species, including two threatened thresher sharks and the endangered black-chinned guitarfish. Today, authorities embed routine drain-water collection into official inspections, sharing rapid eDNA results with enforcement units. This non-invasive approach lets us spot illegal marine products and safeguard vulnerable species without ever harming the environment.

Building on Hong Kong's rapid eDNA crackdown, the UAE is applying eDNA technologies for marine life protection and conservation. Aboard Abu Dhabi's Jaywun, scientists now filter, amplify, and sequence seawater samples in real time, geolocating protected species and flagging illicit catches before vessels dock. While formal marine-crime applications are still emerging, the UAE has rapidly expanded its eDNA detection capabilities through ecological and biodiversity monitoring projects, laying vital groundwork for future enforcement. In this article, we'll explore how Jaywun's onboard DNA analysis platforms can be leveraged to detect eDNA for marine forensic applications, showcase additional UAE initiatives already applying eDNA techniques, and examine how the nation is laying the groundwork for future marine forensics through its cutting-edge research capabilities.

eDNA: COLLECTION TO DATA INTERPRETATION

Every organism – whether fish, coral or crustacean – continuously sheds microscopic genetic breadcrumbs into its surroundings. These breadcrumbs, known as environmental DNA or eDNA, consist of fragments of skin cells, mucus, slime, waste products, reproductive cells and even decaying tissue. Scientists can reconstruct an entire marine community without relying on traditional methods such as trawl nets or diver surveys by collecting a small sample of water or sediment and isolating the DNA within.

Larger predators discharge significantly more DNA than smaller reef fish, and reproductive adults contribute disproportionately high amounts. Activities such as sustained swimming and feeding events further elevate shedding rates. Once released, these genetic fragments persist only briefly. Warm water accelerates molecular breakdown, currents disperse and dilute traces, ultraviolet light causes strand breakage and changes in pH, or the presence of pollutants hasten decay. As a result, each environmental sample provides a narrow detection window, often just hours during which eDNA remains recoverable DNA strands.

Once collected, the eDNA detective work moves to the laboratory. First, seawater is pumped through ultrafine filters that trap every particle larger than a few microns. Sediment scoops and biofilm scrapes add extra context, and samples are immediately chilled or treated with stabilisation buffers to preserve fragile genetic signatures. Next, cell lysis breaks open membranes and releases DNA. Purification kits remove proteins and other debris, yielding a clean extract. Polymerase chain reaction (PCR) then multiplies the target gene segments until millions of copies are available for sequencing. High-throughput machines such as Illumina platforms or portable nanopore sequencers like MinION generate raw sequence reads. Finally, bioinformatics programmes quality filter those reads and compare them against a growing library of species barcodes to produce a definitive inventory of which organisms were or recently passed through that stretch of ocean.

With this toolkit, every drop of water becomes a high-resolution snapshot of biodiversity. Rare, elusive or nocturnal species reveal themselves, invasive organisms are detected early, and enforcement teams gain a forensic edge in tracing illegal activities. In the world of marine conservation, eDNA has truly become the ultimate underwater sleuth.

JAYWUN: THE UAE'S OFFSHORE eDNA POWERHOUSE

Launched in January 2023, Abu Dhabi's 50-metre research vessel Jaywun is a groundbreaking achievement, being the UAE's premier mobile marine research platform and its first at-sea eDNA powerhouse. With six specialised laboratories and a suite of remotely operated vehicles, Jaywun is equipped with ultrafine filtration systems, high-capacity pumps, and an integrated sequencing suite, effectively transforming the vessel into a floating genomics laboratory.

TOP: Customs detain a man travelling with five live radiated tortoises concealed in his clothing at Suvarnabhumi Airport, Thailand. Photo by INTERPOL. **BOTTOM L-R:** Seahorses seized at Kempegowda International Airport, Bengaluru, India, intended for use in alternative medicine formulations. Photo by L. Balachandar; Dried shark fins displayed at a fish market in El Salvador. Photo by Andyjkramer/Adobe Stock.

On its maiden voyages, Jaywun led the Gulf's first region-wide eDNA survey in a collaborative effort with OceanX and M42 Environmental Sciences. Over a 20-day moving-vessel campaign, the team processed 37 water samples from 19 sites using onboard sequencing, instantly creating the UAE's inaugural eDNA baseline and genomic library for key fisheries species and yielding 13 DNA samples across seven whale and dolphin taxa.

Building on that success, the team then performed whole-genome sequencing of three marine mammals, the Indo-Pacific bottlenose dolphin, the Indo-Pacific finless porpoise and the Indian Ocean humpback dolphin. This research provided unprecedented insights into genetic diversity, population health, species adaptability and climate resilience, significantly advancing our understanding of these species and their ecosystems.

Today, as the flagship of the Abu Dhabi Environmental Research Network, Jaywun leverages its eDNA capabilities to drive atmospheric and conservation science. From conducting blue-carbon assessments to performing genomic stock evaluations, Jaywun is at the forefront of marine research. It also paves the way for marine forensics, helping UAE scientists and enforcement teams detect illicit catches, monitor vulnerable populations and translate the findings into policy and prosecution.

eDNA FOR MARINE CONSERVATION AND FORENSICS IN THE UAE

While Jaywun showcases the power of mobile, at-sea marine research, UAE environmental scientists could adapt its workflows ashore. By harnessing existing eDNA tools, from routine seafood-market spot-checks to rapid customs screenings, they can knit together a nationwide network for both conservation and forensic applications. Let's explore these possible initiatives across the UAE:

Detecting Illegal, Unreported, and Unregulated (IUU) Fishing

Vessel-Based Forensic Sampling

Jaywun can detect DNA traces of quota-protected species, even after the catch has been offloaded or the hold cleaned, by testing water from a vessel's holding tanks or deck drains. Recent research shows that analysing brine and meltwater samples can accurately reconstruct a vessel's entire catch composition. Leveraging its real-time sequencing lab at sea, Jaywun enables enforcement teams to board

L-R: An ROV being lowered into the ocean to collect deep-water samples for biodiversity monitoring. Photo by Karlstury/Adobe Stock; Glass eels (*Anguilla anguilla*)are smuggled in their hundreds of millions from Europe to destinations worldwide. Photo by Florian Büttner; Adult European eels (*Anguilla anguilla*); their juveniles are commonly known as glass eels. Photo by Christine Bossé.

suspect boats, collect tank water, and verify the presence of illegally caught grouper or other overexploited fish within hours.

Market and Supply-Chain Surveillance

eDNA testing need not end on the water. Enforcement teams could routinely sample water from fish-market display tanks, ornamental fish retailers or fish product processing-plant drains to detect threatened species such as sharks, rays or undersized juveniles that might otherwise slip into commerce.

Rapid Customs Species Screening

In 2019, two smugglers arriving from Portugal attempted to pass off endangered European glass eels, Anguilla. Anguilla, as legal American eels at Hong Kong airport. A portable eDNA test, devised by Diego Cardeñosa of Stony Brook University, distinguished the species in minutes, leading to the first prosecution of international eel traffickers. With an estimated 300 million glass eels trafficked annually, similar on-site tests in the UAE could empower border control to instantly verify CITES-listed marine products such as shark fins, seahorses, rare corals and halt illicit shipments before they enter commerce.

Persistent DNA Residue Detection

In a 2025 study published in Forensic Science International, researchers demonstrated that eDNA can remain detectable on equipment for over six months, successfully recovering turtle DNA from gear half a year after initial exposure. UAE enforcement agencies could leverage this persistence by swabbing boat decks, nets or storage tanks to recover genetic traces of protected species long after any illicit take. Detecting DNA from a banned grouper or marine turtle on board, even if the catch has been discarded, would furnish compelling, court-admissible evidence and extend marine forensics well beyond direct observation.

eDNA Surveillance for Conservation and Fisheries Compliance

UAE waters harbour vulnerable fauna such as dugongs, sea turtles, guitarfish and certain shark and ray species, which are difficult to survey by sight alone. Mobile labs like Jaywun's eDNA toolkit can map their distribution, verify population health and provide forensic proof of harm. Routine sampling within Marine Protected Areas establishes a "forensic baseline" of expected biodiversity. Any deviation, whether the disappearance of a key species marker or the sudden appearance of an out-of-area DNA can be investigated. Because eDNA collection is non-invasive, environmental scientists can discreetly monitor sanctuaries without disturbing wildlife.

Beyond strictly protected zones, continuous eDNA monitoring also serves as an early-warning system for fisheries management and traceability. Sudden drops in the eDNA signal of commercially important species flag unreported harvesting and prompt targeted inspections. Similarly, detecting non-native or invasive organisms, such as exotic mussels in ballast-water discharge, enables rapid biosecurity responses and enforcement of ballast-water regulations before an invasion.

eDNA: MARINE LIFE'S FINGERPRINTS – CAN IT STAND UP IN COURT?

eDNA is a powerful form of trace biological evidence, acting as a true breadcrumb trail of marine life. Fish, corals and other organisms continually shed genetic fragments into their surroundings, and these traces can linger for days or even weeks. By sampling water from a market tank, a drain or an ornamental fish retailer, investigators can confirm which species are present and forge forensic links back to the vessel or gear that captured them. Like fingerprints at a crime scene, eDNA profiles can pinpoint the exact source of those organisms. Thanks to its resilience, specificity and traceability, eDNA enables the reconstruction of supply chains, the detection of protected or invasive species and the collection of evidence for legal enforcement.

Globally, eDNA is increasingly accepted as admissible forensic evidence, provided it meets established standards for scientific reliability. In the United States, the Seventh Circuit in Michigan versus US Army Corps of Engineers upheld fish catch reconstructions based on brine tank eDNA under Federal Rule of Evidence 702, demonstrating that courts will admit eDNA when generated through reliable and validated methods. Broad acceptance, however, depends on rigorous validation: laboratories must hold ISO/IEC 17025 accreditation to demonstrate technical competence and adhere to field-specific standards such as those from the Society for Wildlife Forensic Science.

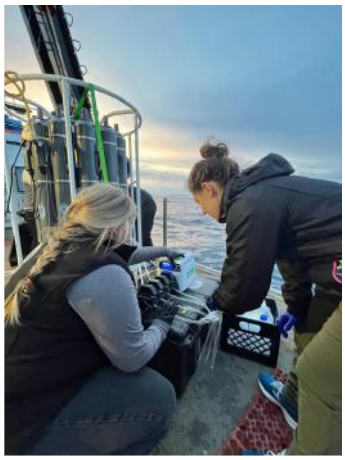
Although no court has explicitly cited eDNA in the UAE, the Dubai Police Biology and DNA Section routinely handles and admits thousands of trace-DNA cases in the court, under ISO/IEC 17025 accredited protocols. This practice confirms that trace-DNA analyses meet UAE evidentiary standards, so long as they satisfy the following prerequisites:

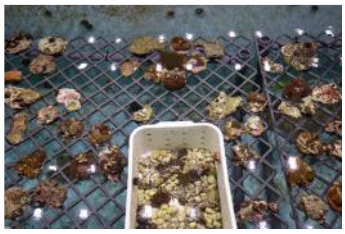
Accredited laboratory analysis

Laboratory analyses must be conducted in ISO/IEC 17025-accredited or equivalent facilities and comply with the expert-evidence provisions of Federal Law No. 7 of 2012 on the Expertise Profession.

Unbroken Chain of Custody and Stringent Contamination Controls

All eDNA samples must be tracked seamlessly from collection through transport and processing, with rigorous protocols at each





L-R: The UAE's cutting-edge marine research vessel, Jaywun, conducting oceanographic studies in the Arabian Gulf. Photo by Environment Agency – Abu Dhabi; USGS biologist Alexis Weinnig and NOAA scientist Ashley Marranzino filter seawater for eDNA from a CTD rosetteaboard the NOAA Ship Okeanos Explorer. The CTD rosette with Niskin bottles allows scientists to collect samples from specific depths throughout the water column. Photo by Eastern Ecological Science Centre/USGS; Confiscated coral colonies in a back room of the Georgia Aquarium, which has taken in around 1,000 illegally trafficked animals since 2010. Confiscated corals must be cared for either until charges against a defendant in a trafficking case are dismissed, or they are permanently seized by authorities. Most cannot be returned to the wild. Photo by Kendrick Brinson for The New York Times.

step to prevent cross-contamination and maintain evidentiary integrity.

Peer-Reviewed, Validated Methods with Documented Error Rates and Standardised Protocols

Analytical procedures must be published in the scientific literature, undergo formal validation studies that establish known error rates, and follow uniform protocols to ensure reproducibility.

Qualified Expert Testimony Able to Explain Methodologies and Interpret Results

Any eDNA evidence must be presented by experts who hold recognised credentials, can clearly describe the laboratory workflows, and interpret the genetic data for a lay audience in court.

When these conditions are adhered to, whether the sample source is brine tanks, meltwater, deck-drain runoff or environmental swabs, eDNA evidence is considered court-ready and legally admissible in UAE proceedings.

CONCLUSION

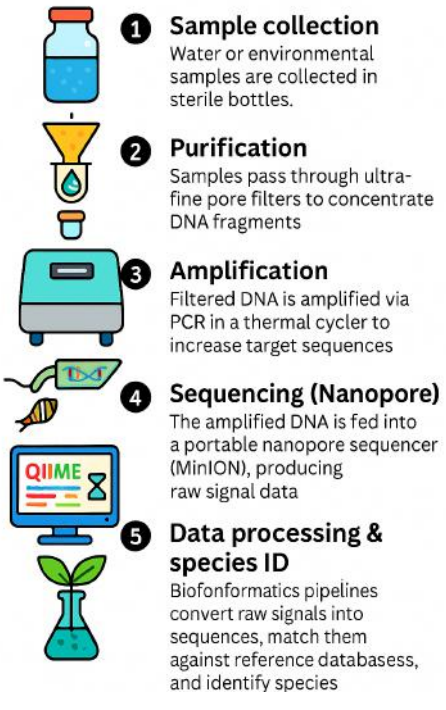
From the $1 PCR assays that Hong Kong customs used to unmask exotic shark-fin smugglers to Jaywun's high-capacity, shipboard sequencers, eDNA has moved from novelty to necessity. In the UAE, Jaywun's floating genomics lab has shown that real-time DNA analysis at sea is not just a concept – its reality. Onshore, Sharjah's EPAA has DNA-barcoded hundreds of fish species, new laboratories are operational, and marine scientists are trained in these cutting-edge techniques, showcasing the UAE's impressive capabilities.

The country is knitting a seamless network for tracking biodiversity and detecting illegal activity by linking ship-board surveys with routine market checks and customs screenings. When a concern is flagged, such as an unexpected species in a seafood market, it triggers targeted follow-up at sea or at a border crossing.

With accredited labs, clear protocols, and strong collaboration among environmental scientists, enforcement officers, and policymakers already in place, eDNA has evolved from a research novelty into a routine tool for conservation and law enforcement. By embracing these approaches, the UAE is now at the forefront of marine conservation and forensics in the region. Leveraging technology, data, and expertise together, the nation will secure healthier, more resilient oceans for generations to come.

Customs seize 114 turtles smuggled from Tanzania in a passenger's luggage at Suvarnabhumi Airport, Thailand. Photo by INTERPOL.

Confiscated Motoro rays (*Potamotrygon motoro*), seized from traffickers, undergoing rehabilitation and long-term care at the Georgia Aquarium. Photo by Kendrick Brinson for The New York Times.

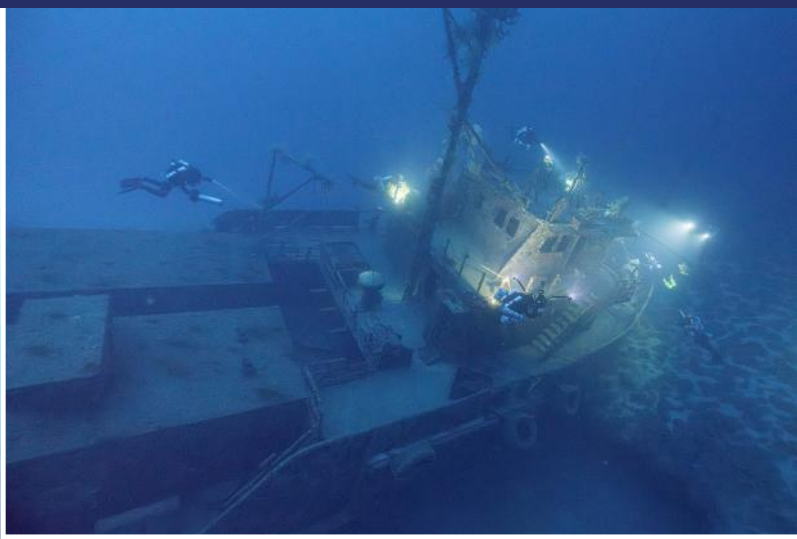


Simplified DNA Analysis Workflow – outlining key steps from environmental sample collection to species identification. Ilustration created by Ishani P Cooney.

BEYOND BUBBLES
RETHINKING DECOMPRESSION WITH DAN AND RED SEA EXPLORERS

WORDS AND PHOTOGRAPHY BY **JESPER KJØLLER**

We might believe we have a good grasp of decompression and how to plan and execute deep dives to minimise the risk of decompression sickness (DSC). However, the reality is that we may know what works, but we often lack a clear understanding of why it works.



We might believe we have a good grasp of decompression and how to plan and execute deep dives to minimise the risk of decompression sickness (DCS). However, the reality is that we may know what works, but we often lack a clear understanding of why it works. In collaboration with Divers Alert Network's (DAN) Dr Constantino Balestra and Red Sea Explorers, the Danish retired scientist and deep CCR diver Søren Bøwadt organised a ten-day liveaboard trip with the scientific objective to gain a deeper understanding (pun intended) of a crucial question: Why are divers apparently producing fewer bubbles at the end of a dive week with aggressive profiles, compared to the beginning of the period?

Early one morning in October 2024, I received a laconic WhatsApp message: Nouran burned. She is gone.

It had only been a few days since I left the Red Sea Explorers liveaboard MV Nouran. The incident occurred in the evening at Daedalus Reef far from shore. Fortunately, the Red Sea Explorers flagship, MV Tala, was moored next to Nouran when the fire broke out, and all passengers were safely evacuated.

The loss of Nouran prompted the Red Sea Explorers team to quickly seek a replacement to accommodate their 2025 bookings. They chartered the brand-new liveaboard High Wave on a long-term basis. With her five decks and cabin space for 24 passengers, High Wave is designed for recreational diving. However, after a few trial runs and a reconfiguration of the dive deck to support the tools of the trade for tech diving such as twinsets, rebreathers, deco and bailout tanks, scooters, boosters, and helium storage, she was ready to meet the demands of expedition diving as well.

Having spent over 40 weeks aboard the iconic vessels of the Red Sea Explorers fleet – Tala and Nouran – I felt very much at home on those boats. So, I board High Wave in Hurghada's New Marina with some apprehension. Will she be able to deliver the same experience? However, I've come to learn that the soul of a dive operation isn't in the vessel that ferries divers from point A to B. It's in the people and the spirit and energy they bring. And soon, I forget that High Wave is a new addition to the Red Sea Explorers family. I feel right at home.

WEATHERING THE WAIT

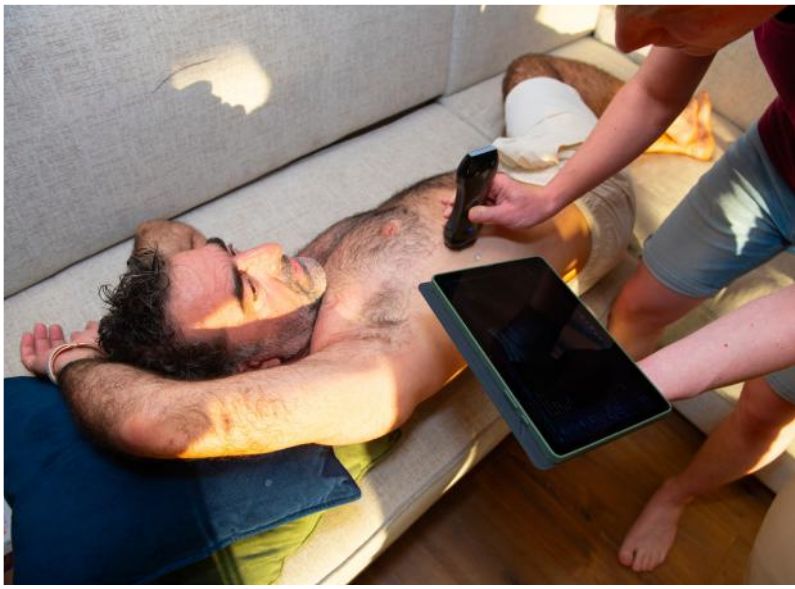
Unfortunately, I get to know the ship all too well before we ever leave port. Unusually high winds force the coastguard to prohibit all sailings for three days, cutting our ten-day expedition down to seven. Or rather six – because even after we are cleared to leave port, we spent another full day hiding from the wind in Marsa Shona, farther down the coast.

This is an unusually strict stance from the coastguard, even considering the weather conditions. However, the Egyptian authorities are understandably eager to protect both tourists and stakeholders in the diving industry. Over the past year or so, there has been an unusually high number of incidents at sea – both weather and fire-related – which makes the authorities more cautious, and probably rightly so. Oh well, as the saying goes: It's better to be in the harbour wishing you were at sea than at sea wishing you were in the harbour.

SCIENCE ON BOARD

We make the most of our downtime while stuck in the marina, prepping equipment and attending insightful presentations by Tino and Søren. Tino, with his entertaining energy and thought-provoking catchphrases like, "A model is a way to organise our ignorance," shares updates on the latest research in decompression theory.

Søren, equally captivating, delivers a detailed



lecture on his speciality: the behaviour of rebreather scrubber materials. Passionate about sharing his in-depth knowledge of the intricacies of scrubber dynamics, he's a nerd in the best sense of the word.

Our diverse group of divers includes recreational single-tank enthusiasts, open-circuit technical divers, and deep CCR explorers. Despite the advanced nature of the lecture topics, even the recreational divers seem to enjoy the presentations, which reflect the cutting edge of current research.

The team is truly international, with participants from India, Germany, the US, England, Belgium, Denmark, Greece, Italy, Norway, Ukraine, Egypt, Lebanon, and Russia.

Red Sea Explorers specialises in catering for mixed groups of divers. After two decades in operation (RES is celebrating its 20th anniversary in July 2025), the team has perfected the art of keeping everyone happy, even with different objectives, diving habits, and gear and gas needs.

Managing a wide range of equipment, including gas fills, specialised setups, and scooters, is much more demanding compared to a standard liveaboard operation where everyone does the same type of dive with the same equipment and gas. Additionally, the kitchen and saloon staff are constantly operating to serve meals, as recreational divers and deep tech divers are running on different schedules, so there are always hungry mouths to feed.

SCANNING FOR BUBBLES

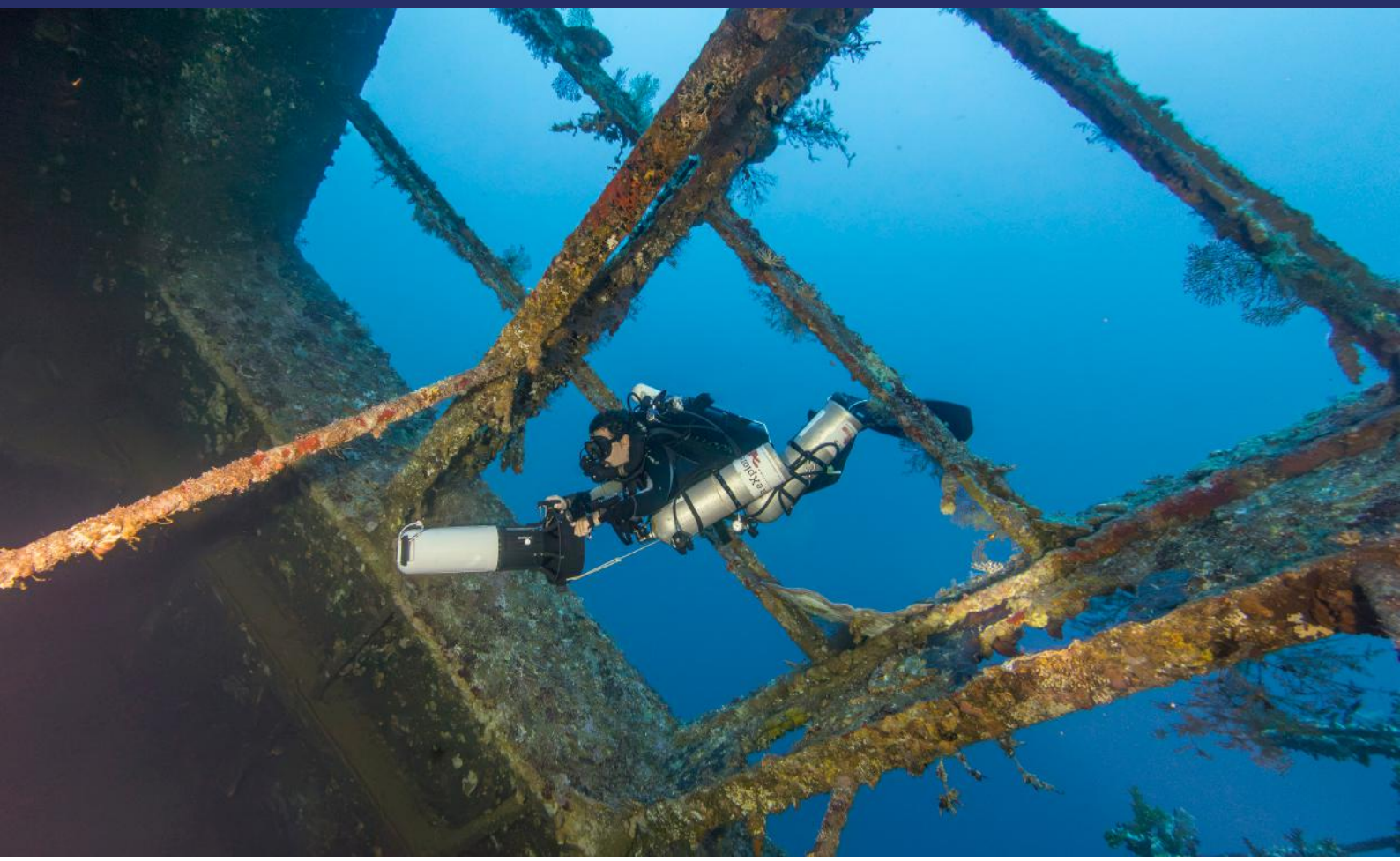
This trip is not the first of its kind. The collaboration between Red Sea Explorers, Divers Alert Network, and facilitator Søren Bøwadt has been ongoing since 2019, and this marks the fourth installment. Previous expeditions included more extensive research protocols, such as measuring post-dive inflammation through urine, saliva, and blood samples, along with spirometry tests.

For this expedition, the approach is more streamlined, focusing solely on ultrasound scans of the heart and lungs to monitor vascular gas emboli (VGE).

VGE are bubbles of inert gas that form in the bloodstream during or after ascent from a dive, as ambient pressure decreases and dissolved gas comes out of solution. A critical factor in the formation of VGE is the presence of microscopic gas pockets known as micronuclei – tiny, stable gas inclusions within tissues or on vessel walls that act as bubble seeds during decompression. Without these micronuclei, bubble formation would require much greater levels of supersaturation. VGE commonly appears in the venous circulation, especially in the right heart and lungs. They are often asymptomatic, and most divers will have some VGE following a dive without experiencing decompression sickness (DCS). However, their presence correlates with an increased risk of DCS, which occurs when bubbles grow large enough – or are numerous enough – to obstruct blood flow, damage tissues, or provoke inflammatory responses.

Factors such as dive depth, duration, ascent rate, and the presence of a patent foramen ovale (PFO) affect the likelihood that VGE will lead to DCS. While VGE themselves are not inherently dangerous, they reflect decompression stress and help researchers and divers understand and manage DCS risk more effectively.

These bubble formation scans are conducted on the team of deep CCR divers at predefined intervals: immediately after surfacing, then at 15 minutes, 30 minutes, and one-hour post-dive. The portable ultrasound device displays



real-time images on a smartphone or tablet and is relatively easy to operate.

COALMINE CANARY

Since there's no direct correlation between the number of bubbles and DCS incidents, other factors are at play. However, much like many other natural phenomena, the relationship between bubbles and DCS symptoms tends to follow a Gaussian distribution.

If you plot bubble counts across a group of divers, you get a bell-shaped curve: most divers have a moderate number of bubbles, with fewer having very low or very high counts. Similarly, DCS symptoms tend to cluster toward the high-bubble end of the curve. Most divers with moderate bubbles experience no symptoms, but the risk rises significantly in those with high bubble loads – though even then, not all of them develop DCS. In short, bubble presence indicates decompression stress and risk but doesn't guarantee illness.

The research conducted by Dr Balestra and his team aims to add a new layer of understanding. It appears that decompression stress may not be fully captured by gradient factors, decompression algorithms and bubble counts alone. The body's biological state, especially after days of intense exposure, seems to matter too. Pre-dive inflammatory status and other biological factors can't be ruled out as contributing factors. However, since these parameters can be difficult to measure, ultrasound scans serve as a proxy for the bubbles that form in the bloodstream after a dive – the proverbial canary in the coalmine.

Interestingly, VGE counts drop during the first few days of diving. It seemed the divers are "adapting" to the exposure. These markers increased steadily throughout the week, indicating that the divers' bodies were mounting a growing inflammatory response.

Balestra believes that early in the week, the body "cleans out" existing micronuclei. However, with each new dive, cellular stress leads to the release of microscopic particles – called microparticles (MPs – from stressed or damaged cells. These MPs can act as new nucleation sites for bubbles, even though they're too small to detect with ultrasound. Over time, they accumulate and may become large enough to cause visible VGE and decompression stress.

ABU KEFAN

Due to weather-related delays, the revised itinerary no longer permits us to reach the SS Maidan wreck near Rocky Island in the deep Egyptian Red Sea. However, the DAN research team remains eager to collect data from deep dives, and fortunately, the region offers a wealth of exceptionally deep and spectacular reef sites when wrecks are out of reach.

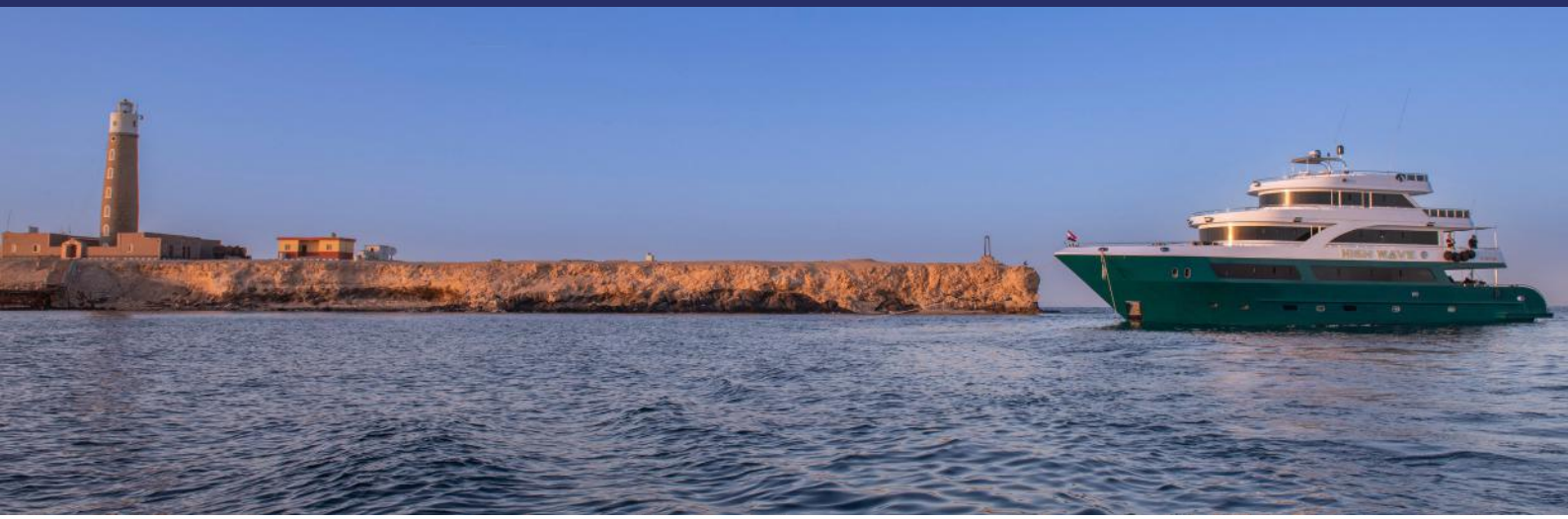
Abu Kefan, situated in the Safaga area, is one of the deepest offshore reefs in the Egyptian Red Sea. Its walls extend far beyond the limits of even the deepest scuba divers. In many ways, it resembles the renowned Elphinstone further south, with its elongated north/south orientation and stretching plateaus at both ends.

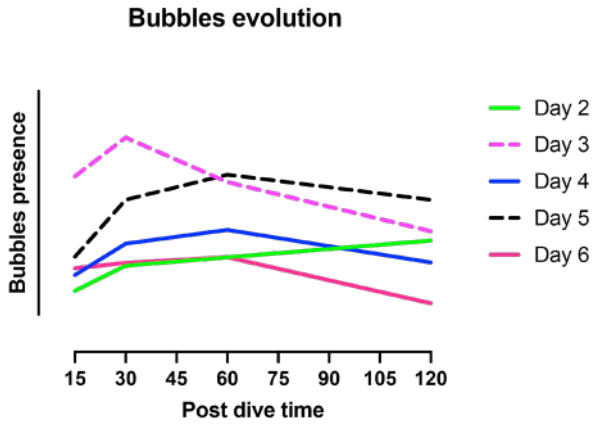
We recently returned from Brother Islands, where we had excellent dives on Aida and Numidia. After a smooth overnight crossing, we are now drifting next to the reef as we prepare for the Abu Kefan drop.

Coordinating a dive with ten CCR divers – each equipped with stages, scooters, and cameras – on a dive deeper than 100m/328ft can be challenging, especially with a crew new to technical diving. However, with the supervision of the capable Red Sea Explorers team, they are quickly learning the ropes.

We follow the southern plateau slope until we reach the drop-off. After about ten minutes on the throttle, I find myself hovering above a black abyss. I make a quick circle to check on the team, and after receiving a reassuring OK from everyone, we descend almost vertically.

At 110m/360ft, I level out and stop the scooter to swim a bit and ensure the team stays together. I perform a quick site check and assess my level of narcosis. The pre-blended Tx6/86 mix we are all using on the trip feels great, and I feel clear and alert. We begin our slow ascent back along the sloping plateau. It's almost as if the shape of the slope was designed by John Scott Haldane himself, as following it provides the perfect ascent profile.





After a two-hour dive, we surface to be picked up by the zodiacs, which take us back to the mother ship and the omelette waiting in the galley. Note to self: Abu Kefan is an underrated reef that deserves to be mentioned alongside the more famous shore reefs Elphinstone and Daedalus.

ONE DIVE – THREE WRECKS

We're back in the Hurghada area and have time for one more deep wreck dive. The Gulf Fleet No. 31 at Shaab Ruhr Umm Qammar is one of my favourite dive sites in the North and another speciality of Red Sea Explorers. With scooters, it's possible to do three wrecks during the same dive, just like the four wrecks at Abu Nuhas and the two wrecks at Brother Island.

The Gulf Fleet No. 31, an offshore supply vessel built in 1978, met its fate under mysterious circumstances. It's widely believed that the ship struck the northeast tip of the reef. After grounding, the crew abandoned the vessel, which remained perched atop the reef for several weeks before eventually slipping over the edge and descending to its current resting place at a depth of approximately 105m/345ft.

The exact date of the incident is a subject of debate, and the ship wasn't rediscovered until 1995, leading to ongoing discussions about the precise timeline of events.

Today, the Gulf Fleet No. 31 serves as a challenging but very photogenic dive site for technical divers. The wreck lies upright on a rocky outcrop near the northeast tip of the reef. Divers can explore various parts of the vessel, including the stern at 100m/333ft, the pilothouse at 95m/312ft, and the open work deck at 86m/282ft. It's possible to swim under the wreck through a crack in the ocean floor beneath it.

After 15 minutes, we signal to leave the wreck and aim for the 65m/213ft curve to hit the next wreck, the Colona IV. This liveaboard, one of the first of its kind operating out of Hurghada, sank in late April 1995 after striking the reef during heavy weather. The vessel now rests at a depth, lying on its starboard side. I always enjoy visiting Colona IV because I've actually been on board her before she sank!

The third wreck on the reef is the remains of a police boat with debris scattered over a large area. It's not much, but it's a nice addition to the shallower decompression stops.

ADAPTIVE DECOMPRESSION

The fusion of world-class diving and pioneering research made this expedition far more than just another tech dive safari. It offered a glimpse into the future of decompression science – one where physiology, not just physics, takes centre stage. The idea that our bodies might adapt or become sensitised to repetitive deep diving challenges long-held assumptions and opens the door to more personalised, biologically informed dive planning. Perhaps there's even a psychological factor at play? Could it be that the fact that more DCS incidents occur at the beginning of a trip also be attributed to the fact that you're more at ease and feel more confident after a few days?

While the data collected on this trip won't yield instant answers, it adds to a growing body of evidence suggesting that decompression risk is about more than gradient factors and run times. It's also about inflammation, stress, and how individual bodies respond over time.

As we return to shore, sunburned and satisfied, there's a shared sense among the group that we've not only explored new depths underwater, but also cracked open a deeper understanding of what safe diving might mean in the years to come. The ocean still holds many secrets, but with collaborations like this – between scientists, divers, and operators – the gap between theory and practice continues to narrow. The next trip can't come soon enough.

IF YOU'D LIKE TO PARTICIPATE

Interested in participating in the next DAN research trip with Red Sea Explorers? This is your chance to sample some of the best wreck and reef diving in the world and at the same time make a positive contribution to science. Next trip is planned for spring 2026.

KEEP AN EYE OUT FOR THE DATES:
www.redseaexplorers.com

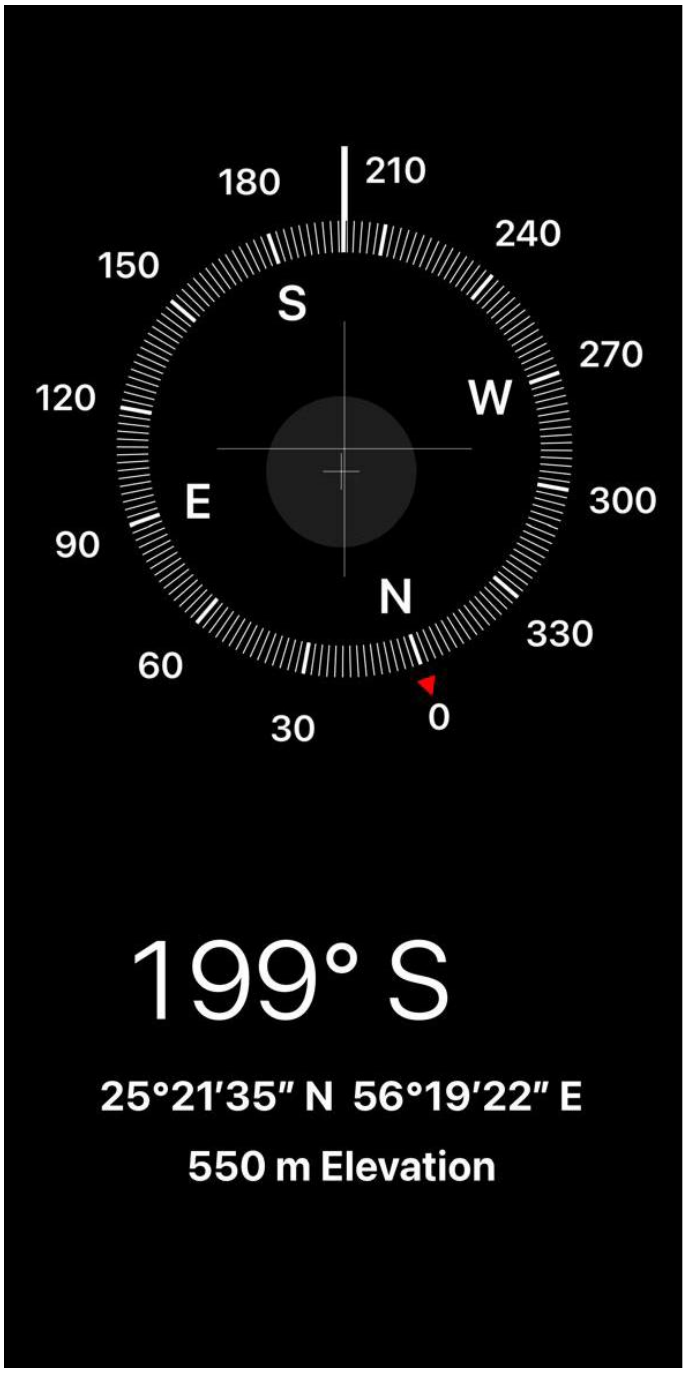
THE HIDDEN CLIMB:

WHY YOUR POST-DIVE ROAD CHOICE COULD BE A HEALTH RISK

WORDS BY **SAEED S. MAJED** | PADI COURSE DIRECTOR | CIVIL ENGINEER | ENVIRONMENTALIST – POST GRADUATE DIPLOMA IN CLIMATE CHANGE & OCEANOGRAPHY

Scuba diving introduces nitrogen into your body, which takes time to safely off-gas. Just like flying after diving, driving through high-altitude roads too soon after a dive can increase your risk of Decompression Sickness (DCS) – a potentially life-threatening condition.

View of Khorfakkan. Photo by Ally Landes.



Khorfakkan to Sharjah ~550 metres – High (New Road)

Kalba to Sharjah ~490 metres – High

WHY ALTITUDE MATTERS AFTER DIVING

Scuba diving introduces nitrogen into your body, which takes time to safely off-gas. Just like flying after diving, driving through high-altitude roads too soon after a dive can increase your risk of Decompression Sickness (DCS) – a potentially life-threatening condition.

Many divers in the UAE head to the East Coast on weekends using one of several mountainous roads. Getting there poses no danger.

When we think of diving safety, we often focus on the depths we reach, not the heights we ascend. But for divers in the UAE, especially those returning from the beautiful East Coast, the drive home might be the most overlooked hazard. Every weekend, divers head to spots in Khorfakkan, Kalba, Fujairah, and Dibba to explore the underwater wonders of the region. While these sites offer incredible marine experiences, the return journey especially through the mountainous roads could expose divers to the serious risk of decompression sickness (DCS) if not managed carefully.

ALTITUDE AFTER DIVING: AN INVISIBLE THREAT

We've all been warned: don't fly right after diving. Airplane cabins are pressurised to the equivalent of about 2,400 metres (8,000 feet), and ascending too soon after a dive can cause nitrogen bubbles to form in your body – a dangerous condition known as DCS.

But what many divers don't realise is that driving through high-altitude mountain roads after diving can trigger the same condition – especially if you're heading through the UAE's inland routes, which climb hundreds of metres above sea level.

COMPARING THE ROADS: WHICH ROUTE IS SAFER?

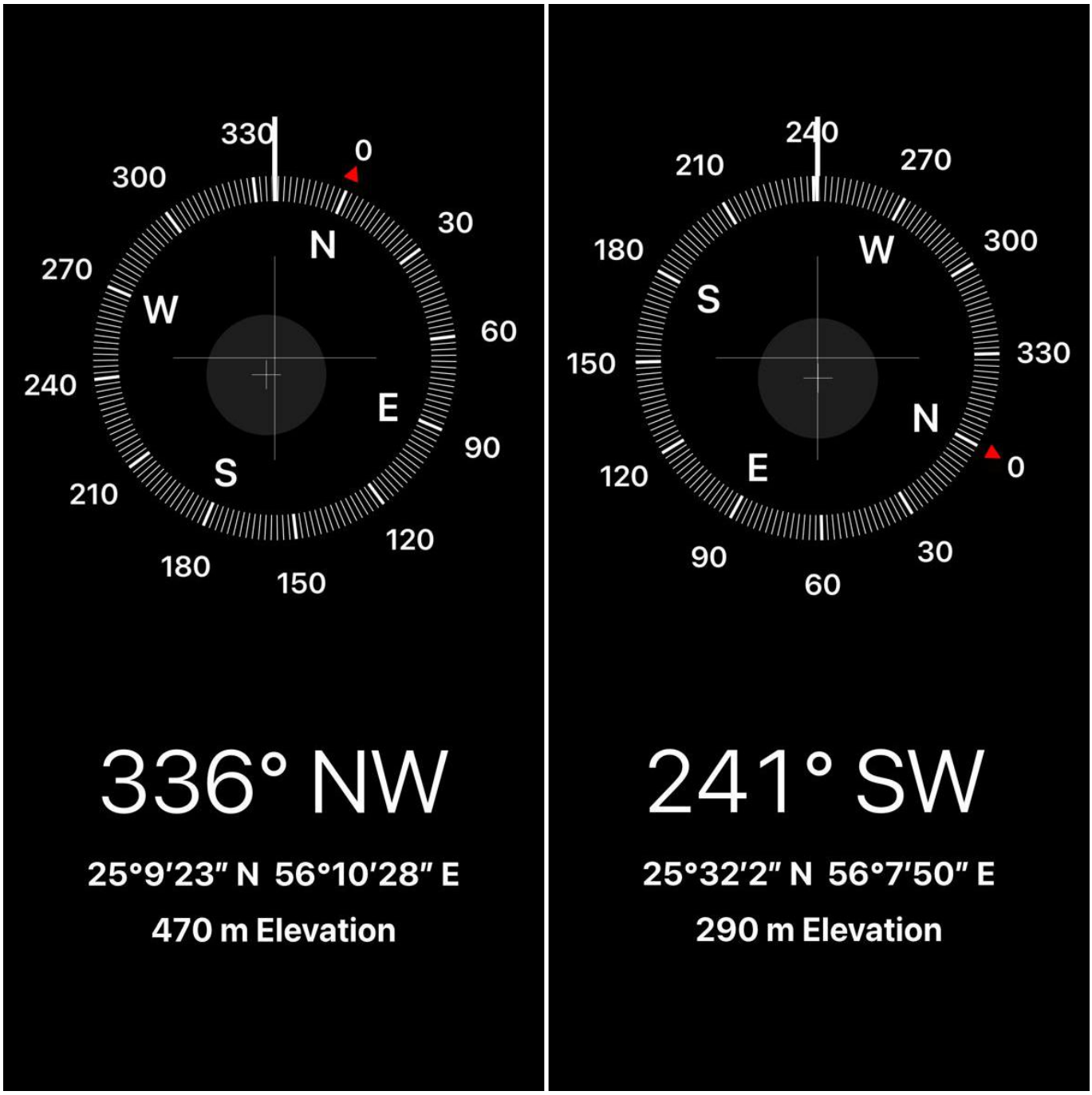
Above is a breakdown of the UAE's key return routes from the East Coast – and how high they climb:

THE SAFEST OPTION

The Dibba – RAK route remains the lowest in altitude and is a preferred choice when planning your return after a dive.

SO, WHAT SHOULD YOU DO?

Wait 3 to 6 hours after your last dive before driving over any roads above 400 metres in elevation. Think of it like waiting before a flight.



Fujairah to Sharjah ~470 metres – High

Dibba to Ras Al Khaimah ~290 metres – Lower Risk

It's not a recommendation, it's a precaution that could save your life.

DURING THAT WAITING WINDOW

- Stay well hydrated.
- Avoid alcohol and caffeine.
- Use your dive computer to track nitrogen off-gassing.
- Stay at sea level until you're cleared to ascend.

RECOGNISE THE SYMPTOMS OF DCS

Even if you've followed your dive plan perfectly, altitude can change the equation. Watch out for:

- Joint or muscle pain.
- Fatigue or dizziness.
- Skin rash or itching.
- Numbness, tingling, or confusion.

If symptoms appear, seek immediate medical attention. Hyperbaric oxygen therapy is often required.

CLOSING THOUGHTS

We dive because we love the ocean. We plan our dives, monitor our air, and check our gear – but the dive doesn't end at the surface. How you get home matters too.

As someone who's spent decades underwater and on the roads of the UAE, my advice is simple: Respect the science. Respect your body. And take the low road home.

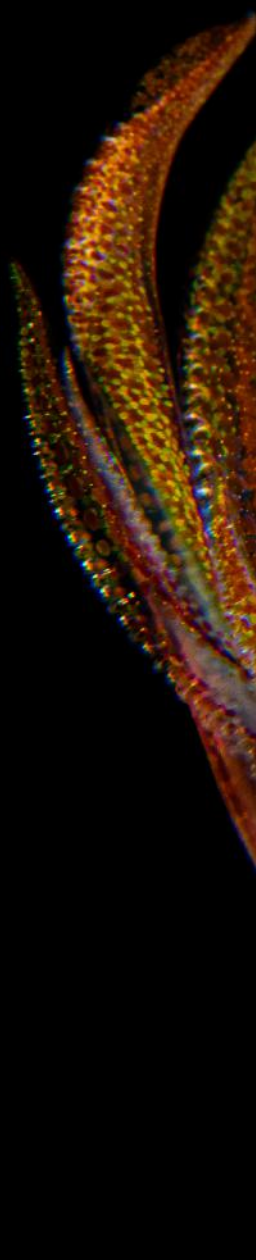
View looking down onto the Khorfakkan Port and Rughaylat Road used by many divers getting to their East Coast dive centres. Photo by Ally Landes.

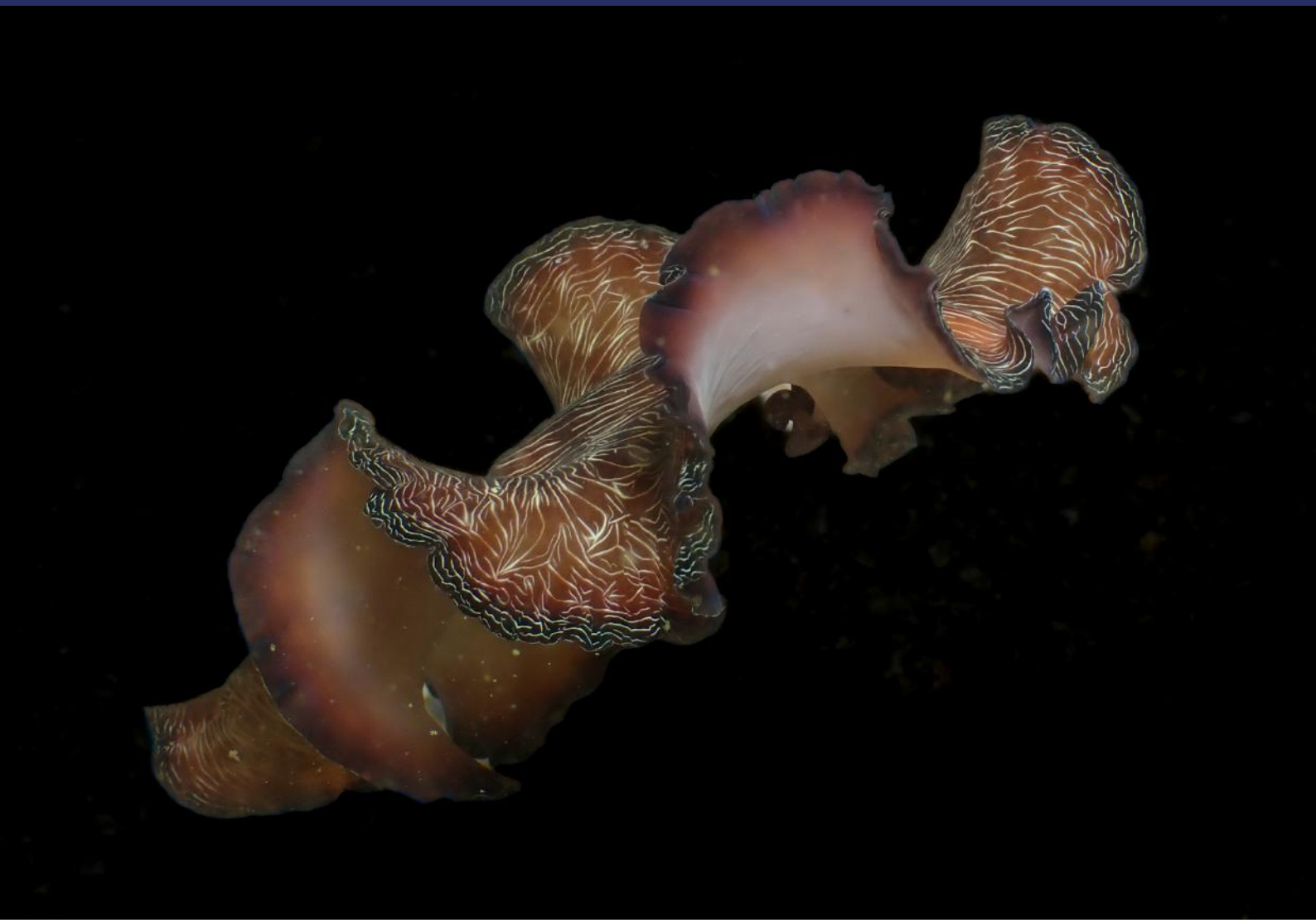
NIGHT DIVING:
UNLOCKING THE OCEAN'S NOCTURNAL MYSTERIES

WORDS BY **HASSAN KHAYAL**

DISCLAIMER: Night Diving is a specialised diving activity. You should not attempt to night dive without professional supervision and instruction, and without having completed the necessary training and earned the required certification. This article does not substitute a complete and accredited Night Diving course.

Photo by Michael Rall taken on a blackwater dive in Dibba, Fujairah – an entry to EDA's Digital Online Behaviour category 2022.





ABOVE: Photo by Lara El Lakkis taken on a night dive at Sharm Rocks, Fujairah – an entry to EDA's Digital Online Behaviour category 2023.

For most divers, the adrenaline of discovering the world under the sea cannot be rivalled. But at sunset, something magical happens. That something happens with the introduction of night diving, that magical world that turns familiar dive locations into something new and unexplored.

It is not just about night time diving, but rather about observing creatures that are not present by day. It is about setting off upon an adventure of heightened senses and concentration and the ocean revealing the most secretive of creatures to us.

Few people are comfortable with the thought of descending into the dark depths of the ocean, but night dives hold great advantages such as:

- **Unique Marine Life Encounters:** A majority of marine creatures are nocturnal, thus you can expect to see animals that hide by day. In the UAE, expect encounters with octopuses, lobsters, crabs, and hunting moray eels.
- **Bioluminescence:** This is nature's light show! Some of the most magical moments in night dives comes from bioluminescent plankton. Turn off your dive light and wave your hands and watch as tiny glowing organisms light up like underwater fireflies.
- **A New Perspective of Known Dive Sites:** A coral or shipwreck that glows with life by day, glows with new eerie beauty at night. The shadows dance over the corals, and the slightest movement seems more exaggerated under the spotlight of your flashlight.
- **A More Intimate and Relaxed Atmosphere:** With fewer people present, night dives are quiet, nearly contemplative. The ocean at night appears more hushed and secretive.

Low visibility due to night time and the lack of light is taken care of by employing safety and visibility equipment. The most critical equipment are the main dive light with a concentrated beam, a backup light for emergencies, and the tank light or the glow stick for the purpose of identifying the diver. An illuminated dive computer screen helps with depth and time monitoring, while the compass helps with direction. Exposure protection gear in the form of a wetsuit or drysuit maintains the body at the appropriate temperature. The equipment should also have reflective markings for visibility, while signalling devices in the form of whistles or strobes, they aid in communicating with dive buddies.

To make the most of your night dive, proper equipment is essential:

- **Primary Dive Light:** Your main source of illumination. Choose a bright, reliable underwater torch with a wide beam. One of the most common mistakes people make is considering their primary light a trivial accessory and not obtaining a quality product. Not only does it majorly compromise having a safe experience, but it also considerably diminishes the joy of night diving.
- **Backup Light:** A smaller, secondary light in case your primary light fails.
- **Tank Marker Light:** A small, glow-in-the-dark or LED beacon attached to your tank for visibility.
- **Compass:** Navigation gets more complex at night, and the compass helps with orientation.
- **Fluorescent or UV Light (Optional):** Want to turn your night time dive into something more? UV lights illuminate the hidden world of coral and marine life's fluorescence. Personally, using a UV light has elevated my night diving experience and enjoyment to the next level.

Safety procedures must be stringently executed for safe and successful night dives. A main and backup dive light must be carried by the diver for proper illumination. A dive plan with depth limitations, descent and ascent points, and

ABOVE: Photo by Hadi El Osta taken on a night dive in Khorfakkan – an entry to EDA's Digital Online Behaviour category 2024.

safety routines should be adequately prepared. Communication buddy routines should be specifically agreed upon. The dive site should be familiarised by the diver the day before the night dive is carried out. Surface marker buoys and reflective equipment will enhance the surface support teams' capability for tracking the diver at the surface. Slow descent and buoyant control prevents disorientation and disturbance of marine life.

Diving in the dark requires extra caution. Here is how to stay safe:

- **Plan Your Dive, Dive Your Plan:** Always discuss the dive site, depths, and entrance/exit points with your buddy prior to the dive.
- **Stay Close To Your Partner:** With the limited visibility, keep the buddy system tight. Use visual signals for communication.
- **Go Slowly:** The dark confuses me. Go slowly and avoid making sudden movements that could churn up the sediments.
- **Check Your Air Frequently:** Monitor your air supply more often than usual. Even though, funnily enough, air consumption rates usually decrease during night dives due to the reduced stimuli.
- **Use Light Signals:** Instead of hand signals, use your flashlight to signal to your buddy. Move it side to side to get their attention or circle it to indicate "OK." Extra attention should be paid to how lights are used as they are a great tool to communicate if used correctly.
- **Avoid Blinding Marine Life (or your Dive Buddies!):** Never point the light directly at the fish's eyes or at your dive buddy. Shine it slightly down.

The UAE may be known for its skyscrapers and luxury, but beneath its waters lies a rich and diverse marine ecosystem, perfect for night diving. Here are some of the best sites to explore after dark:

- **Dibba Rock (Dibba):** A favourite dive of the masses within the UAE. Dibba Rock is filled with marine life at night. Cuttlefish, moray eels and lionfish hunting are the sightings expected here, with the occasional passing of a blacktip reef shark.
- **Inchcape 2 (Khorfakkan):** A small but dramatic shipwreck that is particularly alive at night. Frogfish, scorpionfish, and vibrant nudibranchs are commonly spotted by divers here.
- **Sharm Rock (Fujairah):** A night dive haven with plenty of nooks and crannies for octopuses, crabs, and bioluminescent plankton to hide in.
- **Al Qalqali Rock/Martini Rock (Khorfakkan):** A stunning undersea pinnacle that erupts at night with soft colourful corals and night time dwellers, including lobsters, shrimp, and sleeping turtles.

UAE waters are amongst the best for evening dives due to the suitable conditions, such as:

- **Relatively Warmer Waters Year-Round:** Contrary to most locations with night diving hindered by cold temperatures seasonally, the UAE waters are diveable year-round.
- **High Biodiversity:** In spite of the Gulf being underestimated as a dive location, it is home to a surprising array of marine life with a host of night time residents.
- **Accessibility:** Some of the best night dive sites are a short driving distance from Dubai and Abu Dhabi, so it shouldn't be difficult to make time for a night dive.

Night diving is not another type of dive, it is something that opens up your senses, puts the unfamiliar around you, and presents you with the nocturnal world of the ocean that no one else gets to experience. With the right attitude and prep work, it will not be long before most individuals are hooked by the magic of the ocean at night.

So, are you ready to take the plunge and explore the ocean's nocturnal mysteries?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MONSTER MIDDLE EAST
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MARELUX
CREST
FREEDIVING UAE
XR HUB
DIVE GARAGE
DIVERS DOWN
Dive Campus
AL MAHARA
DIVING CENTER LLC
GOBLIN
SANDY BEACH
Al Boom Diving

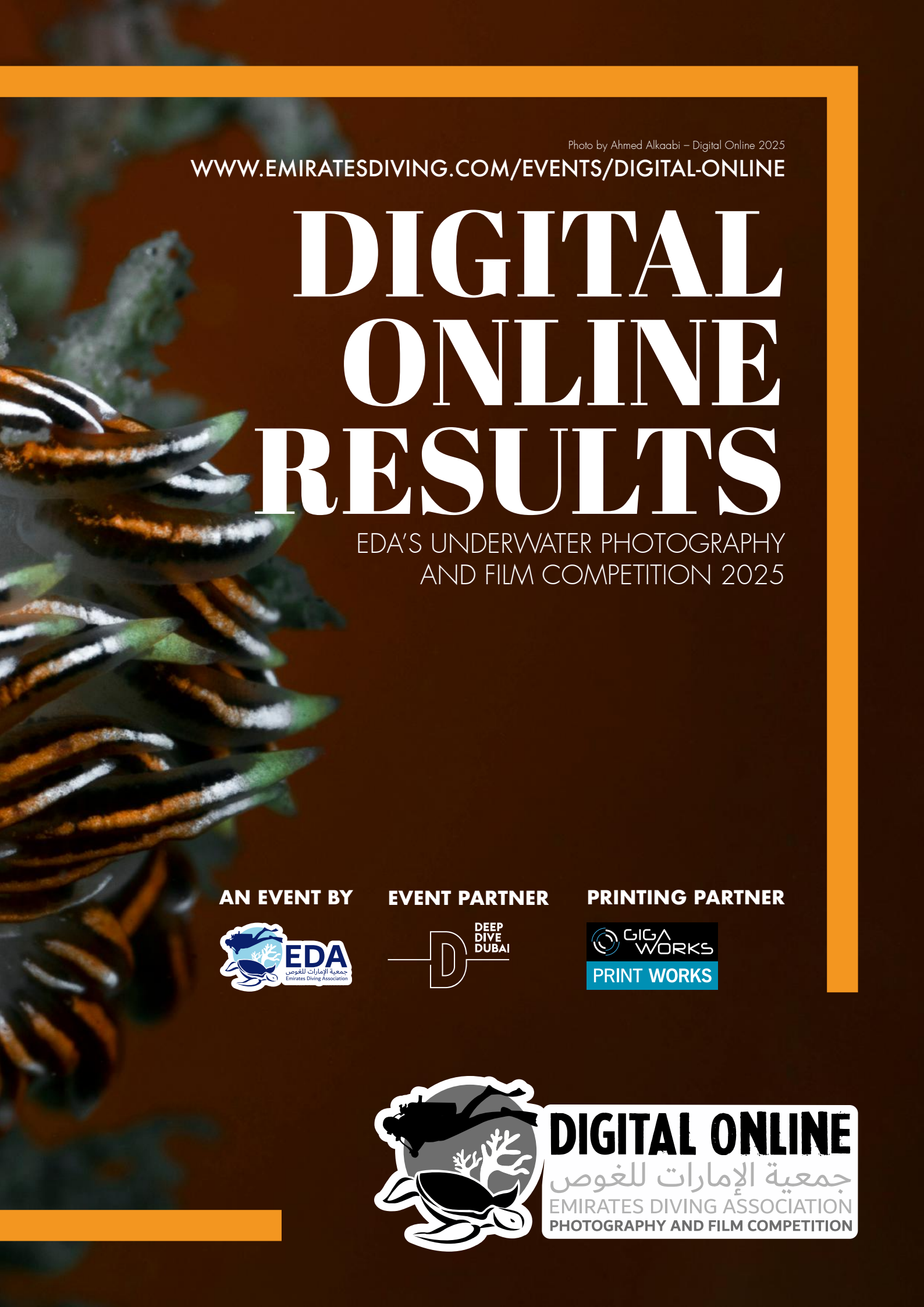


Photo by Ahmed Alkaabi – Digital Online 2025

WWW.EMIRATESDIVING.COM/EVENTS/DIGITAL-ONLINE

DIGITAL ONLINE RESULTS

EDA'S UNDERWATER PHOTOGRAPHY AND FILM COMPETITION 2025

AN EVENT BY

EDA
جمعية الإمارات للغوص
Emirates Diving Association

EVENT PARTNER

DEEP DIVE DUBAI

PRINTING PARTNER

GIGA WORKS
PRINT WORKS

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

BEST OF UAE'S PHOTOGRAPHY TALENT
AWARDED AT EDA'S 16th ANNUAL DIGITAL ONLINE UNDERWATER PHOTOGRAPHY & FILM COMPETITION

Celebrating its 16th year, the annual Digital Online Underwater Photography & Film Competition recognised the best of the UAE's underwater photography talent across multiple image and video categories at an awards ceremony at Deep Dive Dubai on the 15th of May.

Open to EDA members, the competition was launched by the Emirates Diving Association (EDA) in 2009 with a mission to capture the beauty of the underwater world and reveal it to non-divers and those unfamiliar with the marine environment. Through the event, EDA seeks to develop a deeper relationship between the general public and the world's oceans to encourage conservation practices for this vital ecosystem.

Prizes were awarded to the winners by Juma Khalifa bin Thalith, EDA's Chairman and celebrated author, Ali Khalifa bin Thalith, renowned photographer and filmmaker and Secretary General of the Hamdan bin Mohammed bin Rashid Al Maktoum International Photography Award, Mohamed Faraj Abdulla Jaber, EDA's Health, Safety and Technical Inspector, and Mohamad Abdulla AlMusallami, Digital Online's resident Judge!

Commenting on the 2025 awards ceremony, Ibrahim Al Zu'ubi, Co-Founder of the Emirates Diving Association said, "A huge congratulations to all the winners tonight. All of the imagery and videography work submitted this year by these talented individuals was fantastic, and I'm grateful to the judges who had the extremely difficult task of assessing the best in each category. It's truly heartwarming to see so many ocean enthusiasts supporting our mission to reveal the underwater world we care about so deeply to audiences across the United Arab Emirates and the world. I'm also deeply grateful to our sponsors for the event, who provided all the excellent prizes to reward the winners for their exceptional work. The competition could not succeed without you."

During the awards ceremony hosted at Deep Dive Dubai, the world's deepest diving pool, the 1st, 2nd and 3rd place prizes were presented to winners across seven categories, with over 13 different nationalities represented in the list of winners, including four Emirati nationals.

Deciding on the winners was a panel of judges comprising world-renowned photographers, authors and researchers from across the globe, including the UAE's very own Mohamed Abdulla Almusallami, an award-winning underwater photographer and marine biologist, affiliate at Mohammed bin Rashid Academy of Scientists, Head of Fisheries Management at the Environment Agency – Abu Dhabi, and a Board Member at

the Emirates Zoos and Aquariums Association.

Categories in the competition included Macro, Wide Angle, Best of the UAE, Black & White, Behaviour, Creative Underwater Photography, and the Video category, for which this year's theme was 'Treasured Underwater Discoveries.

THE PEOPLE'S CHOICE AWARDS

The People's Choice Awards took place on EDA's Facebook page from the 19-23 of May which included all the photos and videos entered into this year's competition. The photos with the most likes received a First, Second and Third place prize voted by the public, and the most liked video received an overall winning prize for best film.

Prizes were awarded to the winners from Sandy Beach Diving Academy: a 2 tank boat dive, and a third shore dive to Snoopy on East Coast; Goblin Diving Center: a PADI Search & Recovery Course; Al Boom Diving: a 2 tank boat dive on East Coast; and CREST Diving: a CR-F Yellow Dive Computer + CREST Blue Waterproof Bag.

The winning results for The People's Choice Awards can be found on page 78.

Ibrahim Al Zu'bi and Ali Khalifa bin Thalith


Ahmed Alkaabi, Ibrahim Al Zu'bi, Ali bin Thalith, Mohamed Faraj, and Mohamed Almusallami.


Khawla Alshehhi, Ali Khalifa bin Thalith, and Juma Khalifa bin Thalith.








DIGITAL ONLINE 2009-2025

Digital Online – EDA's Underwater Photography & Film Competition has celebrated its 16th year! The competition was introduced by EDA in 2009 to resident photographers to develop a relationship and human interaction amongst those unfamiliar with the underwater world environment. The competition holds both local and international marine life categories to offer variety between our local and international diving enthusiasts. The film category was introduced as an extension to the competition in 2012 to share our underwater world through motion pictures and deliver a better understanding of the habitats and surroundings.

The event sees continuous and steady growth with new underwater photographers taking part and joining our regular annual participants. The enthusiasm and passion strives on, and the drive to bring our underwater world's conservation to the forefront increases even more so. The purpose of Digital Online is to keep our underwater world visible by displaying its hidden beauties and to exemplify its importance to all life on Earth through the powers of its ecosystems.

The event has attained equal success with non-divers who come to support the participating photographers and videographers at the annual Awards Night. Whether it's through discussions, or articles published for our readers through our free quarterly magazine, Divers for the Environment, the inspiration the event brings, is a success in its own right.

	PHOTOGRAPHY	BEHAVIOUR	UAE	BW	CREATIVE	MACRO	WA	TOTAL
1	Anastasia Demkina	381	455	401	445	445	436	2542
2	Ahmed Al-Ali	389	426	412	401	475	393	2496
3	Gordon T. Smith	433	425	303	435	452	422	2470
4	Fakhruddin Husein	427	375	407	471	419	363	2462
5	Samer Halwany	421	382	439	423	419	370	2454
6	Oliver Farrell	403	394	452	378	437	384	2448
7	Khalid Alrazooqi	401	376	384	471	419	363	2370
8	Luan Le Ngoc	394	417	368	339	434	303	2255
9	Suretta Venter	356	440	320	397	379	293	2185
10	Mohamed Mohsen	350	392	399	311	395	329	2176
11	Felipe Morales	406	317	323	311	312	401	2070
12	Naima Amari	360	374	442	399	426		2001
13	Hesma Fivaz	414	433	333	464	345		1989
14	Jonathan Laperdrix	367	422	322	426	424		1961
15	Philippe Lecomte		509	443		459	476	1887
16	Yevheniia Rehush	434	328	330	390		423	1814
17	Marwa Elagroudy	387	392	345	314	375		1813
18	Yuriy Rakhmatullin	277	350	445	329		294	1695
19	Irina Southwell	256	292	303	254	277	229	1611
20	Ali Salman	341	357	425		365		1488
21	Michael Southwell	245	292	291	287	281		1401
22	Oktav Bosnali	376		406		496		1278
23	Uzeyr Kamora	341		395			402	1138
24	Khawla Alshehhi	370				299	425	1094
25	Nasser Bakkar	221	310	264		239		1034
26	Ahmed Alkaabi		453			409		862
27	Ahmad Awad			304		336		640
28	Emil Duffey						384	384

	VIDEO: TREASURED UNDERWATER DISCOVERIES	
29	Oliver Farrell	508
30	Mohamed Azmey	499
31	Yevheniia Rehush	405
32	Suretta Venter	327
33	Mohamed Mohsen Ibrahim	313

OVERALL PHOTO & VIDEO WINNERS 2025

This year's overall winners for Digital Online's Photographer 2025 is Anastasia Demkina with 2,542 pts, and Digital Online's Videographer 2025 is Oliver Farrell with 508 pts who have both received this year's trophies. Congratulations to all our participants for taking part and sharing their work with us, and thank you to all our guests who came to support the event.

THE WINNERS
THE SPONSORS AND THE PRIZES

1. Oliver Farrell | 1st Place Video Treasured Underwater Discoveries (508 pts)
SPONSOR: BASE FILMS & MARELUX – www.basefilms.ae/marelux-uae-ksam
Marelux Bundle:Apollo S Strobe,Marelux Automatic Vacuum Pump, Marelux Flexibuoy (400ml), Marelux Flexibuoy (800ml), and Marelux Flexibuoy (1500ml)

2. Philippe Lecomte | 1st Place Best of the UAE (509 pts)
SPONSOR: DIVE CAMPUS – www.divecampus.com
ORCA Dive Light 910V 5000 Lumens

3. Oktav Bosnali | 1st Place Macro (496 pts)
SPONSOR: BASE FILMS & MARELUX – www.basefilms.ae/marelux-uae-ksam
Marelux Bundle:Apollo S Strobe,Marelux Automatic Vacuum Pump, Marelux Flexibuoy (400ml), Marelux Flexibuoy (800ml), and Marelux Flexibuoy (1500ml)

4. Fakhruddin Husein | 1st Place Creative Underwater Photography (471 pts)
SPONSOR: MONSTER MIDDLE EAST
GoPro HERO13 Black & Ultra-Wide Lens Mod + a LARQ Bottle PureVis

5. Khalid Alrazooqi | 1st Place Wide-Angle (457 pts)
SPONSOR: MONSTER MIDDLE EAST
GoPro HERO13 Black & Macro Lens Mod + a LARQ Bottle PureVis

6. Oliver Farrell | 1st Place Black & White (452 pts)
SPONSOR: MONSTER MIDDLE EAST
GoPro HERO13 Black + a LARQ Bottle PureVis

7. Gordon T. Smith | 1st Place Behaviour (433 pts)
SPONSOR: XR HUB – www.xrdiving.com
Isotta Underwater Housing for Insta360 Ace Pro

8. Mohamed Azmey | 2nd Place Video Treasured Underwater Discoveries (499 pts)
SPONSOR: AL MAHARA DIVING CENTER & ANANTARA DESERT ISLAND RESORT – www.divemahara.com
A complimentary one-night stay with full board at Anantara Desert Island Resort on Sir Bani Yas Island, including boat transfer to/from island (terms and conditions apply) and a complimentary 2 tank dive on Sir Bani Yas Island with Al Mahara Diving Centre, including one kayak experience at Sir Bani Yas Island mangroves.

9. Ahmed Al-Ali | 2nd Place Macro (475 pts)
SPONSOR: XR HUB – www.xrdiving.com
Pinnacle VENTURE 3mm Wetsuit

10. Hesma Fivaz | 2nd Place Creative Underwater Photography (464 pts)
SPONSOR: GRAND STORES & SEALIFE CAMERAS – www.grandstores.com | www.sealife-cameras.com
SEALIFE SportDiver ULTRA Smartphone Housing

11. Anastasia Demkina | 2nd Place Best of the UAE (455 pts)
SPONSOR: DIVE GARAGE – www.divegarage.com
DIVEVOLK SeaTouch 4 MAX Underwater Advance Macro Kit for iPhone and most Android

12. Yuriy Rakhmatullin | 2nd Place Black & White (445 pts)
SPONSOR: GRAND STORES & SEALIFE CAMERAS – www.grandstores.com | www.sealife-cameras.com
SEALIFE SL671 Sea Dragon 2500F Photo-Video Dive Light

13. Khawla Alshehhi | 2nd Place Wide-Angle (425 pts)
SPONSOR: CREST DIVING – www.crestdiving.com
CR-4 Black Dive Computer + CREST Black Bucket Hat

14. Samer Halwany | 2nd Place Behaviour (421 pts)
SPONSOR: SHEESA BEACH DHOW CRUISES – www.sheesabeach.com
Voucher for one to join a 2 nights Sharing Liveaboard Dive Trip

15. Jenny Rehush | 3rd Place Video Treasured Underwater Discoveries (405 pts)
SPONSOR: GRAND STORES & SEALIFE CAMERAS – www.grandstores.com | www.sealife-cameras.com
SEALIFE Sea Dragon Mini 1300S Power Kit

16. Ahmed Alkaabi | 3rd Place Best of the UAE (453 pts)
SPONSOR: CREST DIVING – www.crestdiving.com
CR-4 Black Dive Computer + CREST Black Bucket Hat

17. Naima Amari | 3rd Place Black & White (442 pts)
SPONSOR: DIVERS DOWN – www.diversdownuae.com
3 pleasure dives with Divers Down Fujairah. Includes tank and weights.

18. Luan Le Ngoc | 3rd Place Macro (434 pts)
SPONSOR: FREEDIVING UAE – www.freedivinguae.com
AIDA Level 2 Freediving Foundation Course

19. Jonathan Laperdrix | 3rd Place Creative Underwater Photography (426 pts)
SPONSOR: DIVE CAMPUS – www.divecampus.com
PADI Freediver License

20. Jenny Rehush | 3rd Place Wide-Angle (423 pts)
SPONSOR: CREST DIVING – www.crestdiving.com
CR-F White Dive Computer + CREST White Waterproof Bag

21. Felipe Morales | 3rd Place Behaviour (406 pts)
SPONSOR: GOBLIN DIVING CENTER – www.facebook.com/GoblinDC
Two Tank Boat Dive

HIGHLY COMMENDED

Photographers who have won multiple photo entries, win a prize for their highest score only. They receive an honourable mention for their other winning images which are also printed for the exhibition.

FIRST PLACE
1. Philippe Lecomte | 1st Place Wide Angle (476 pts)

SECOND PLACE
1. Fakhruddin Husein | 2nd Place Behaviour (427 pts)

THIRD PLACE
1. Philippe Lecomte | 3rd Place Macro (459 pts)
2. Anastasia Demkina | 3rd Place Creative Underwater Photography (445 pts)
3. Philippe Lecomte | 3rd Place Black & White (443 pts)

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

COMPETITION CLAUSE

EDA does not disclose photographers' names during the judging process. The competition is run fairly and without prejudice, professionally adhering to all of Digital Online's rules and guidelines throughout.

NOTE: Photographers are only able to win one prize each. Entrants with multiple winning entries are given priority in the points awarded.

DIGITAL ONLINE PANEL OF JUDGES

OLLIE CLARKE
Marine Biologist and Award Winning Underwater Photographer

Growing up on the South Coast of England I developed a love for the ocean, which lead me to pursue a career in Marine Biology. After completing my studies in the UK, I spent almost 8 years travelling the world and working in marine conservation, the dive industry and photography. I now reside in Exmouth, Western Australia, with amazing access to the Ningaloo Reef and its iconic megafauna, its hard to find a better place to be an underwater photographer. In 2023 I was named British Underwater Photographer of the Year and have since gained a few more international awards.

WEBSITE: www.OllieClarkePhotography.com
INSTAGRAM: www.instagram.com/OllieClarkePhoto
FACEBOOK: www.facebook.com/OllieUnderwater

DAVID DILEY | SCARLET VIEW MEDIA
Filmmaker, Underwater Cinematographer and Digital Colourist

David is a multi-award winning Film-maker, Underwater Cinematographer and Digital Colourist from the UK best known for his work with sharks and large marine megafauna as well as his multi-award winning feature documentary, "Of Shark and Man".

His profile has increased rapidly thanks to his work on a wide variety of projects for film and television, alongside his commercial work for a number of household brands.

David is the owner of Scarlet View Media, a high end boutique Production House in the north of England, and is a Panasonic Professional Ambassador and Angelbird Media Creative.

WEBSITE: www.ScarletViewMedia.com
INSTAGRAM: www.instagram.com/ScarletViewMedia

KATE JONKER
Award Winning Underwater Photographer and Writer

Kate Jonker is a renowned ocean explorer, underwater photographer, and storyteller from Cape Town, South Africa. With a deep passion for the sea, Kate has earned national and international recognition for her captivating underwater photography. As an advocate for ocean conservation, she uses her platform to raise awareness about protecting marine ecosystems. Kate's work goes beyond photography – she is a respected writer, speaker, and educator, sharing her expertise through workshops, dive expeditions, and numerous publications.

As co-owner of Indigo Scuba Diving Centre and Underwater Photo Company, Kate leads unforgettable dive experiences and offers personalised photography coaching. Her role as a Marelux ambassador allows her to contribute to the underwater photography community, where she continues to inspire others to explore, appreciate, and protect the ocean's remarkable beauty.

WEBSITE: www.KateJonker.com
INSTAGRAM: www.instagram.com/KateJonkerPhotography
FACEBOOK: www.facebook.com/KateAJonker

MOHAMED ALMUSALLAMI
Marine Biologist and Award Winning Underwater Photographer

Mohamed is a son of the Arabian Gulf. Coming from a long line of legendary pearl divers and fishermen, a strong bond ties him to the deep blue. He started his passion as a freediver and a spear-fisherman at an early age and naturally fell in love with the beauty of the underwater world.

He took up underwater photography in 2008, and has won several awards and been published internationally since. His eye-catching and distinctive style pushes the limits to how photographers represent life below the waves. Mohamed has dedicated himself to conservation and to the Art of Underwater Photography, putting forth the message, "The Ocean has given our ancestors everything, now it is our turn to give back".

As a marine scientist with a masters degree in Environmental Science, he works closely with sea turtles, dugongs, dolphins, and sharks, where he is also responsible for many rare scientific discoveries in the Arabian Gulf region. Mohamed is also a PADI Instructor, an affiliate at Mohammed bin Rashid Academy of Scientists (MBRAS), the Head of Fisheries Management at the Environment Agency – Abu Dhabi, and a Board Member at the Emirates Zoos and Aquariums Association.

INSTAGRAM: www.instagram.com/b47r

SIMONE CAPRODOSSI | SUNDIVE BYRON BAY
Award Winning Underwater Photographer

Simone is an Italian underwater photographer, who has been awarded in several prestigious competitions and published internationally. After over 10 years of corporate life in Dubai, he moved to Australia where he co-owns and manages Sundive Byron Bay, a PADI 5 Star Dive Centre offering dives at the amazing Julian Rocks in Byron Bay. After travelling to and photographing many unique diving destinations worldwide, he also runs expeditions with Sundive to help others experience and photograph his favourite ones such as the Sardine Run and Djibouti. Simone was the Overall Winner of Digital Online for two consecutive years until he became a judge for the competition and has been a main feature contributor to the EDA magazine, 'Divers for the Environment'.

FACEBOOK: www.facebook.com/SimoneCaprodossiPhotography
INSTAGRAM: www.instagram.com/SCaprodossi

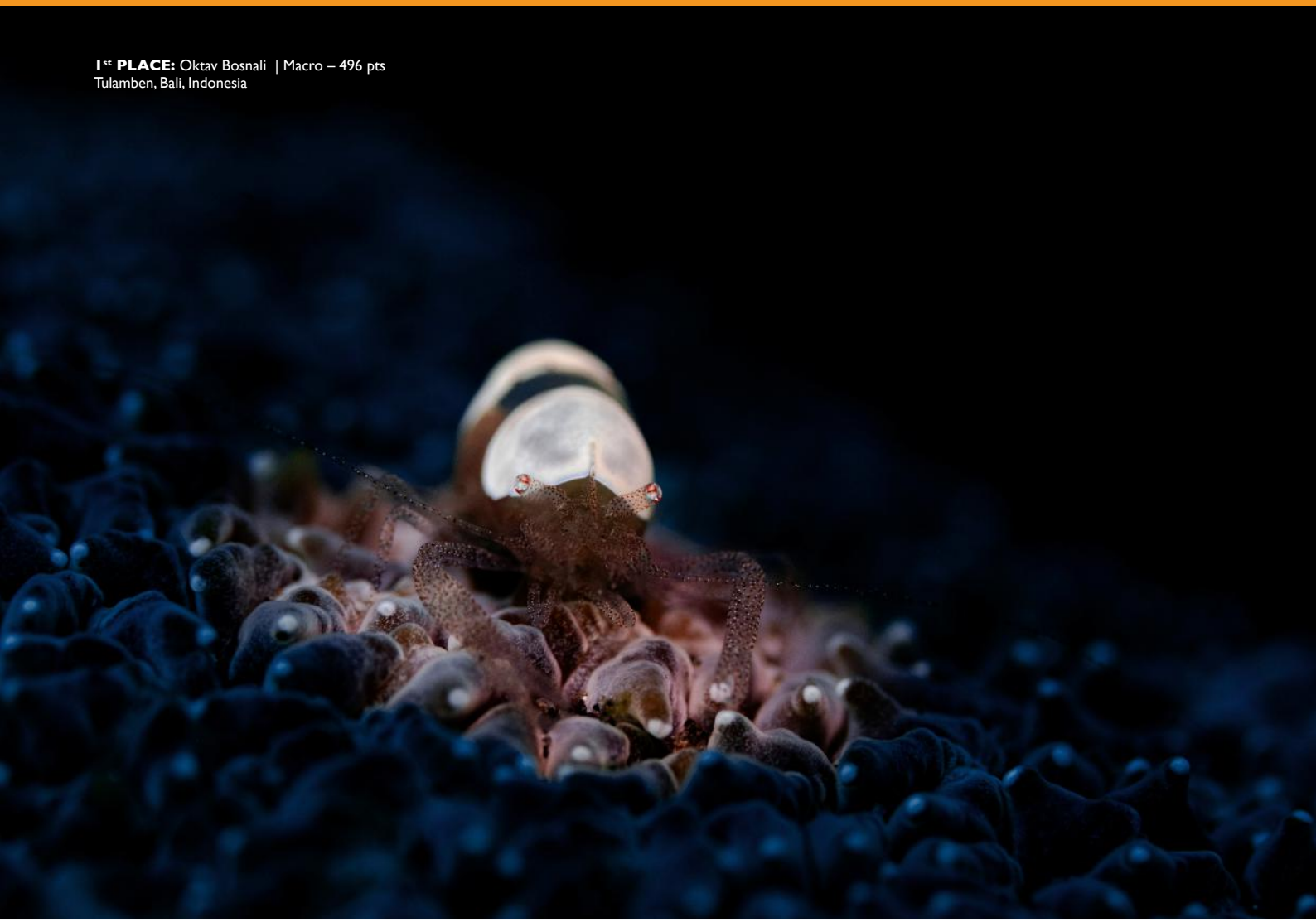
ALLY LANDES | EMIRATES DIVING ASSOCIATION
Project Director, Editor, Graphic Designer, and Photographer

Ally joined EDA in December 2004 when she created and introduced the organisation's quarterly magazine, "Divers for the Environment". She played a central role in the development of Digital Online – EDA's Underwater Photography and Film Competition from its launch in 2009, as well as introducing the film category as an extension in 2012 to share our underwater world through motion pictures, and has managed the event since inception. Today, Ally continues to oversee the EDA team and develop the brand, manages design and production of the magazine, handles photography and videography, and runs the organisation's events and social media, all in the name of ocean conservation.

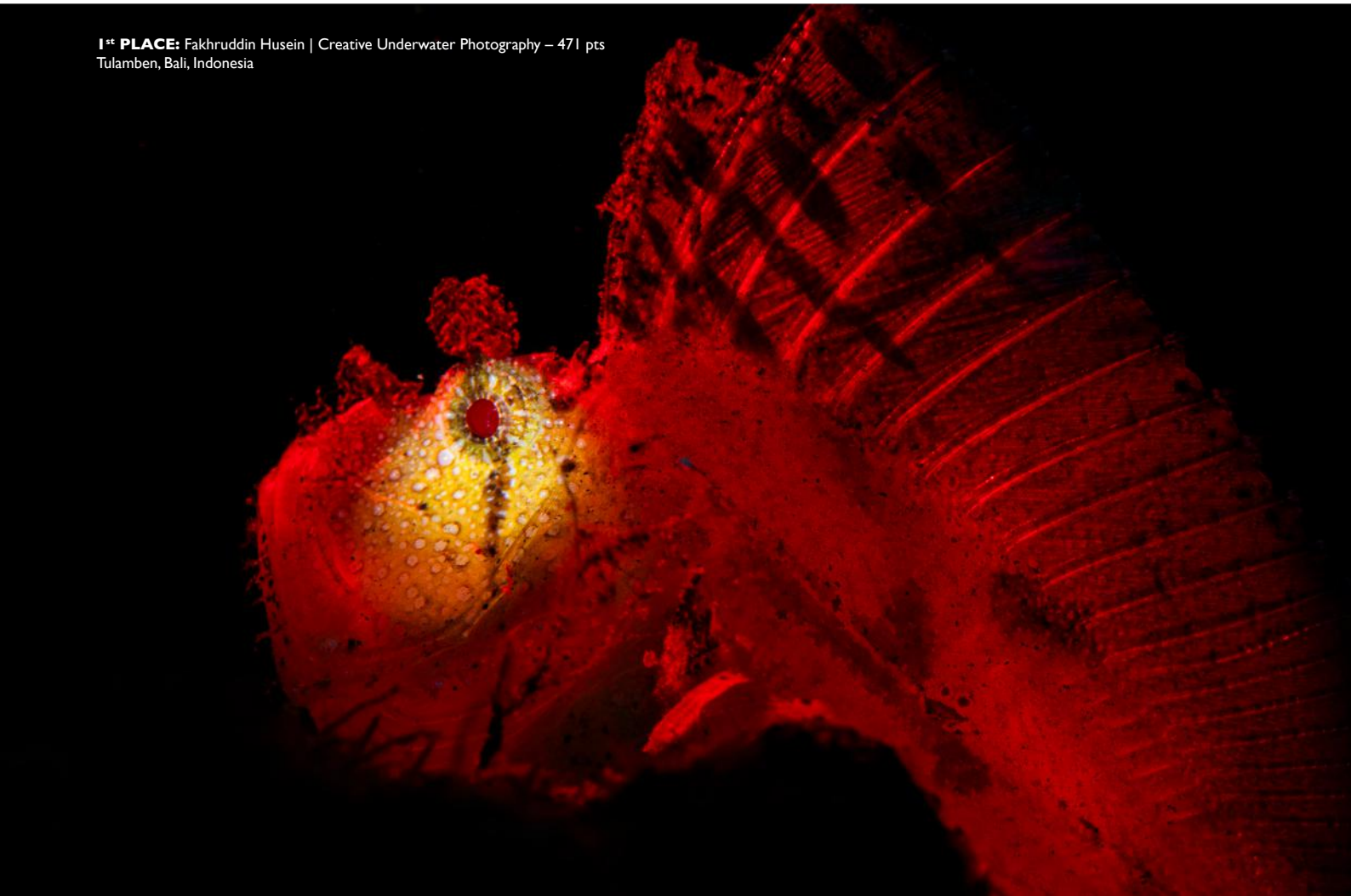
WEBSITE: www.EmiratesDiving.com
INSTAGRAM EDA NEWS: www.instagram.com/EmiratesDivingAssociation
INSTAGRAM DIGITAL ONLINE: www.instagram.com/EDA_UAE

1st PLACE: Philippe Lecomte | Best of the UAE – 509 pts
Khorfakkan, UAE

1st PLACE: Oktav Bosnali | Macro – 496 pts
Tulamben, Bali, Indonesia



1st PLACE: Fakhruddin Husein | Creative Underwater Photography – 471 pts
Tulamben, Bali, Indonesia



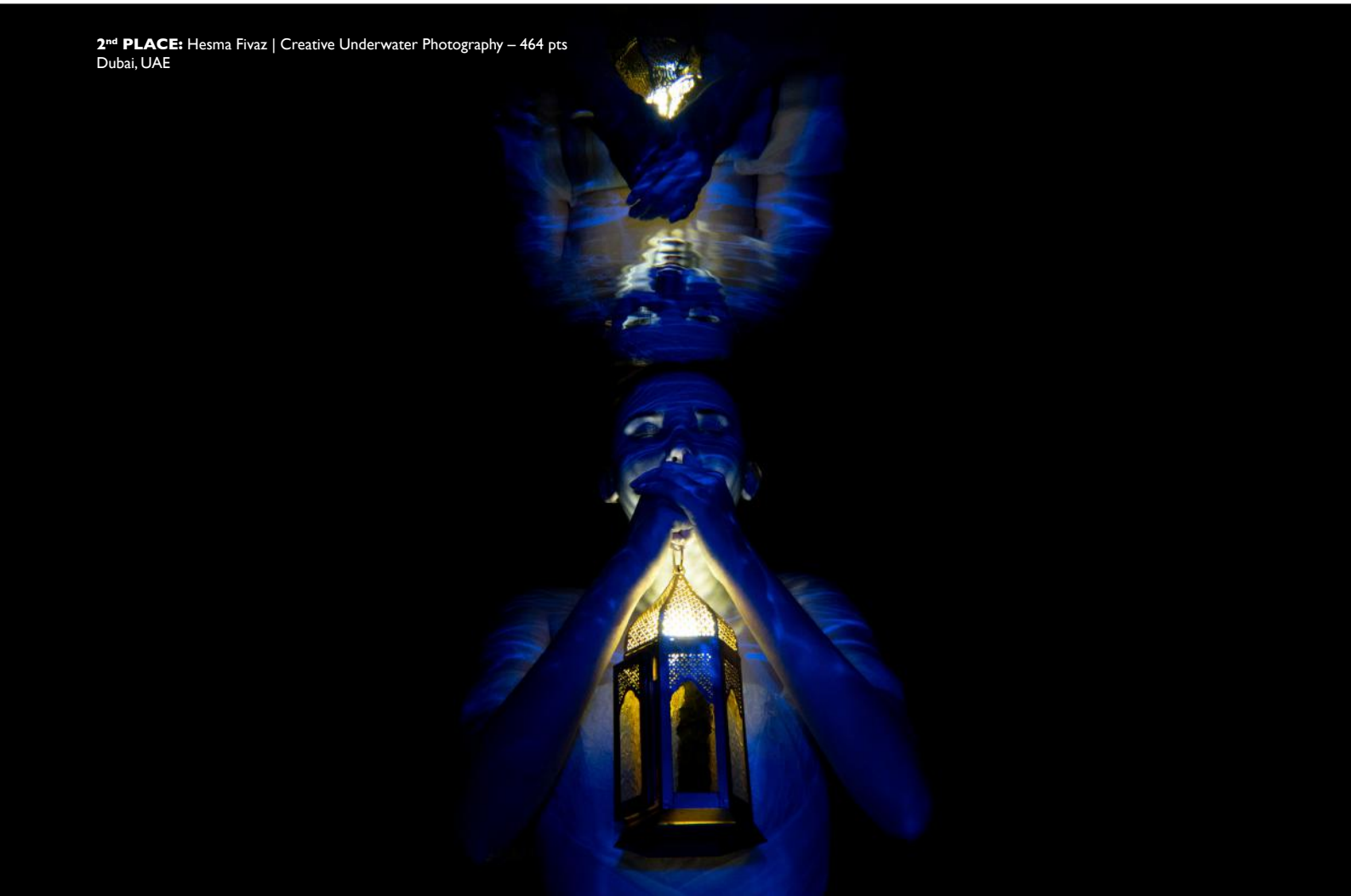
1st PLACE: Khalid Alrazooqi | Wide Angle – 457 pts
Indonesia

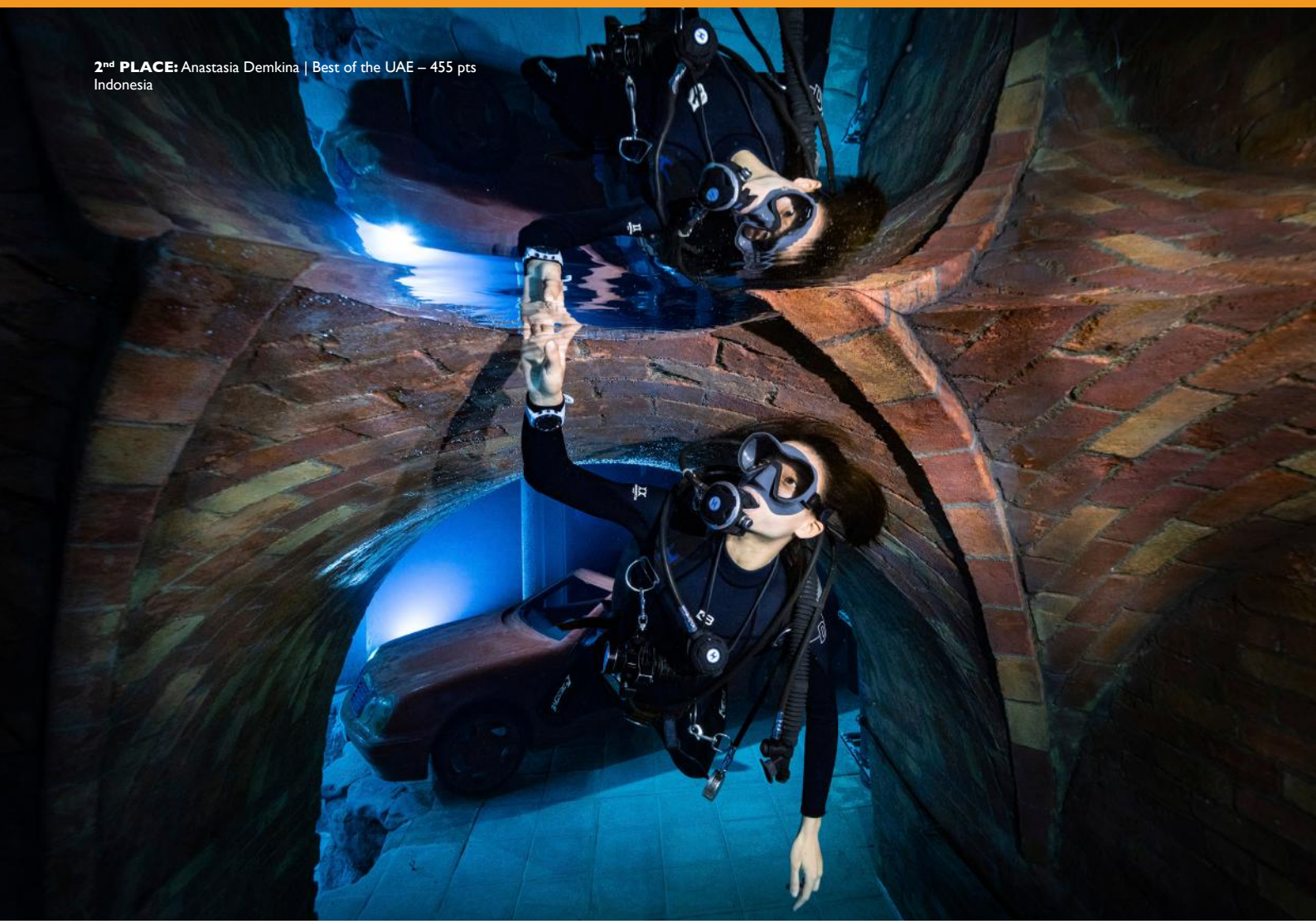
1st PLACE: Oliver Farrell | Black & White – 452 pts
Maldives

1st PLACE: Gordon T. Smith | Behaviour – 433 pts
3rd PLACE: The People's Choice Awards – 56 pts
Tulamben, Bali, Indonesia

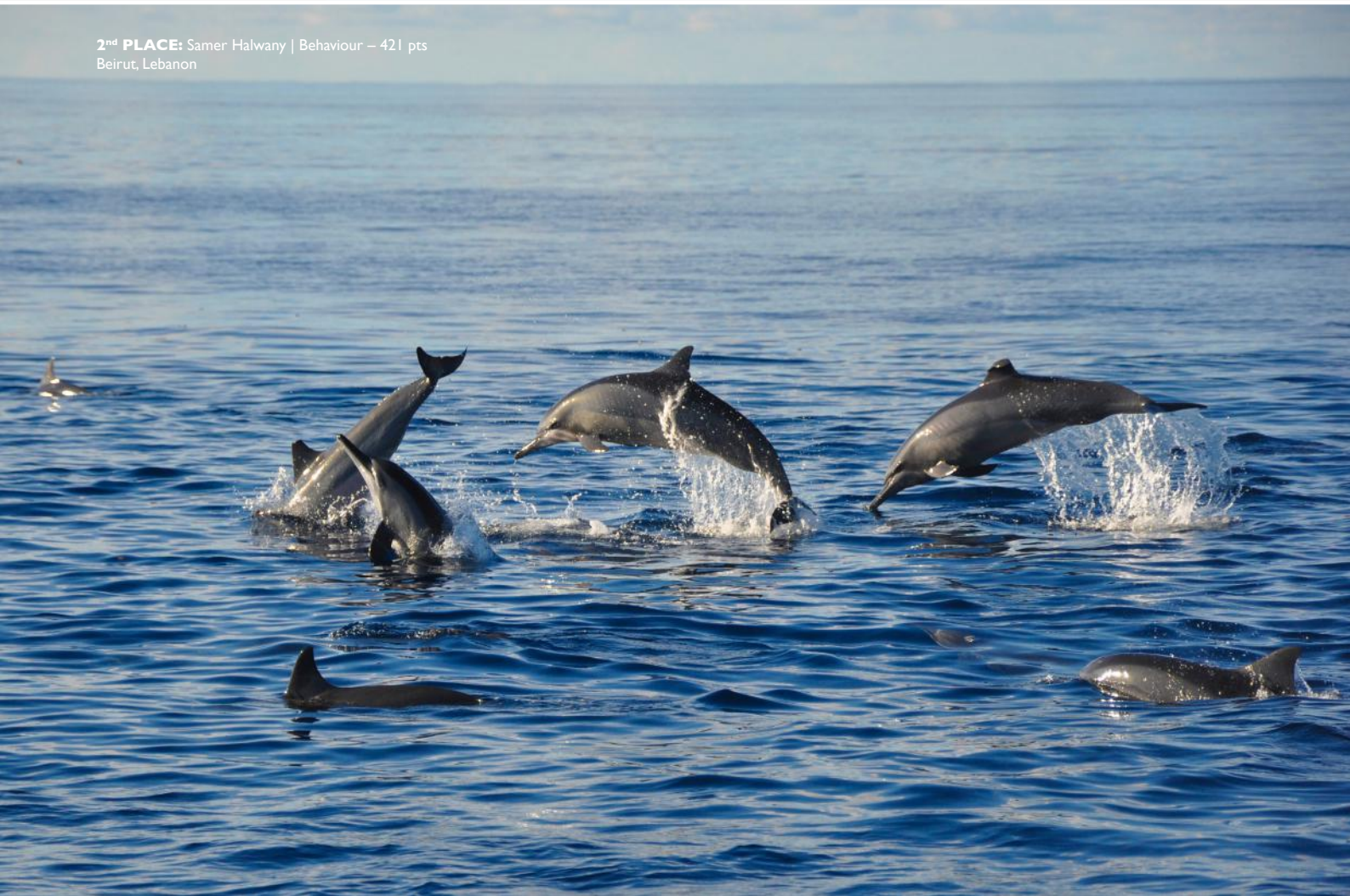
2nd PLACE: Ahmed Al-Ali | Macro – 475 pts
Kalba, UAE

2nd PLACE: Hesma Fivaz | Creative Underwater Photography – 464 pts
Dubai, UAE





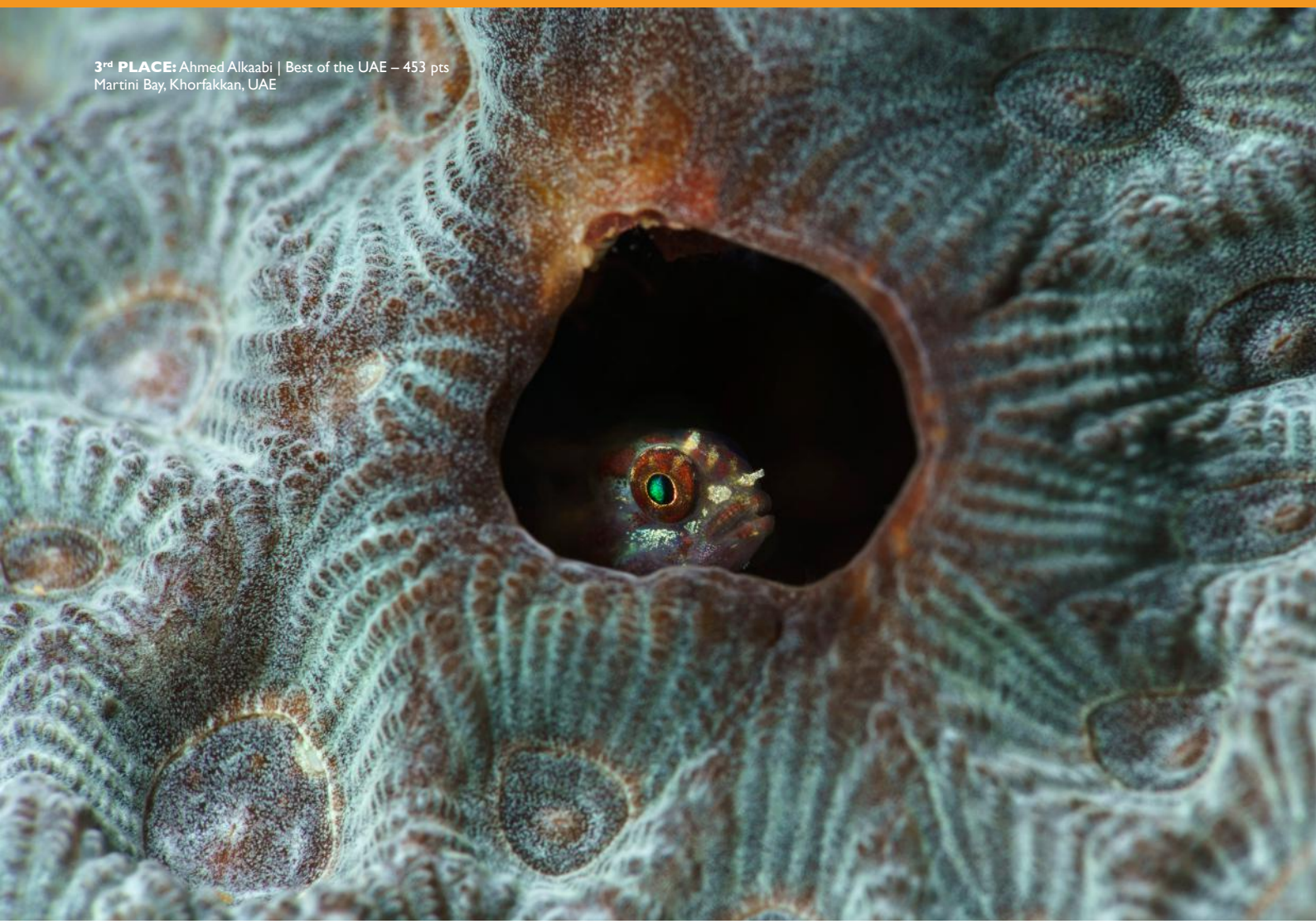
2nd PLACE: Anastasia Demkina | Best of the UAE – 455 pts
Indonesia



2nd PLACE: Samer Halwany | Behaviour – 421 pts
Beirut, Lebanon

2nd PLACE: Yuriy Rakhmatullin | Black & White – 445 pts
Dibba, Fujairah, UAE

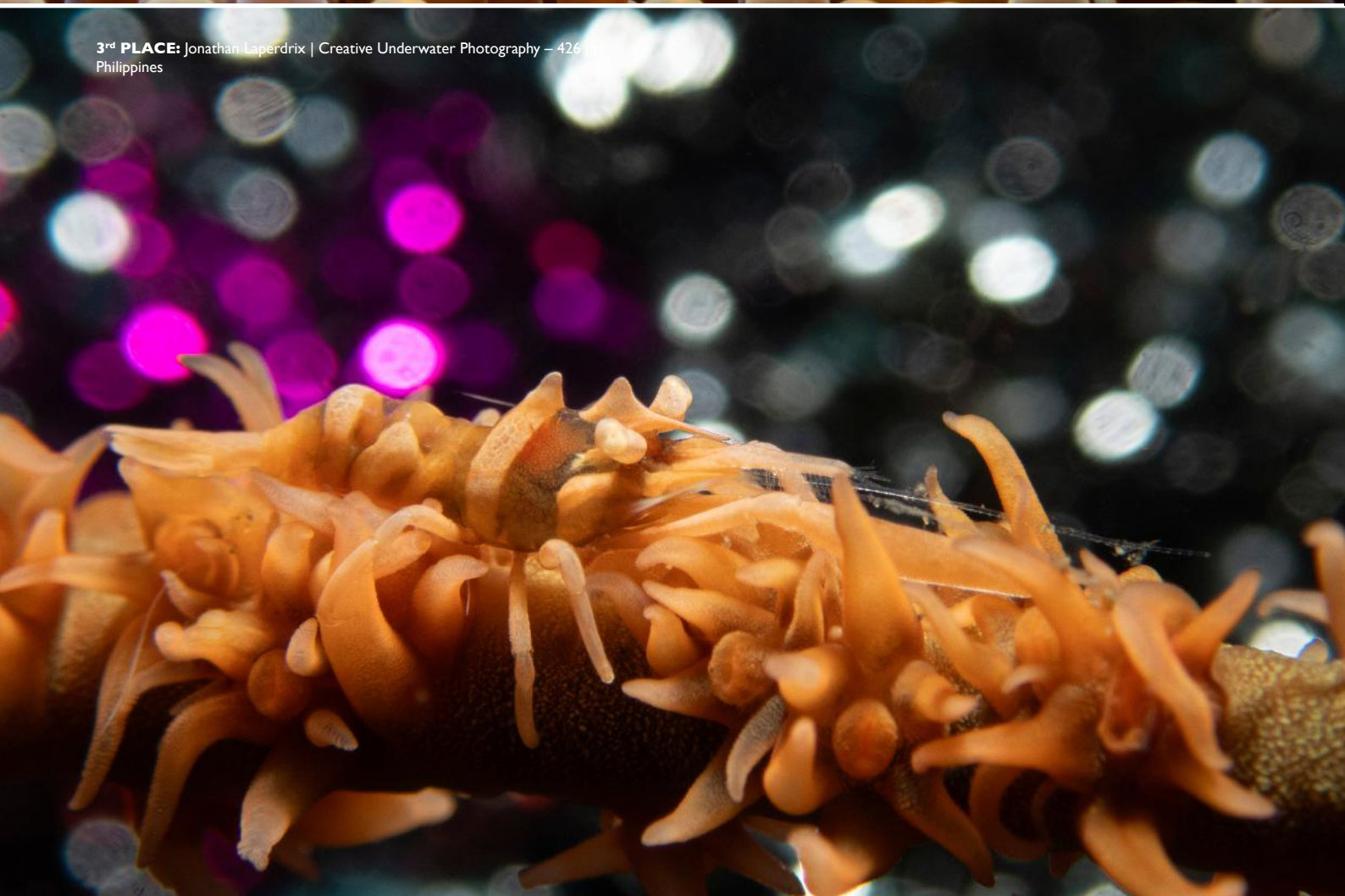
2nd PLACE: Khawla Alshehhi | Wide Angle – 425 pts
Mauritius



3rd PLACE: Ahmed Alkaabi | Best of the UAE – 453 pts
Martini Bay, Khorfakkan, UAE

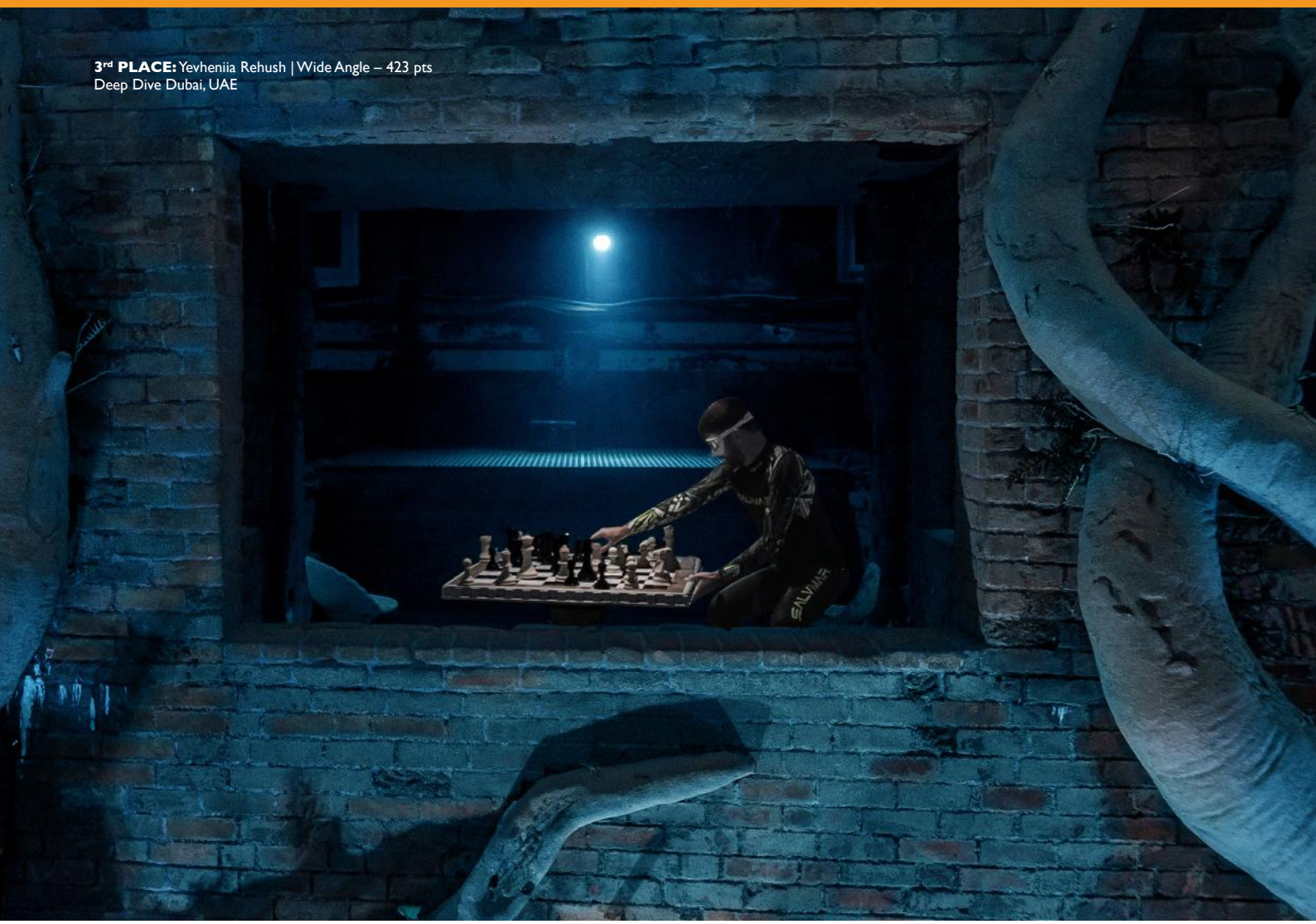
3rd PLACE: Naima Amari | Black & White – 442 pts
Ras al Hadd, Oman

3rd PLACE: Luan Le Ngoc | Macro – 434 pts
2nd PLACE: The People's Choice Awards – 107 pts
Anilao, Philippines



3rd PLACE: Jonathan Laperdrix | Creative Underwater Photography – 426 [illegible]
Philippines

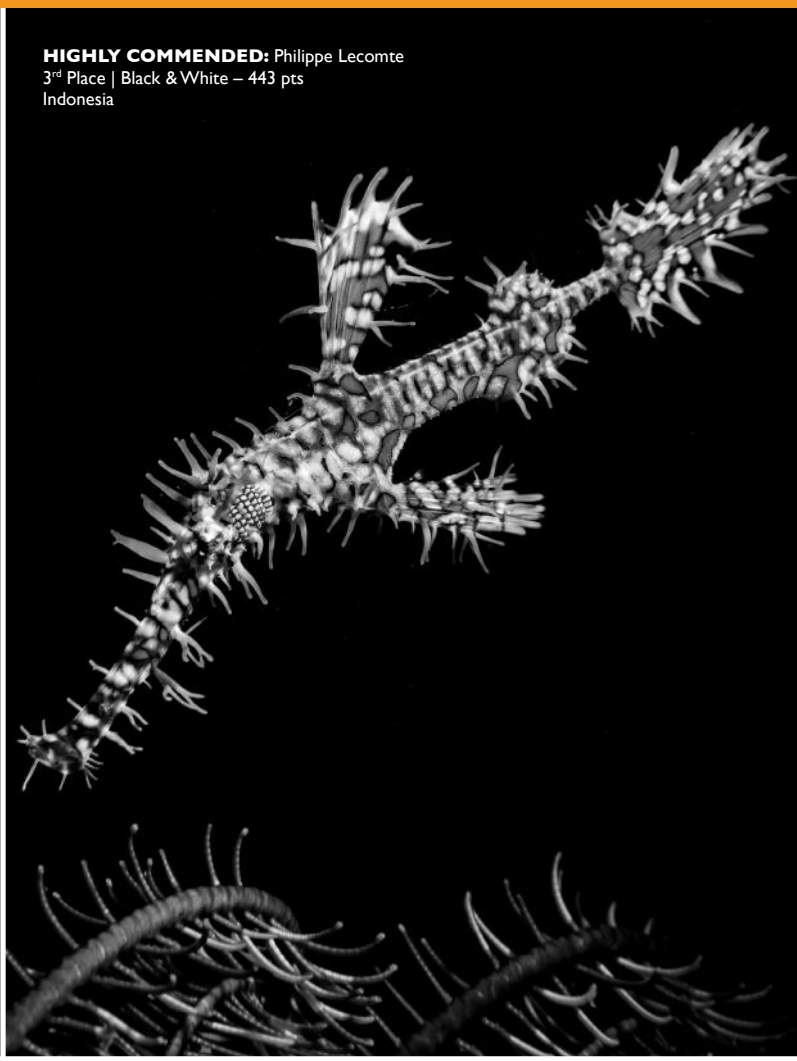
3rd PLACE: Yevheniia Rehush | Wide Angle – 423 pts
Deep Dive Dubai, UAE



3rd PLACE: Felipe Morales | Behaviour – 406 pts
1st PLACE: The People's Choice Awards – 129 pts
Fujairah, UAE

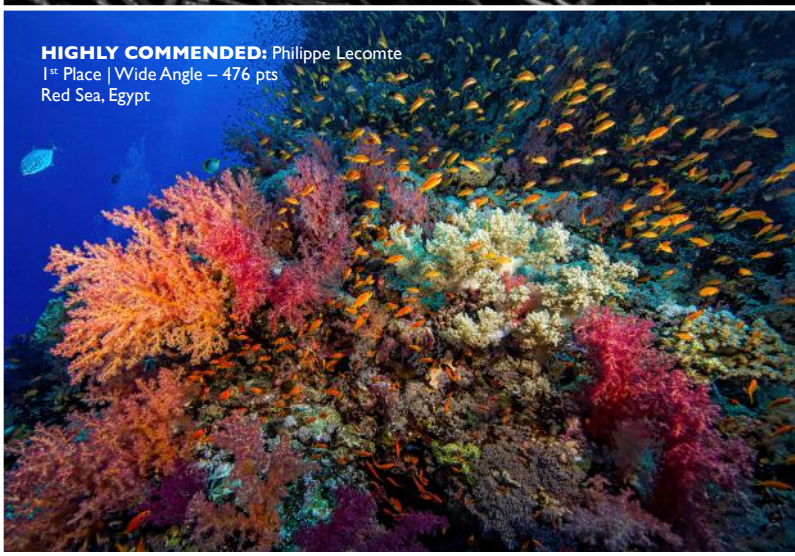
HIGHLY COMMENDED: Philippe Lecomte
3rd Place | Macro – 459 pts
Indonesia

HIGHLY COMMENDED: Anastasia Demkina
3rd Place | Creative Underwater Photography – 445 pts
Deep Dive Dubai, UAE



HIGHLY COMMENDED: Philippe Lecomte
3rd Place | Black & White – 443 pts
Indonesia

HIGHLY COMMENDED: Fakhruddin Husein
2nd Place | Behaviour – 427 pts
Tulamben, Bali, Indonesia



HIGHLY COMMENDED: Philippe Lecomte
1st Place | Wide Angle – 476 pts
Red Sea, Egypt

THE PEOPLE'S CHOICE AWARDS

1. Mohamed Azmey: 1st Place Video – 6 pts
Treasured Underwater Discoveries
SPONSOR: SANDY BEACH DIVE ACADEMY
www.divesandybeach.com
2 tank boat dive, and a 3rd shore dive to Snoopy on East Coast.

2. Felipe Morales: 1st Place Photography – 129 pts
Behaviour Page 77
SPONSOR: AL BOOM DIVING
www.alboomdiving.com
2 tank boat dive on East Coast with or without equipment, including tank and weights for 1 person.

3. Luan Le Ngoc: 2nd Place Photography – 107 pts
Macro Page 76
SPONSOR: GOBLIN DIVING CENTER
www.facebook.com/GoblinDC
PADI Search & Recovery Course (must be a certified Advanced Open Water diver)

4. Gordon T. Smith: 3rd Place Photography – 56 pts
Behaviour Page 70
SPONSOR: CREST DIVING
www.crestdiving.com
CR-F Yellow Dive Computer + CREST Blue Waterproof Bag

Photo by Jonathan Laperdrix

WWW.EMIRATESDIVING.COM

DIGITAL ONLINE 2025

EDA'S ANNUAL UNDERWATER PHOTOGRAPHY AND FILM COMPETITION

THE AWARDS & EXHIBITION NIGHT

Thursday 15th May 2025 at Deep Dive Dubai | 7pm

DEEP DIVE DUBAI

GIGA WORKS VIRTUAL REALITY FILM STUDIO

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DIGITAL ONLINE

جمعية الإمارات للغوص

EMIRATES DIVING ASSOCIATION

PHOTOGRAPHY AND FILM COMPETITION

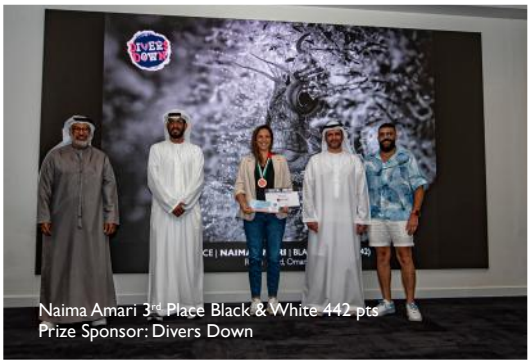
UNDERWATER PHOTOGRAPHY

Felipe Morales 3rd Place Behaviour – 406 pts
Prize Sponsor: Goblin Diving Center

Yevhheniia Rehush 3rd Place Wide Angle – 423 pts
Prize Sponsor: CREST Diving

Jonathan Laperdrix 3rd Place Creative Photography 426 pts
Prize Sponsor: Dive Campus

Luan Le Ngoc 3rd Place Macro 434 pts
Prize Sponsor: Freediving UAE



Naima Amari 3rd Place Black & White 442 pts
Prize Sponsor: Divers Down

Ahmed Alkaabi 3rd Place Best of the UAE 453 pts
Prize Sponsor: CREST Diving

Jenny Rehush 3rd Place Video 405 pts
Prize Sponsor: Grand Stores & Sealife Cameras

Samer Halwany 2nd Place Behaviour 421 pts
Prize Sponsor: Sheesa Beach Dhow Cruises

Khawla Alshehhi 2nd Place Wide Angle 425 pts
Prize Sponsor: CREST Diving

Yuriy Rakhmatullin 2nd Place Black & White 445 pts
Prize Sponsor: Grand Stores & Sealife Cameras

Anastasia Demkina 2nd Place Best of the UAE 455 pts
Prize Sponsors: Dive Garage

Hesma Fivaz 2nd Place Creative Photography 464 pts
Prize Sponsor: Grand Stores & Sealife Cameras

Ahmed Al-Ali 2nd Place Macro 475 pts
Prize Sponsor: XR Hub Dive Center

Mohamed Azmey 2nd Place Video 499 pts
Prize Sponsor: Al Mahara Diving Center & Anantara Desert Island Resort

Gordon T. Smith 1st Place Behaviour 433 pts
Prize Sponsor: XR Hub Dive Center

Oliver Farrell 1st Place Black & White 452 pts
Prize Sponsor: Monster Middle East, GoPro & LARQ

Khalid Alrazooqi 1st Place Wide-Angle 457 pts (Not present)
Prize Sponsor: Monster Middle East, GoPro & LARQ

Fakhruddin Husein 1st Place Creative Photography 471 pts
Prize Sponsor: Monster Middle East, GoPro & LARQ

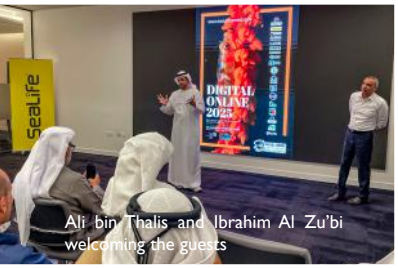
Oktav Bosnali 1st Place Macro 496 pts
Prize Sponsor: Base Films & Marelux

Philippe Lecomte 1st Place Best of the UAE 509 pts
Prize Sponsor: Dive Campus

Oliver Farrell 1st Place Video 508 pts
Prize Sponsor: Base Films & Marelux

Anastasia Demkina Overall Digital Online Winning Photographer 2025 – 2,542 pts

Oliver Farrell Overall Digital Online Winning Videographer 2025 – 508 pts



Ali bin Thalis and Ibrahim Al Zu'bi welcoming the guests

Ibrahim Al Zu'bi and Mohamed Almusallami recounting stories to the audience

Mohamed Almusallami with Gopal Sudhakaran & Naushard Faiz from Grand Stores

NYU's Rita Bento with DO participants, Philippe Lecomte and Gordon T. Smith

Mehboob Sonday, Ally Landes, Ibrahim Al Zu'bi, Rita Bento and Rania Shawki Mostafa

COLOUR-BLIND
YET A MASTER OF COLOUR
WHEN LIMITATIONS UNLOCK CREATIVITY

WORDS AND PHOTOGRAPHY BY **ARWA MOHAMMED**

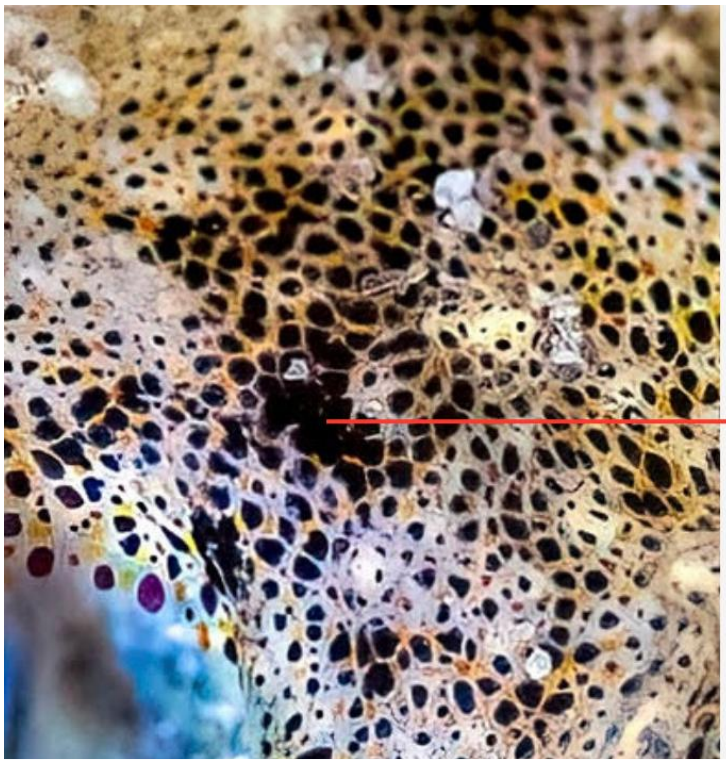
Cuttlefish seem like an ordinary find in Dubai's Jumeirah Beach, but there is nothing ordinary about this creature. Many don't know that it's colour-blind. Yes! It can't see colour, yet it mimics not only the colours of its surrounding area when it's scared, but also alters its texture to match the environment.

Cuttlefish seem like an ordinary find in Dubai's Jumeirah Beach, but there is nothing ordinary about this creature. Many don't know that it's colour-blind. Yes! It can't see colour, yet it mimics not only the colours of its surrounding area when it's scared, but also alters its texture to match the environment.

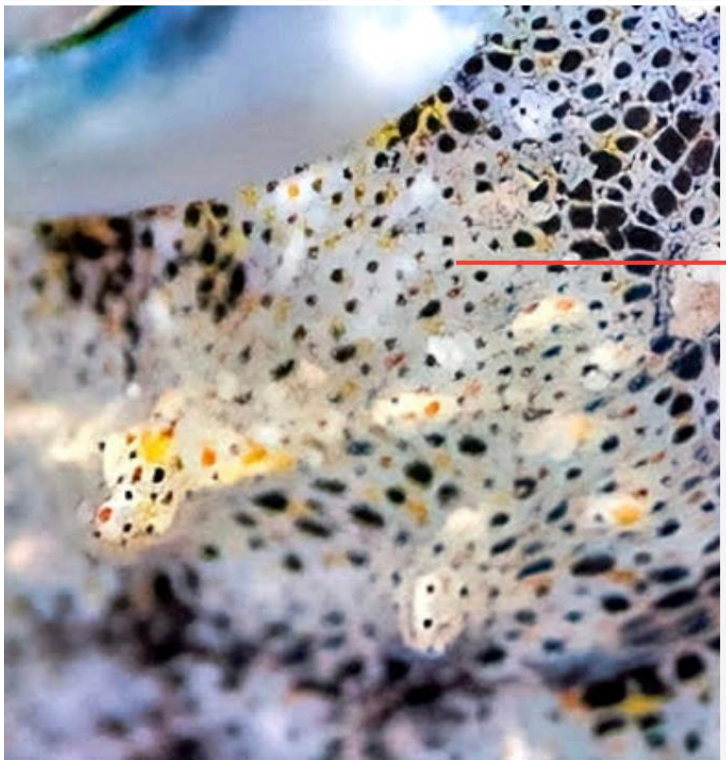
This phenomenon makes you wonder: how does it receive colour information, process it, and essentially command its outer shell to match the exact surrounding colour of the sand bed or nearby rocks?

Until now, scientists can't fully understand how they are able to perceive colours and mimic them without actually seeing them with their eyes. The latest speculation is that cuttlefish may rely on their ability to detect polarised light and subtle contrasts in brightness and texture, using these cues – rather than true colour – to interpret their surroundings and trigger precise skin pattern responses through their complex neural and muscular systems.

While I was shooting a video of the cuttlefish, I truly enjoyed how it was changing its skin texture. I could not differentiate what was sand and what was its papillae. A cuttlefish's papilla is a raised bump on its outer skin designed to mimic rough surfaces like rocks or coral. It's a 3D camouflage – not just colour matching. The secret behind the cuttlefish's incredible camouflage lies in its complex skin structure, which contains three specialised layers of cells: chromatophores, iridophores, and leucophores. Chromatophores are pigment-filled sacs controlled by muscular contractions, allowing the cuttlefish to rapidly expand or contract these cells to display reds, browns, and yellows. Beneath them, iridophores reflect light using microscopic plates, producing iridescent blues and greens. The deepest layer, leucophores, scatters ambient light, helping the animal blend into light or sandy environments.



Expanded



Contracted

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www.instagram.com/xphotodxb

I tried my best to get as close as possible to this juvenile cuttlefish – it was 5cm in size. At first, it was alarmed by my bright lights in the pitch-black water during a night dive. Forty-five minutes later, it realised no harm would come from me and continued hunting, while I continued shooting, hoping to get a close-up look at the pigment-filled sacs contracting to change colour. They're like water balloons filled with pigment; when they expand, you see more pigment, and when they contract, they shrink into tiny dots, making them appear colourless.

This cuttlefish taught me a powerful lesson: sometimes, it's not about having more resources – it's about making the most of what you already have.

With just three colours in its chromatophores – red, brown, and yellow – it managed to transform itself into a living canvas that mirrored the vibrant complexities of its surroundings.

That moment underwater made me pause.

How often do we wait for the "right tools," the perfect setup, or more resources before we begin creating? The cuttlefish didn't wait for more colours – it simply mastered what it had, all while being blind to colour.

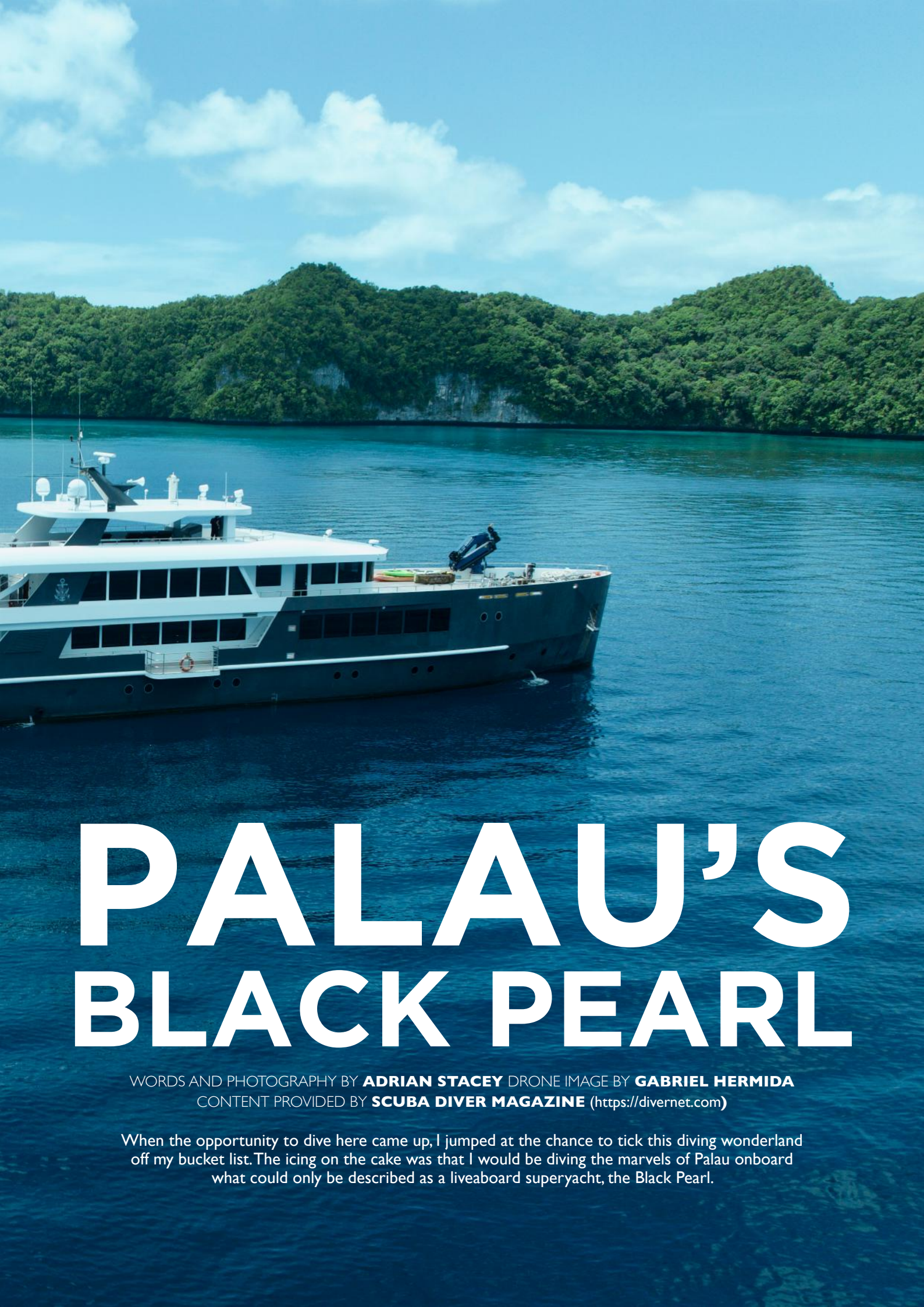
It perfected not only the ability to mirror the colours of its surroundings, but also the texture.

It made me wonder: what else could I create – right now – using only the tools I already possess?

Could limitations actually be the key to unlocking creativity, not the obstacle?

Maybe it's not about having everything – it's about discovering how much is possible with what's already in your hands.

Think about it.



PALAU'S BLACK PEARL

WORDS AND PHOTOGRAPHY BY **ADRIAN STACEY** DRONE IMAGE BY **GABRIEL HERMIDA**
CONTENT PROVIDED BY **SCUBA DIVER MAGAZINE** (https://divernet.com)

When the opportunity to dive here came up, I jumped at the chance to tick this diving wonderland off my bucket list. The icing on the cake was that I would be diving the marvels of Palau onboard what could only be described as a liveaboard superyacht, the Black Pearl.

ABOVE: Shoal of red bigeyes.

The Republic of Palau is a tiny island nation in the west pacific. To its east is the Philippines, and to the south are Indonesia and Papua New Guinea. The archipelago of Palau consists of over 500 beautiful rainforest-covered islands, and it is clear to see that the population of around 20 thousand inhabitants take great pride in their nation. The streets are clean, the buildings well maintained, and the public areas are well manicured.

Tourism, particularly dive tourism, is one of Palau's primary sources of income, so it is no surprise that the government has robust environmental and conservation policies. Many of its islands and surrounding seas have protected status, and in 2009, Palau created the world's first shark sanctuary, banning shark fishing in an area coving approximately 600,000 square kilometres. The result is lots of sharks, diverse marine life and healthy reefs.

Palau is one of those rare destinations that offers a wealth of outstanding and varied diving, from wrecks to reefs, caves to mangroves and plenty of big animal action, plus unique spawning events that occur regularly. Dive sites like Blue Corner, the German Channel, and Chandelier Cave are world-famous, and the scenery above the water is spectacular too. It is because of these reasons that Palau is a country that I have wanted to visit for a long time now. So, when the opportunity to dive here came up, I jumped at the chance to tick this diving wonderland off my bucket list. The icing on the cake was that I would be diving the marvels of Palau onboard what could only be described as a liveaboard superyacht, the Black Pearl.

Bearing no resemblance to the Black Pearl of Pirates of the Caribbean fame, this Black Pearl is a 45-metre beauty of a dive boat that began running trips in Palau in 2019. There are 14 spacious, well-appointed, and air-conditioned cabins, all ensuite with hot water. On the lower deck, the dive platform is equipped with two large freshwater rinse tanks for cameras and equipment and freshwater showers for after the dives. Also on this deck is the compressor room and equipment room. Dehumidifiers and fans in the equipment room ensure wetsuits dry overnight, which I thought was a nice touch.

The main deck comes complete with a jacuzzi, comfortable seating, a camera station and a generous wet area where drinks, snacks and dry towels are always available after the dive. Inside is the dining area, where hot drinks and water are always available.

The pilot deck has comfortable alfresco seating and a bar perfect for sunset drinks. This deck also has an indoor lounge with large TVs, plus a camera preparation and charging area. The next level up is a vast sundeck with plenty of space for lounging after a hard day of diving. All in all, the Black Pearl is the height of luxury.

The first day I joined the vessel was a dry day. We were welcomed onboard at around 3pm, and after the grand tour, we were given a briefing of the boat and safety features. As is customary at these briefings, we were asked to introduce ourselves and share what we would like to see on this trip with the group. I was pleased to note that not a single person was eager to search for nudibranchs or other critters, not that I have anything against these colourful little creatures or other small inhabitants of the reef; it is just that my preference is for the big stuff, sharks, rays and large schools of fish, plus pristine roofscapes of soft and hard corals. Having a boat full of divers of a similar mindset bode well for the trip.

The diving for the first half of the trip was in the southern region of Palau around the island of Peleliu and the German Channel. This shallow man-made channel was carved through the reef in 1909 by the Germans when Palau was a German colony. The channel connects a sheltered lagoon to the Pacific Ocean. This allowed ships to pass from the

ABOVE: School of snappers; grey reef shark and Napoleon wrasse; and red whip Coral.

Southern islands of Peleliu and Angaur to the main trading port of Koror. It is far too shallow for today's modern ships to pass through, so dive operators now use it to access some of the outer reef's dive sites, like the Blue Holes and Blue Corner.

For the first day of diving, our cruise directors, Gabriel and Maria, had a mouth-watering lineup of dives planned for us, which included a couple of the region's most famous dive sites. Our first dive was an enjoyable introduction to diving in Palau with a cruise along Barnum's Wall, but what I was really looking forward to was the second dive of the day at Blue Corner. This spot is famous for strong currents, walls of fish and plenty of sharks.

Our dive began on a dramatic wall that dropped to over 300 metres. A massive school of Jacks stuck close to the top of the reef as grey reef sharks scythed through their ranks. After swimming along the wall for a few minutes, we arrived at a plateau that juts into the ocean. This plateau is where the current converges and large congregations of schooling fish usually assemble, attracting sharks and other large predators. We used reef hooks to secure ourselves to the plateau's edge near the drop and hung in the mild current to watch a procession of sharks, fusiliers, barracuda, tuna, and rainbow runners swim past us.

After this spectacle, we explored the plateau, where we found schools of yellow snapper, numerous green turtles, marble grouper, and Napoleon wrasse. Plus, swarms of red tooth triggerfish, pyramid bannerfish and anthias. While this was a superb dive, I could not help but think that we had not seen Blue Corner at its best and that with a little more current, the fish would have formed into a nice tight ball, and the predators would have been more focused. After the dive, I asked Gabriel how this dive at Blue Corner rated with some of his other dives at this location. He gave this one a 3 out of 10, confirming my suspicions. Still, I could see the potential for this site, and a 10 out of 10 here must be absolutely mind-blowing.

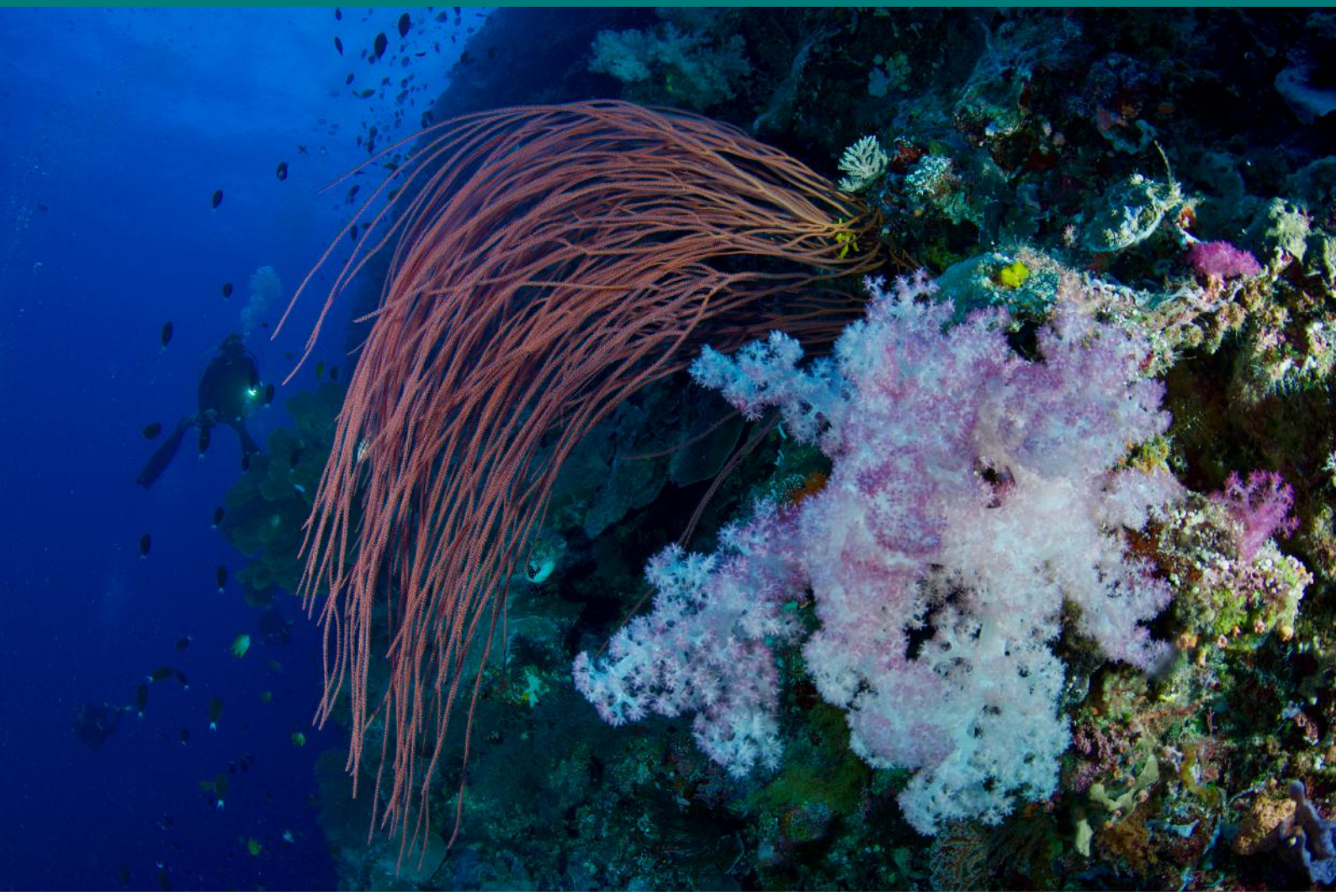
The final dive of the day was at one of Palau's other signature dive sites, the German Channel. At the end of the shallow man-made channel, a sloping reef of hard coral descends to around 15 metres. The hard corals give way to a sandy bottom scattered with coral bommies. Some of these bommies are cleaning stations that sharks and Mantas frequent. Although we were at the end of manta season, we still hoped to encounter some of these majestic creatures. Unfortunately, no mantas were present on our dive, but we did see some grey reef sharks try to hold still for long enough to get cleaned. Plus, we saw a large father tail ray, a school of humpback snappers, juvenile barracudas and Lunatail bigeyes.

On the way back to the Black Pearl, we did see two giant mantas cruise through the channel, no doubt on their way to one of the cleaning stations we had just left!

Later that afternoon, our cruise directors, Gabriel and Maria, organised an excursion to a stunning nearby beach for sunset drinks, which was the perfect way to relax at the end of a great day of diving.

The following morning, we boarded the dive tenders and made our way to the island of Peleliu, where our morning dives would take place. This was about a 30-minute journey from the Black Pearl, so the plan was to have a dive, breakfast on the island, and then dive again before heading back to the mother ship. The dive tenders are completely covered, spacious and comfortable, and the journey allowed us to enjoy the stunning scenery of a tiny island covered in dense rainforest and shallow crystal-clear lagoons. As a bonus, on our way to the dive sites, we encountered a resident pod of dolphins that like to play with any boat that passes through their territory.

After our first dive at a site called Orange Beach, we headed to the Island of Peleliu



ABOVE: Vibrant soft corals.

for breakfast. Peleliu had been the target to some fierce fighting back in World War II. Thousands of American and Japanese soldiers lost their lives fighting for the island and evidence of the battle can still be found in the surrounding jungle.

After breakfast, we dived at Peleliu Cut; this was definitely one for the adrenaline junkies. The reference starts at around 10m on a large plateau which black tip reef sharks zipped across. A sheer wall then plunges into the depths. A massive school of jacks hung in the blue just off the reef, and below them, 30 plus grey reef sharks had congregated. A large bull shark also joined this shiver of sharks. Adding to the list of predators that the schools of jacks had attracted were tuna, rainbow runners, trevallies, and mackerel. This was a fantastic dive and one of the trip's highlights so far.

On the way back to the Black Pearl, we made an unscheduled stop on a beach at the entrance to the German Channel. Some corals are entirely out of the water at low tide, and stopping at this stunning beach was well worth delaying lunch for.

For the final dive of the day, we went back to the German Channel to see if the mantas from the previous day would return. They did! Unfortunately, we once again met them when the dive had finished on the way back to the Black Pearl.

We started the next day with a fantastic dive at the Blue Hole followed by New Drop Off, which is another of the region's wall dives that attracts all manner of schooling fish and hungry predators. The third dive of the day was my favourite. Turtle Cove is a wall dive of epic proportions. Almost every inch of the reef is covered in soft coral, whip corals and sea fans. Broccoli corals drip off the numerous overhangs and swim-throughs. Like on just about every other dive, there are, of course, sharks, turtles, and schools of surgeon fish, snapper and jacks. Towards the end of the dive, there is a large cavern at around 15 metres where schools of anthias pulse from the reef, and a school of blackfin barracuda hung in the blue.

There was a night dive planned for the evening but as I am not particularly fond of night dives I took the opportunity to relax on the upper deck and watch the sun dip below the horizon, painting the sky in a spectacular array of colours.

The second half of my journey through Palau onboard the luxurious Black Pearl started in spectacular fashion. We returned to Blue Corner for an early morning dip and were rewarded with an epic dive. This is one of those sites where you can dive repeatedly; each time, it will be different and quite often spectacular. We had a mid-strength current on this occasion, so on arrival at the plateau, we hooked onto the reef and waited for the show to start. It did not take long.

Along with the jacks, barracuda and snapper schools, we witnessed some interesting animal behaviour. First, a large Napoleon wrasse took exception to a grey reef shark getting too close and harried the shark out of the area. Then later in the dive, two marble groupers had a stand-off, presumably over territory. The action kept coming for the entire dive, with plenty of sharks, turtles and schooling fish smothering the reef.

This was followed by a dive at the virgin blue hole before the Black Pearl upped anchor and set off north towards the famous Jellyfish Lake. The lake was once full of millions of Golden Jellyfish. Unfortunately, numbers have declined drastically since 2016, and now almost none are left; the exact reason is unclear, but some scientists believe drought and warmer temperatures may have played a part. The government closed the lake to visitors for two years to give the jellies a chance to make a comeback, and the good news is the numbers seem to be on the rise again, although it is worth noting that are still only very few Golden Jellyfish in the lake.

ABOVE: Inside Chandelier Cave.

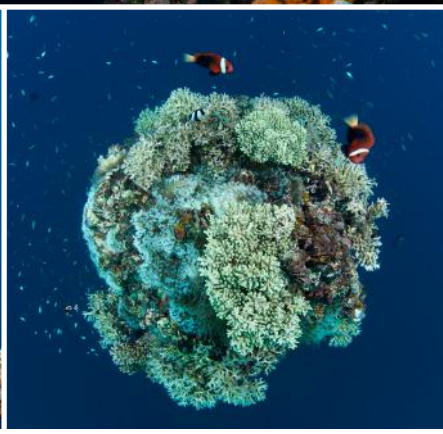
The lake is about a ten-minute hike over a rainforest-covered ridge. No diving is allowed, only snorkelling. The recovering population of jellies seems to hang out in the middle of the lake, and I did manage to see one of these harmless creatures, but I spent most of my time around the mangroves on the lake's edge. There is a thriving ecosystem of colourful sponges, cardinal fish, anemones and other little critters.

The final dive of the day was at Ulong Channel. This is another of Palau's signature dive sites, which did not disappoint. A sloping plateau drops to around 17 metres, then a wall drops into the depths. After carefully placing our reef hooks, we enjoyed a procession of grey reef and blacktip reef sharks going by. Also, at the drop-off were schools of fusiliers, Big eyed trevallies, barracuda and batfish. Plus, an eagle ray flies by. After watching this show for around 20 minutes, we went to a channel that cuts through the reef. The channel is about 10 metres deep and is flanked by impress walls of hard coral; about halfway along this gouge in the reef is a colossal cabbage coral. It is the second largest in the world and is quite an impressive sight.

Our penultimate day of diving began with a site called Siaes Corner. This is another of Palau's sites where it is handy to have a reef hook. Even if the current is not particularly strong, using a reef hook means no finning is required to maintain your position; both hands are free for photography. Perhaps most importantly, the coral does not get damaged. The plateau starts at around 10m and drops to approximately 20 metres.

A plunging wall covered in soft coral then disappears into the depths. Along the wall at the drop-off were plenty of sharks and your

Palau's wrecks are smothered in marine growth.



usual schools of fish, including scad, seabream, snappers, jacks and fusiliers.

Dive number two was at Sand Bar. While the site's name did not sound particularly inspiring, this was an excellent and very fishy dive where we encountered large schools of red bigeyes, seabream, and jacks and a swirling mass of barracuda plus several whitetip reef sharks.

Our last dive of the day was at the chandelier cave. I am not a keen cave diver, and in the briefing, when our guide, Gabriel, told us that the reef outside the cave was home to mandarin fish, I was tempted to dive with my macro lens instead of the wide-angle option. Gabriel urged me against this course of action, and once inside the caves, I was glad I heeded his advice.

The entrance to the caves is in a sheltered lagoon at the foot of a jungle-covered cliff and is just a few metres underwater. This is an easy and shallow dive, with the bottom of the deepest cave at around 16 metres. Four large chambers are connected by wide underwater openings and boast impressive stalactite formations. We were diving at low tide so that we could see them at their best. We moved from cave-to-cave surfacing in each one to look at the breathtaking formations and enjoy this unique experience. Underwater the stalactites were even more impressive and made for great photo opportunities.

Our final day of diving was focused on wrecks. Palau was an important base for Japanese operations in the Pacific region in World War II. Many Japanese Navy and merchant boats were stationed here or visited to refuel and restock, including huge refuelling tankers, cargo ships and warships. The ships of the Navy were known as Iro, while the Merchant ships had the designation Maru. Palau's rainforest-covered islands and shelter lagoons are still littered with the machines of war, and there are at least 60 wrecks in these waters, mainly shallow enough for recreational diving limits. Most of the wrecks are Japanese ships and planes, but there are also a few American wrecks in the region.

The first wreck of the day was on the hulking remains of the Ijn Iro. This was a 144-metre-long oil tanker that was sunk in April of 1944 when a 1,000lb bomb smashed through its deck and exploded in the engine room. The ship had been damaged by a torpedo attack a few days earlier and had been anchored near Koro for repairs. The vessel now rests upright on the sandy ocean floor at around 40 metres. The top of the mast reaches about 10 metres from the surface.

We began the dive by descending onto the deck at around 20 metres and made our way towards the bow. The first thing I noticed was the amount of coral growth. The forward gun emplacement was unrecognisable such as the number of hard corals and sea whips growing from it. The ship's bow has a huge hole torn in it where a torpedo struck it. From the bow, we made our way to the stern past the bridge where schools of dusky batfish congregated. At the stern, there was another gun emplacement, and after exploring this area of the wreck, we made our way to a huge mast to begin our ascent. Anemones and tomato clownfish have colonised the top of the mast and make for a spectacular end to the dive.

After breakfast, we headed out for the final dive of the trip. Our destination was the Teshio Maru. This was a 98-metre-long cargo ship that was sunk in March 1944 as it tried to run away from an Allied air raid. The Teshio did not receive a direct hit, buts its rudder was damaged in the air raid; unable to steer, the ship hit the reef and was abandoned. It remained here for a couple of years before slipping off the reef, and the vessel now rests on its

Jake's Seaplane in the shallows.

Green sea turtle.

starboard side at around 24 metres. The top of the ship is about 8 metres underwater. This wreck is also covered in hard corals, plenty of whip corals, black corals and colourful sponges. Damsels, anthias, clown, banner, and glassfish reside on this massive wreck. There is lots to explore on the Teshio, with well-lit swim-throughs and large compartments, making this a superb dive.

After the dive, we made our way back to the Black Pearl, and as a bonus, we made an unscheduled stop at Jakes Seaplane for a quick photo opportunity. This Japanese imperial navy seaplane is one of many plane wrecks in the region. The wreck lies in about 10 metres of water on a hard coral reef and can be dived around in about 5 minutes, so after a few photos, I exited the water, and we made our way home.

Once back at the Black Pearl, all our equipment was broken down, washed, and hung up for us. There were no dives planned for after lunch, so all that remained was to enjoy our last day on the opulent Black Pearl, get in the jacuzzi, and socialise at the bar and lounge on the sun deck.

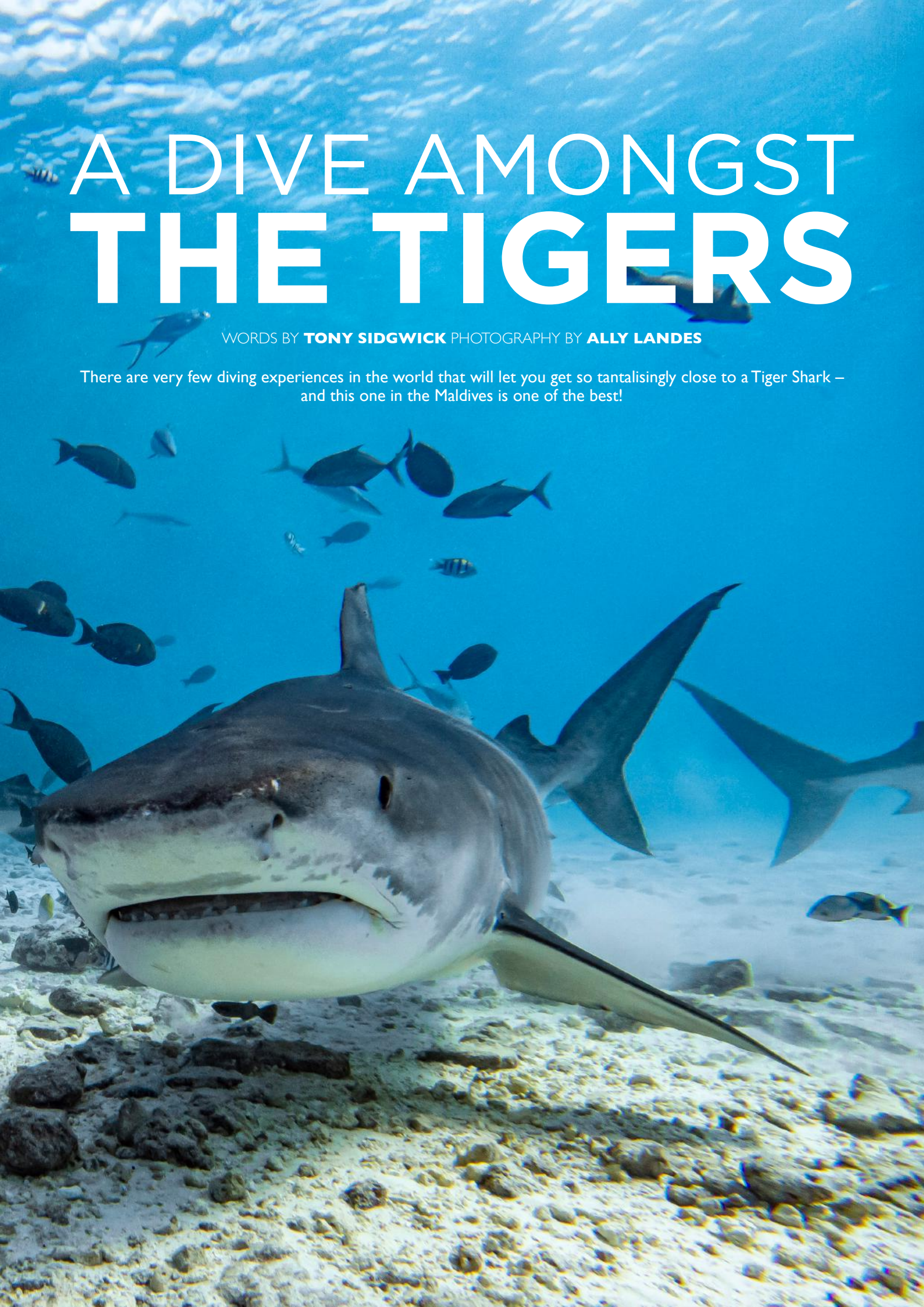
I really enjoyed the leisurely pace of the trip; the three dive-a-day (plus a night dive) schedule meant that we were never rushed and could enjoy impromptu excursions to secluded beaches or to stay and play with a pod of friendly dolphins when the opportunity arose. For this, a lot of credit must go to the cruise directors and the crew. They were excellent throughout the trip. Always willing to help and always with a smile. They were keen to do that little bit extra to make the trip even more special. As is the case with liveaboards, the food was plentiful and well prepared, and I could not have asked for a better vessel to sample the diving delights of Palau from.

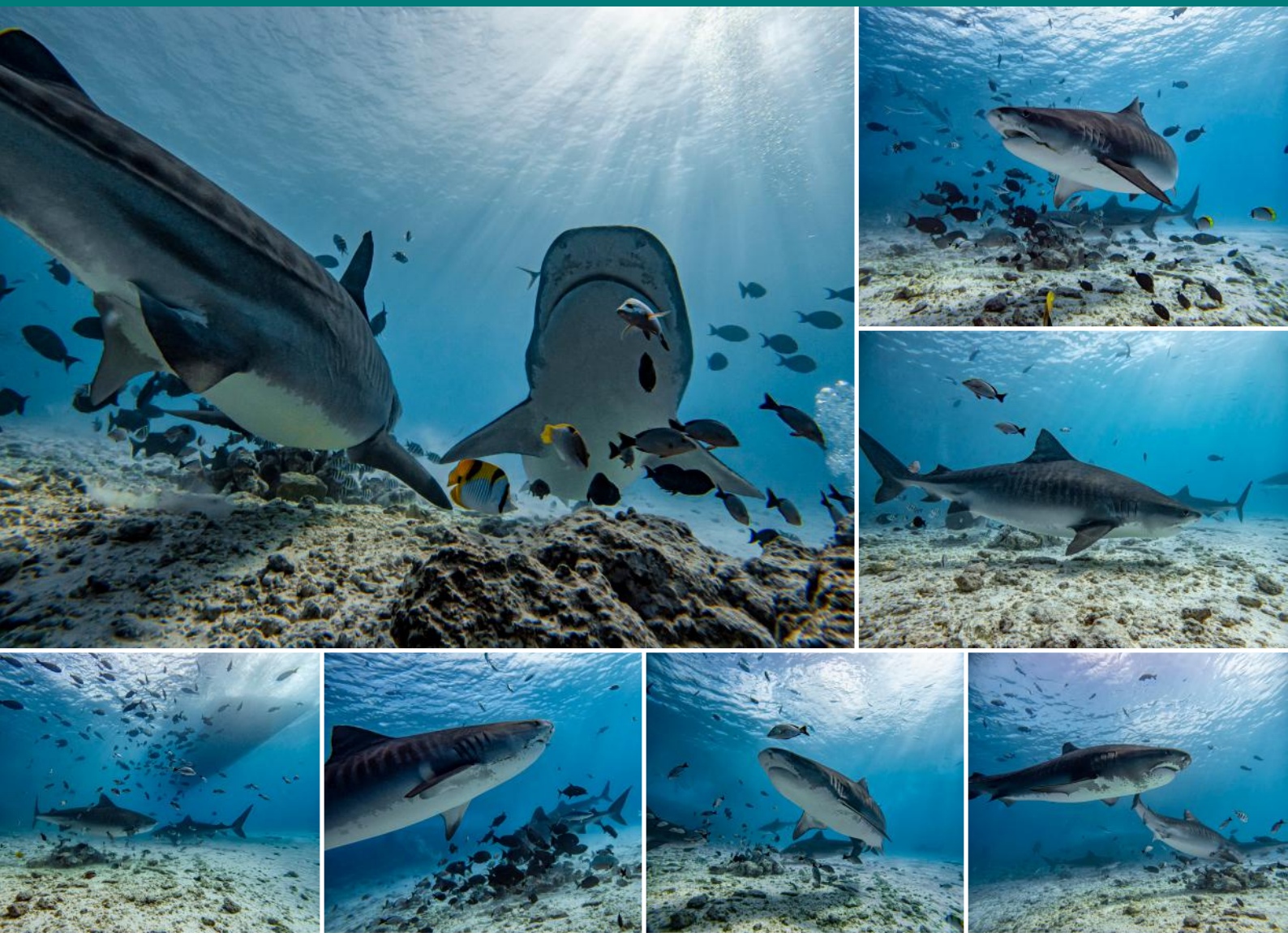
Palau is an outstanding dive destination, and one of the things that impressed me the most was the variety of sites and the diversity of marine encounters. There are plenty of coral-covered walls and action-packed plateaus, but there are also gently sloping reefs coved in hard coral and teeming with fish, caves, blue holes, and wrecks galore. There is lots of big animal interaction with sharks on just about every dive, lots of turtles, groupers, tuna, napoleon wrasse, mantas and plenty of schooling snapper, bream, jacks, barracuda and more. My week of diving was incredible and certainly lived up to my expectations, and I get the feeling that I did not even see Palau at its best!

A DIVE AMONGST THE TIGERS

WORDS BY **TONY SIDGWICK** PHOTOGRAPHY BY **ALLY LANDES**

There are very few diving experiences in the world that will let you get so tantalisingly close to a Tiger Shark – and this one in the Maldives is one of the best!





ABOVE: The Tiger Sharks (*Galeocerdo cuvier*) of Tiger Harbour at a depth between 6-8 metres.

The remote atoll of Fuvahmulah lies at the very southern end of the Maldivian archipelago, deep in the Indian Ocean. Though it's the third-largest island in the Maldives, it's still small enough that you can circumnavigate the whole atoll on a scooter in around 20 minutes.

While it's not the luxurious island resort paradise most picture when they think of the Maldives, it nevertheless attracts thousands of tourists a year, almost exclusively divers, for one simple reason – the world's biggest population of Tiger Sharks!

Almost 300 identified individuals aggregate around the island's reefs and harbour, tracked and identified by the resident marine biologists who study these beautiful animals for their migration patterns and behaviour.

Like many of the famous shark diving sites, Fuvahmulah became a hotbed of Tiger Shark activity due to its fishing port, where the fish waste used to be dumped in the sea at the mouth of the harbour, attracting these magnificent sharks to feast.

As more and more divers began to arrive to see the gathering sharks, the local population realised they were onto something, and began to properly manage the activities to make the most of this burgeoning tourist trade.

Alongside the divers, marine biologists arrived to take advantage of the unique opportunity to study the Tiger Sharks, as well as the other various shark species that inhabit the waters around the island such as Thresher Sharks, Hammerheads, Reef Sharks and Blacktips.

A central figure in these activities and a huge ocean conservation activist and shark advocate is Ahmed Inah, the founder of Pelagic Divers Fuvahmulah (PDF), one of the island's most well-established shark diving centres, and our hosts for this trip.

Upon arrival at the PDF dive centre, you'll check in, and attend a comprehensive briefing on the shark diving activities, safe practices, and the various celebrity Tiger Sharks you'll potentially meet during your dives.

There is also the option of freediving with the Tiger Sharks at Tiger Harbour, under the safe guidance and supervision of the PDF freediving team, but this particular experience wasn't part of our plan for this trip!

Heading out on the PDF boat each day, you'll do three dives, and each day one of those will be the main event…

TIGER HARBOUR

This is what divers from across the world come to Fuvahmulah for. An up-close-and-personal encounter with multiple fully-grown female Tiger Sharks is all but guaranteed at this site.

All of Fuvahmulah's dive centres co-ordinate with each other so that everyone gets a dedicated half-hour time slot to dive with the Tiger Sharks, and the site isn't crowded with other divers. Your dive boat will drop you about 200m north of the site, and you'll drop in with a negative entry, descend to the reef at about 20m, and then swim along the reef wall to line up adjacent to the feeding station

If you're lucky, you'll catch a couple of Tiger Sharks swimming in the blue around the reef, but if not, do not despair, because the real experience is about to begin.

Once everyone is in position, the dive guide signals the boat above with a blast of bubbles to drop the tuna heads that will grab the sharks' attention. These are placed in a rock

TOP LEFT: The colourful reef at Rasgefanu. **TOP RIGHT AND BOTTOM ROW:** Hawksbill turtle (*Eretmochelys imbricata*) and reef dives in Thundi.

pile to keep the sharks engaged in the spot, and they'll circle and nose at the pile to get at the tasty morsels within.

It is the female Tiger Sharks, the larger of the species measuring up to four metres in length at their largest, that dominate the site, and are a truly impressive sight gliding past you less than a couple of feet away!

You will never get so close to a Tiger Shark as you will at this moment. Showing only mild interest in the divers, their attention is focused on the tuna heads buried in the rock pile, so they'll only give you a passing glance as they swim by.

They are so breathtakingly close you could reach out and touch them, although obviously this isn't permitted. However, the sharks themselves don't always abide by this rule, as this particular diver found out when one turned just in front of him and clouted him across the head with her tail!

At one point on our busiest dive, there were around 15 fully-grown females circling the dive site, with so much action we didn't know where to look! As our time slot ended and our dive group swam away from the reef to catch our boat, we had an unnerving few minutes when several Tigers showed a bit too much interest, breaking away from the reef to follow us and circle the group. Thankfully, the professional PDF shark specialists were on hand to redirect the more determined of the Tiger Sharks away, and we made it safely back to the dive boat.

It is an incredible experience that many return for year after year. Others arrive for the Shark Specialisation courses offered by PDF, where they'll learn more about the sharks and their behaviours, and assist with managing the shark experiences for the other divers.

Yes, there are those among you reading this article who will be thinking that this is not a natural encounter, as the dive centres are chumming the water, and it is all stage managed for tourists, and your thoughts would be perfectly valid.

However, in this instance, I'm going to say that the pros outweigh the cons. The diving activity is very well-managed by the locally owned diving industry, and the opportunities it has presented for shark research have been immense. A great deal has been learned about shark activity and behaviour at Fuvahmulah – knowledge that might have taken many more years of study at various dive sites across the world to accumulate.

In addition, the benefits that it has brought to the island are immense, with the tourism industry of dive centres, ocean excursions, guest houses and restaurants supporting the island's other industries of fishing and farming. There is now a thriving economy supporting infrastructure, education and more for the local population.

FARIKEDE

For another dive site, the boat will exit the port and immediately turn eastwards to head out to Farikede, a deep reef about a kilometre out from the island.

As you hit the water for a negative entry and start to descend, you might be lucky enough to encounter a Tiger Shark in the blue, as we did on two separate occasions. Your main dive guide and spotter will immediately descend to around 40m to try and spot Thresher Sharks and Hammerheads which sometimes gather on the reef.

TOP ROW L-R: A Tiger Shark (*Galeocerdo cuvier*) circling the entrance to Tiger Harbour; And stationed at the chum location. **BOTTOM ROW:** Perched in position for the action.

Although your learned habits are to follow your guide, don't be tempted, as you'll find yourself going into deco territory. Instead, maintain a depth of around 25m, and watch him for a signal that he's spotted something worth descending for. It won't be hard, thanks to the spectacular visibility that the Maldives is well-known for.

Unfortunately, Threshers were nowhere to be found, but the incredible visibility did allow us to see scores of Whitetips and Grey Reef Sharks scattered across the ocean floor. Infuriatingly, they were down at around 50-60m, so there was no way we could get down there to take a closer look without risking going into deco or narcosis.

Other species you might encounter are Oceanic Mantas, Whale Sharks and Mola Molas, although we were not so lucky on any of our dives this trip.

AROUND THE ISLAND

The rest of your dives will take place at the various dive sites that surround Fuvahmulah, which is basically an aubergine-shaped reef with a town on top of it. As a result, it is ringed by reefs at around 10m and wall dives that drop all the way down to the blue. Popular sites we visited include Thundi, Gemmiskih Fanno and Rasgefano, some of which boast cleaning stations where you might spot Thresher Sharks.

The marine biologists have done some great research at these sites by placing cameras at the cleaning stations at 40-50m depth, and captured a lot of footage of Threshers doing their thing, but unfortunately much of the action takes place around that depth or more, so unless you're lucky, you won't see much.

The diving itself is sublime, with crystal clear water boasting visibility of 30m+, and in the month of April, a water temperature at a balmy 30°C, making for some very pleasant and relaxing diving. Once the deeper part of the dive is completed, you'll ascend to the higher part of the reef at around 10m, and explore the nooks and crannies for turtles, morays and other reef life.

A LEARNING OPPORTUNITY

Whilst there, don't miss the opportunity to catch one of the Tiger Shark presentations by Luca Asshauer, Pelagic Divers' resident marine biologist, who gives you a highly informative run down of the research they've been doing on the island, and the incredible things they've discovered. It's hugely interesting to learn more about the beautiful animals you've been encountering up close in your dives.

Some of the activities Luca and the team conduct include photo-ID and long-term monitoring of the many recognisable

TOP ROW: Drone shots of Fuvamulah island and Tiger Harbour with the airport in the background. **BOTTOM ROW:** Pelagic Divers at Tiger Harbour and their dive boat.

individuals who frequent the island, as well as Laser Photogrammetry, which is a non-invasive method of measuring the lengths of Tiger Sharks using a custom rig with a GoPro and 60cm-spaced lasers.

They also study behaviours, in particular social network analysis and interactions, including the social structure of Tiger Sharks through preferred associations and avoidances between individuals, and hierarchies – studying dominant and submissive interactions, both during feeding events and outside of them.

Perhaps the most exciting activities are the pregnancy ultrasounds, being conducted in partnership with well-known marine research centres and NGOs, including Oregon State University and the Miyaru Maldives Shark Research & Conservation Programme. With incredible results, they discovered that 93% of the females scanned were pregnant, and at different stages of reproduction, which offered renewed hope for Tiger Shark populations globally, and a vital step towards understanding their reproductive ecology.

FUVAHMULAH

On Fuvahmulah itself, being a small island there isn't a huge amount to do in the evenings, except to rent a scooter and explore the island's beaches and F&B offerings. Due to the abundance of fresh tuna coming off the fishing boats on the island, one thing to look out for is a nice fresh plate of tuna sashimi! Offered by various outlets on the island, we can attest to the offering at Uncle's Restaurant, just down the road from the harbour area, and instantly recognisable because of the giant dive camera rig marking its location. The sashimi is excellent, but proceed with caution on the wasabi. It is homemade, and FAR stronger than anything you've experienced at your everyday sushi chain restaurant!

Another venue to visit is Cool Banana, as much for its proximity to Gemmiski Fanu beach as for its menu. Stop off at the beach in the late afternoon to watch an absolutely spectacular sunset, and then head 50m down the road for a bowl of noodles and a fresh fruit shake at Cool Banana.

Other than that, it's mainly about relaxing and getting an early night, to be ready for the next day's shark encounters. Our accommodation was the Isle Royal Inn, a locally owned guesthouse with very comfortable rooms and a decent, if basic, breakfast to set you up for the day. The friendly manager Nirmal is a former resident of the UAE himself, having formerly worked at hotels on the East Coast! Nirmal is more than happy to offer suggestions of spots to visit, and arrange a scooter for you as well for a very reasonable price.

www.pelagicdiversfuvahmulah.com

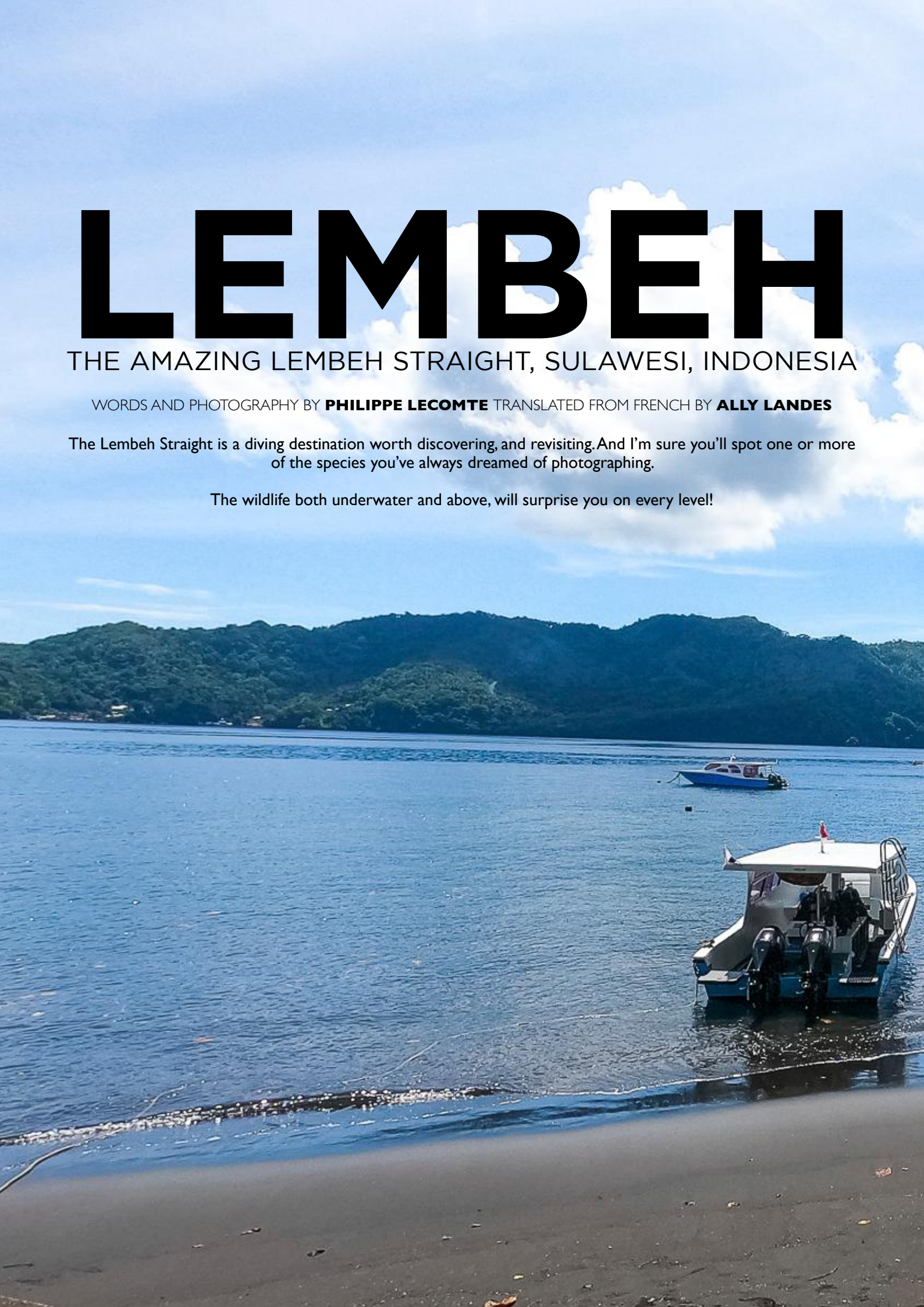
LEMBEH

THE AMAZING LEMBEH STRAIGHT, SULAWESI, INDONESIA

WORDS AND PHOTOGRAPHY BY **PHILIPPE LECOMTE** TRANSLATED FROM FRENCH BY **ALLY LANDES**

The Lembeh Straight is a diving destination worth discovering, and revisiting. And I'm sure you'll spot one or more of the species you've always dreamed of photographing.

The wildlife both underwater and above, will surprise you on every level!



How do I choose my next dive trip? By simply pointing to a destination that I have never been to, which has been a mythical place to me from afar. After diving in the Philippines for two years straight, I chose a destination I had wanted to go to for such a long time: the Lembeh Strait in Indonesia.

I once visited the Bunaken Reserve near Manado on the island of Sulawesi. It was from there that I first learned about Lembeh.

The hardest part was choosing a dive centre, because in the Lembeh Strait you are spoilt for choice, but after some research, I settled on "Dive into Lembeh".

The first email with Miranda was very professional and prompt. Despite the time difference, Miranda was always attentive and her responses were always punctual. My trip was confirmed for one week, last February.

My flight departed from Abu Dhabi Airport to Jakarta. From Jakarta, you'll find several airlines that offer direct flights to Manado. Manado is located on the island of Sulawesi, east of Borneo.

Upon my arrival at the Manado airport, my chauffeur was waiting for me and the journey to the resort was a 50-minute drive via a highway. Miranda and Steve, the hotel managers welcomed me in to the resort with a glass of fresh fruit juice and after checking in, Ben, the dive centre manager gave me a guided tour of the grounds to familiarise myself.

The camera room is open 24/7 and has a security camera setup. It's a very well-equipped room with individual cubicles with plenty of light, shelves, power outlets and compressed air, and towels are always available. At the entrance of the room, there are 2 large tubs exclusively for rinsing photography kits. For any technical problems, the centre has a small workshop for equipment maintenance. Your camera is placed in a box with your name on it and carried by the dive centre's guide to the boat and vice versa.

There is another room for your diving equipment to dry out of the rain, and there is also a drying rack outside.

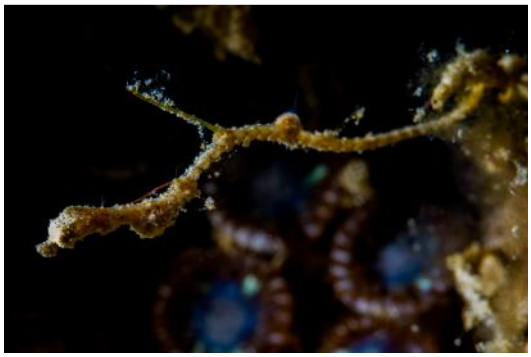
Nitrox and air are both available. At the start of each day, divers analyse his or her two or three tanks for the day.

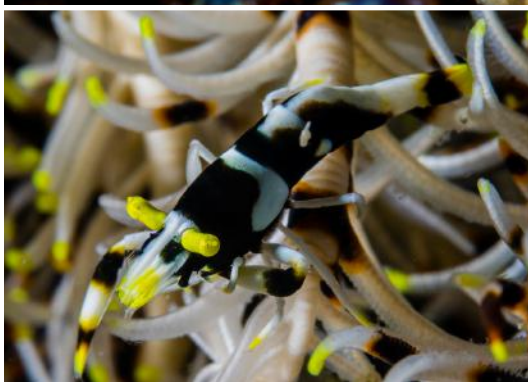
THE HOTEL

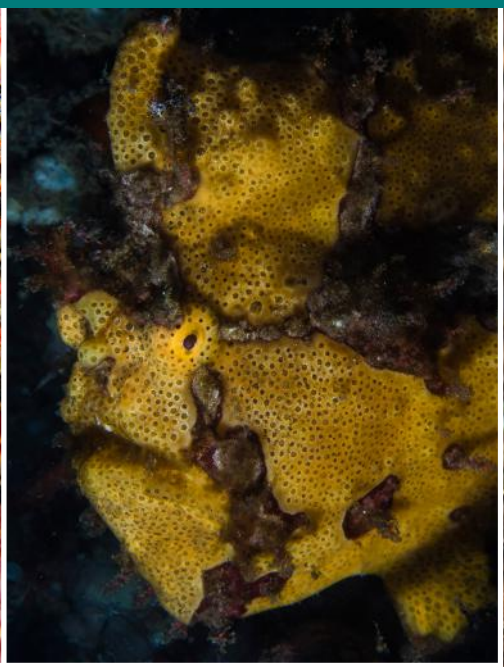
The hotel and its grounds are very pleasant. There are 13 bungalows, each with a small terrace. They are well equipped with walk-in shower, water dispenser, desk, closet and Wi-Fi. Some bungalows have a private jacuzzi on the terrace.

The hotel lobby itself is the main room where you'll likely spend most of your free time. Under the roof area of the lobby, a bar, sofas, and an all-you-can-eat and coffee area are a welcome sight. In the other half of the room, tables are arranged along the length of the lobby where guests eat together. I really enjoyed these group meals; they create a family atmosphere.

Almost every evening at 6pm, a short presentation on a big screen was given to the guests. The topics of course revolve around underwater photography and other subjects concerning the sea and its biotope.







There is a large swimming pool with sea view and the hotel's park is flowery with very well-maintained access paths. The staff are always smiling, polite and very helpful, even though, some may struggle to communicate.

THE DIVES AND ORGANISATION

Depending on the package chosen, there are 2 to 3 dives per day at fixed times. There are 3 dive slots per day at 7:30am, 11:30am, and 2:30pm.

Everything is very well paced between the dives and the meals. In addition, there is a dusk dive to see the mandarin fish and a night dive, but the latter is additional. Dives can also be done from the resort's beach.

The three boats are anchored right in front of the dive centre on a black sandy beach surrounded by lush forest. All boats are spacious and equipped with shade. Access to the boats is very quick and easy and you can request a personal guide for your dives.

There are around thirty sites, most of which are accessible within 5-10 minutes. You'll be spoilt for choice when it comes to diving, whether it's muck dives, coral reef dives, or cliff dives.

CONCLUSION

The dive centre and hotel really surprised me. The staff are very well-versed in terms of organisation and the meals are delicious. Steve, the Hotel Manager, has been in Lembeh for 21 years. He knows a lot and will be happy to answer your questions.

I'm very happy to have found this hotel for my first visit to Lembeh. It will make my choice easier for my next visit, which will probably be in the very near future.

BONUS

Between Manado and Bitung (Lembeh), there is a park called Tangkoko Natural Reserve. This park is a tropical forest preserved for years where you can observe some animal species unique to the island of Sulawesi. I recommend planning a day to explore this unique forest. The park guides will show you the local wildlife such as black monkeys, great calos, kingfishers, and especially the tarsier. The latter is one of the smallest tarsiers in the world. They can easily be observed at nightfall.

The Lembeh Straight is a diving destination worth discovering, and revisiting. And I'm sure you'll spot one or more of the species you've always dreamed of photographing.

The wildlife both underwater and above, will surprise you on every level!

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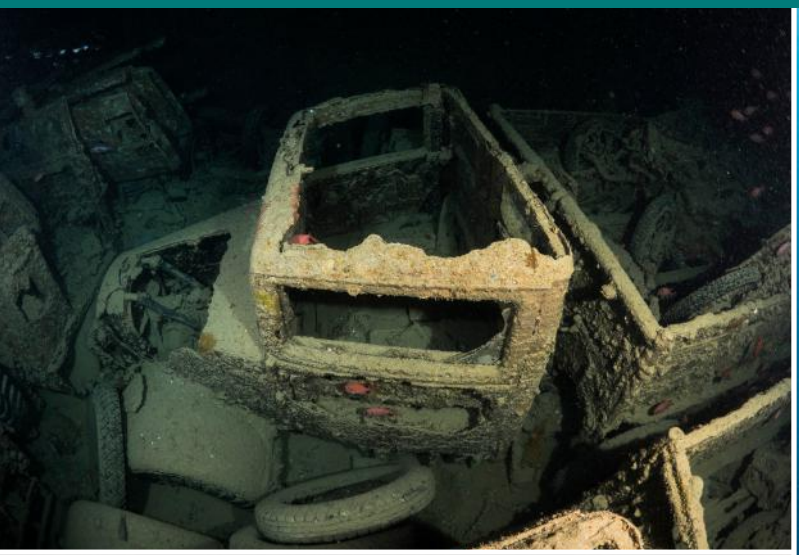
SS THISTLEGORM
THE MYTHICAL RED SEA WRECK

WORDS AND PHOTOGRAPHY BY **ANTHONY LEYDET**

North of the Red Sea in Egyptian waters, a steel giant lies at the entrance to the Gulf of Suez. Bearing the famous name of Thistlegorm, this is one of the world's most dived wrecks, offering visitors an immersion steeped in history.



The first light of dawn appears as the mountains of Sinai stand out against the still dark sky. For the moment, only the lapping of the boat can be heard. What a privilege to be up before everyone else to enjoy these few minutes of calm before the gentle bustle that precedes the first dive of the day. I can already hear the excitement of some of you, aware of what awaits you on this day. Not a dive like the others, that's for sure. We're moored in the Gubal Strait in northern Egypt, between Sinai and the African continent, at the entrance to the Gulf of Suez. In a few minutes, we'll move to the edge of the Sha'ab Ali reef to explore the mythical SS Thistlegorm. Simply one of the best-known shipwrecks on the planet. And rightly so, for the Thistlegorm is both a leap into the past and an unforgettable experience.

THE HISTORY

1941. The British freighter has been in service for a year. Requisitioned to supply troops during the Second World War, it set sail from Glasgow in May with a military cargo of ammunition, anti-tank mines, rifles, trucks and dozens of motorcycles. Target: Alexandria.

Under German control, the Mediterranean was inaccessible. Africa had to be circumnavigated. After a long journey, it enters the Red Sea, then arrives at the entrance to the Gulf of Suez. The canal is blocked by a ship, so they have to wait and drop anchor near Gubal. At the same time, a German squadron was given the task of bombing any enemy ship attempting to use the canal. News of the Queen Mary's imminent arrival, filled with Australian troops, sent them into a frenzy. On the night of October 5-6, two Heinkel bombers flew over the Red Sea in search of the liner. Unsuccessful, they spotted the Thistlegorm on their way back and, after a first pass, dropped two bombs to great surprise. Hold no. 4, full of ammunition and shells, was hit. The explosion was spectacular.

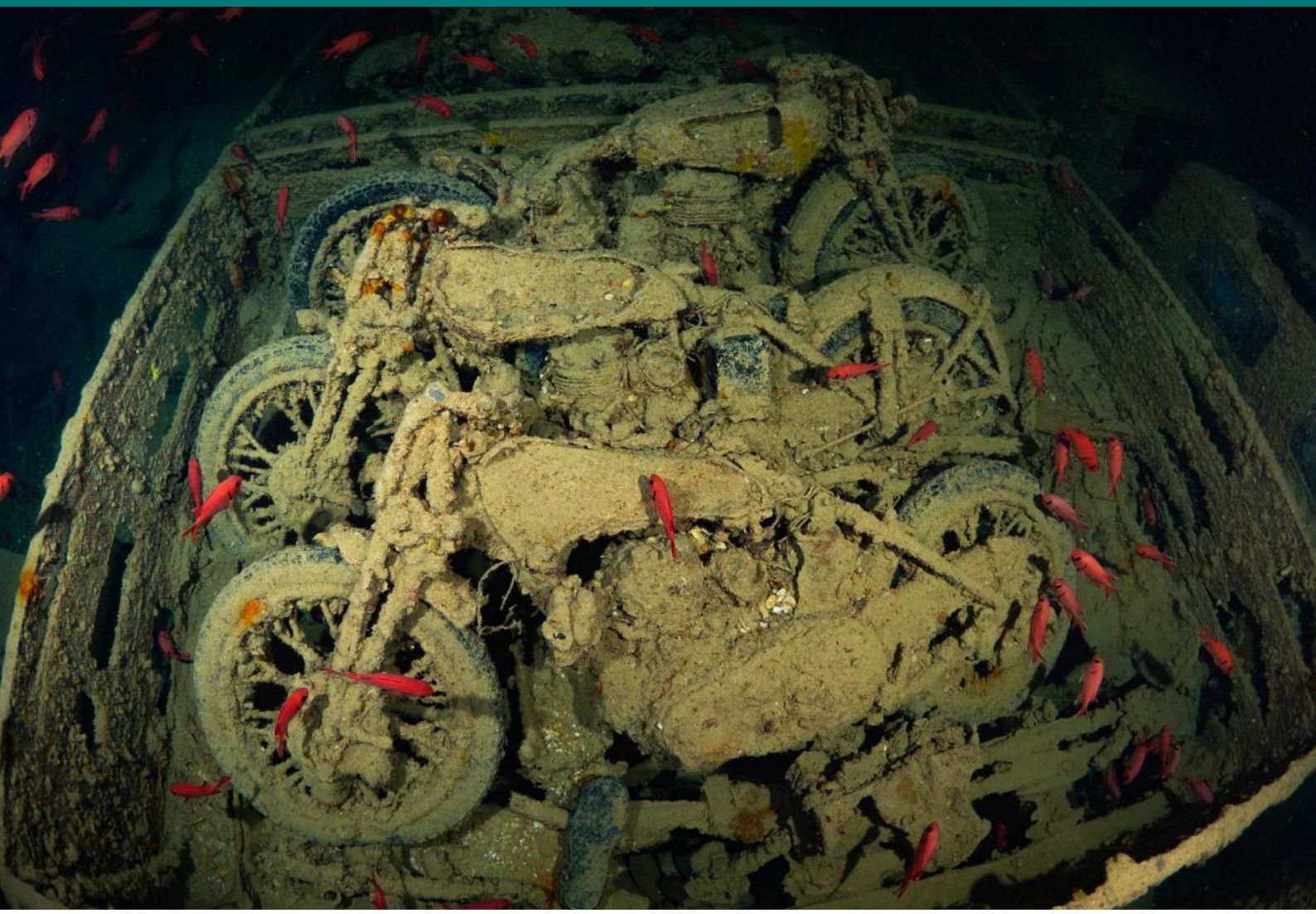
Less than two hours later, the Thistlegorm touched down on the sandy bottom. The bright light of the explosion also helped to spot another ship, the Rosalie Moller, moored near Gubal Island. Two days later, it suffered the same fate.

THE FIRST DIVE

The excitement is at its peak. Diver after diver jumps onto the diving platform at the stern of the boat. The slight current forces us to grab the rope to climb up to the bow where each pair exchanges the traditional OK sign before disappearing below the surface. I start to slide along the mooring and already the huge steel carcass appears less than twenty metres below. We're descending right on the point of impact of the bombing. Easily recognisable, this part of the wreck is almost totally destroyed. On one side, the stern, tilted at 45°, on the other, most of the Thistlegorm lies upright on the sandy bottom at 35m. Two dives are usually required to explore the site properly. This first dive will be devoted to the outer part.

To do this, I go around the stern to start by discovering the propeller. Huge, imposing. Divers passing by seem tiny. Then it's back to the end, and back to the deck. From here, the view is breathtaking, with the impressive anti-aircraft cannon standing out against the blue. Photographers have a field day. The destroyed part of the bridge corresponds to hold no. 4, and can be flown over quickly, although it is here that the caterpillars are to be found mixed in with a pile of sheet metal. A shell case can be seen here, which the divers regularly clean by hand to keep the inscriptions legible on the metal.

Moving a little to the port side, we quickly come upon one of the two locomotives on deck, which were blown onto the sand by the explosion. The second is on the other side. Returning to the wreckage, I climb back onto the deck after the impact zone. You can see a whole section of the floor that has flipped over like a pancake above hold no. 3. The



captain's cabin is just beyond. Almost intact, untouched by the explosion. It's easy to get into. The apartment is spacious, and there's still a bathtub in the bathroom. Still full to the brim. Once visited, I leave the cabin to continue my ascent towards the front of the ship. This brings us to the most interesting parts, with holds no. 2 and no. 1 where we can see the military cargo. We'll come back to this on the second dive!

On either side of the deck are two coal wagons, followed by two other tank wagons, crushed under pressure like empty cans. On the bow, the anchor winches are frozen under the agitation of small fish, occasionally disturbed by the passage of a few jacks that come to hunt. The weak current that day allowed me to give a few strokes of fins beyond the bow. A few metres further out, the view is sublime, and you can see the anchor of the Thistlegorm a little further forward. As the minutes pass, we enjoy exploring every nook and cranny of the wreck's upper reaches. The most observant spot has a beautiful crocodile fish, a few imposing angelfish, and even some tiny nudibranchs before heading out into the open.

THE SECOND DIVE

3 hours later, we're back below the surface. The current has lifted with the change of tide. I hurried to the destroyed part of the vessel to disappear inside the steel giant and start exploring the interior. On two levels, the military cargo is revealed before the eyes of the divers. The passages are sometimes a little narrow, but it's relatively easy to move around inside without special equipment. One room follows another, allowing us to review the cargo: Ford and Bedford trucks, Jeeps, motorcycles and rifles are all frozen in time. A few rubber boots still rest here. Each machine is animated by schools of fish. Soldier fish, hatchet fish, there's no such thing as chance! Often, a beautiful hawksbill turtle rests in the wreck's holds, bringing it a little more tranquillity… more than 80 years after its tragic fate.

The Thistlegorm is a must-see. Both dives are necessary to fully appreciate the wreck. Having dived there many times, I still enjoy exploring every nook and cranny of the Thistlegorm. Sometimes I settle down and close my eyes. I then try to travel back in time to that famous night in October 1941.

HIGHLIGHT:

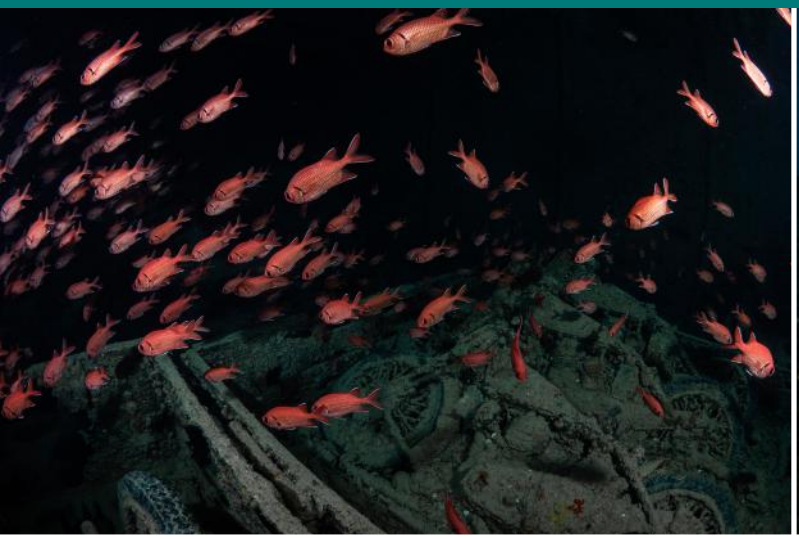
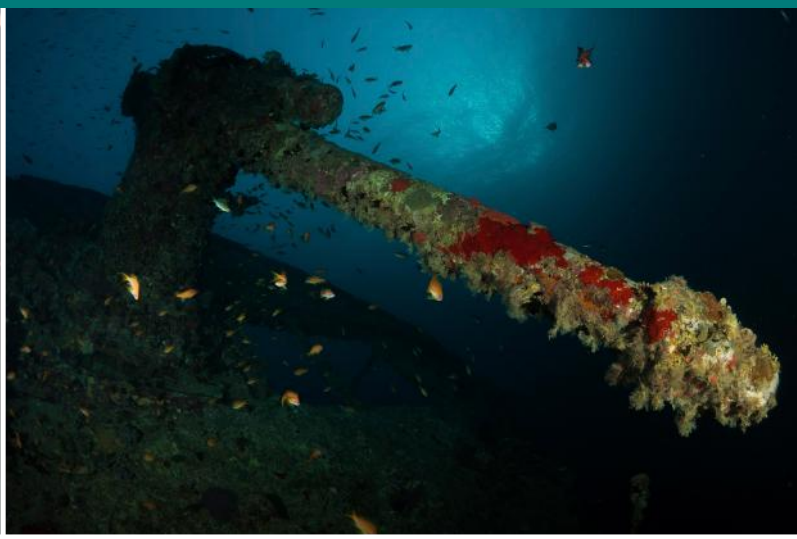
A few years after the sinking, in 1955, Captain Cousteau rediscovered, explored and documented the wreck. These spectacular images are featured in the famous film, 'The Silent World' released the following year. Having fallen into oblivion, the wreck was rediscovered almost twenty years later. But it wasn't until the 90s that the Thistlegorm began to make a name for itself, rapidly becoming one of the most beautiful wrecks in the world!

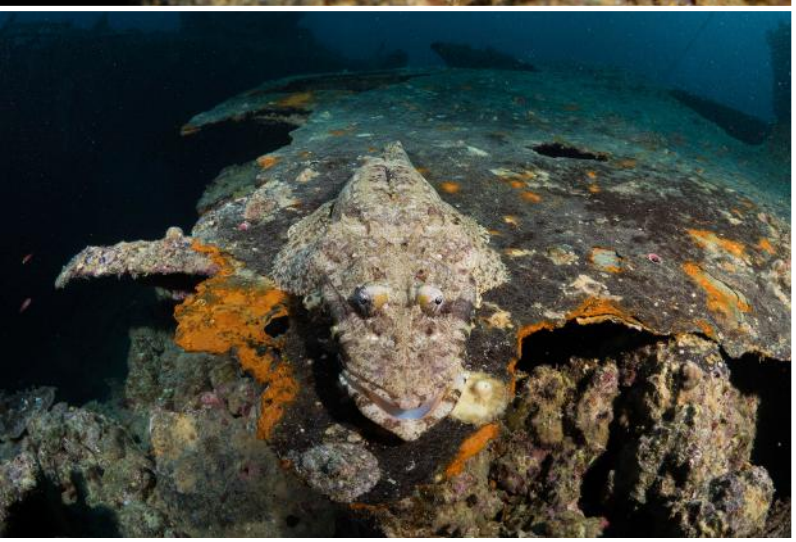
THE DIVE IN BRIEF

Type of Dive: Wreck; sandy bottom.
Level: Intermediate
When to Dive: All year round, visibility conditions vary greatly according to the tides.
Nearest Town: El Gouna, Hurghada.
How to get There: Hurghada has an international airport, which is the arrival point for most divers.
Diving There: On a cruise to explore the wrecks in the north, or with a dive centre that organises special trips to this wreck.
Good to Know: Water temperature at its lowest is around 21°C, rising to around 26-27°C during the summer months. When the wind is too strong, it becomes impassable.

WRECKS OF SIMILAR STYLE

ROSALIE MOLLER: Close to the Thistlegorm, just off the island of Gubal, this ship also came to support British troops in the Mediterranean. She was carrying a cargo of coal. Sunk 2 days after the Thistlegorm by German aircraft, it rests on a sandy bottom 50m deep, and still


offers a very ghostly atmosphere. Accessible only to experienced divers and tek divers, life here is abundant, with schools of glassfish, angelfish and other pelagic fish (jacks, tunas) providing a substantial food supply.

GHIANNIS D: Located north face of the Abu Nuhas reef situated on the north of Hurghada, this superb wreck is also a favourite of Red Sea divers. Accessible to divers of all levels, it lies at the foot of the reef it struck, at a depth of 27m at its deepest point. The rear part of the building is intact, but inclined at 45°. Once inside, you lose your bearings: you can see the surface tilting a few metres higher, the bubbles don't seem to be going in the right direction, and fish swim upside down on the ceiling! A little further on, after a large part of the wreck has been destroyed, the bow is full of soft corals and glassfish.

CARNATIC: The oldest wreck on the Abu Nuhas reef, this steamship ran aground in 1869 due to capricious weather conditions while en route to India with a cargo of gold. Accessible to all levels, it lies on 27m of seabed at the foot of the reef, and is heavily colonised. It's easy to get in, and the interior is filled with glassfish that move with the passing groupers. The deck beams are still present and are covered with brightly coloured alcyonium, making the wreck certainly one of the most photogenic in the Red Sea! The stern is well preserved, giving it the air of a pirate ship.

FOLLOW ANTHONY:
www.instagram.com/anthonyleydet_uw_photography

PULAU HANTU SINGAPORE

NOT YOUR NORMAL DIVE DESTINATION

WORDS AND PHOTOGRAPHY BY **GORDON T. SMITH**

Mention Singapore and the last thing you will probably associate with the country, is diving. Except perhaps for ADEX, one of Asia's largest dive expos which generally happens around April every year.

Mention Singapore and the last thing you will probably associate with the country, is diving. Except perhaps for ADEX, one of Asia's largest dive expos which generally happens around April every year.

My recent trip to SE Asia back in March/April was planned around ADEX in Singapore, with first heading to Tulamben in Bali, then back to Singapore for ADEX, and then on to Romblon in the Philippines with a couple of buddies for the Romblon trip.

ADEX is a SCUBA diver's dream world, with manufacturers promoting their goods, and dive travel opportunities for those who are looking for something new and exotic. It also gave me an opportunity to meet up with friends who were also attending this event from Malaysia, Singapore and elsewhere.

ADEX runs for three days with Friday a free day if you book in advance, and SGD10 per day for an entry on Saturday and Sunday.

There are talks on diving, underwater photography as well as other stuff like "mermaid diving" demonstrations if that's your thing, as well as a plethora of dive and underwater camera equipment.

It's difficult not to come out of this event without spending some money.

On my return from the Philippines, I had planned another two nights in Singapore and decided to dive there using a dive shop called 'Cuddlefish Divers' on a recommendation by a friend in Singapore.

Prior to my trip, I had connected with Nick, one of the instructors from Cuddlefish Divers to make arrangements and later at ADEX I met up with him briefly to confirm everything, including a guide/spotter.

The diving was planned at Pulau Hantu, which literally means Ghost Island in Malay. Pulau is Island, and Hantu is ghost.

Having arrived late into Singapore on a Friday night due to a delayed flight from Manila, I had to quickly prepare my gear and assemble my camera equipment prior to grabbing a few hours' sleep. I was guaranteed a 29°C water temp so my damp 5mm wetsuit would get another chance to dry off further from my dives at Romblon in the Philippines, and I was using my new Fourth Element "Thermocline" bottoms.

Meeting time on the Saturday morning was at 07:50 at Keppel Bay Marina and the boat departure was scheduled at 08:00. "Waze" gave me a 15-min travel time from my hotel to the Marina, but this turned out to be double that by the time I ordered a "Grab" car, its arrival time at my hotel, and the actual drive time to the marina.

My friend Megan was already there and we were met by my guide/spotter Amelie from Cuddlefish Divers.

Whilst getting my gear ready I pulled out my regulator only to find the first stage damaged and unusable, and I had left my spare back at the hotel! Somehow, this happened between packing my gear in Romblon, and unpacking it on the boat. Fortunately, a spare was produced and I set up my gear.

I had previously dived Pulau Hantu back in December 1996 when I was visiting friends that used to live in Jeddah when I was staying there (1992-97). I was well aware that the visibility was as good as diving off Dubai or "the Blocks" off Fujairah, so my expectations were already low, but muck diving frequently provides interesting surprises. Of course this was the case today, although the surprise of a broken first stage, I could have lived without.

Besides Megan, Amelie and myself, there were six other divers on board doing their Open Water dives along with a couple of SSI instructors.

A very precise boat and dive briefing was given by one of the Cuddlefish Dive instructors as we left the marina, and the journey to Pulau Hantu took around 30 minutes.


Flabellina/Corphyllia lotos


Small Cowrie


Flatworm


Hypselodoris infucata


Donut Nudi (*Doto greenamyeri*)

On arrival at the Pulau Hantu jetty, we kitted up and exited the boat from the stern doing a giant stride entry. A quick look down before descending and I could barely see my fins, worse still, I could barely make out Amelie's fins and they are yellow!

We descended into the murk and within a few minutes, Amelie had spotted the first nudi, but it was not an agreeable one and then more light flashing from the darkness by Amelie, a second one, then a third.

Third time a charm, a largish *Flabellina/ Coryphillia lotos* munching on hydroids gave me a reasonable opportunity for some decent shots, but the autofocus did not like all the particles in the water and some manual adjustments had to be made in order to get a decent shot.

Then we came across a small cuttlefish busy finding it's breakfast and did not appear to have any issues with me getting close. I was also using my red focus light, which helps a lot with close-up photography of cuttlefish, seahorses etc, to not blind them prior to photographing them with the strobes.

After a 68-minute dive, we had a 45-minute surface interval and headed back to some deeper water.

We had three pairs of eyes peering around looking closely at every piece of coral and hydroid when suddenly some frantic light flashed, and lo and behold, a Banded Tozeuma Shrimp (*Tozeuma armatum*).
This creature was not being very agreeable for having it's photograph taken though.

The second surprise was the Donut Nudi (*Doto greenamyeri*). I hadn't even come across one example in Tulamben three weeks earlier, and didn't even realise that they would be here, it was a major bonus opportunity. We also came across many flatworms, but sadly no seahorses.

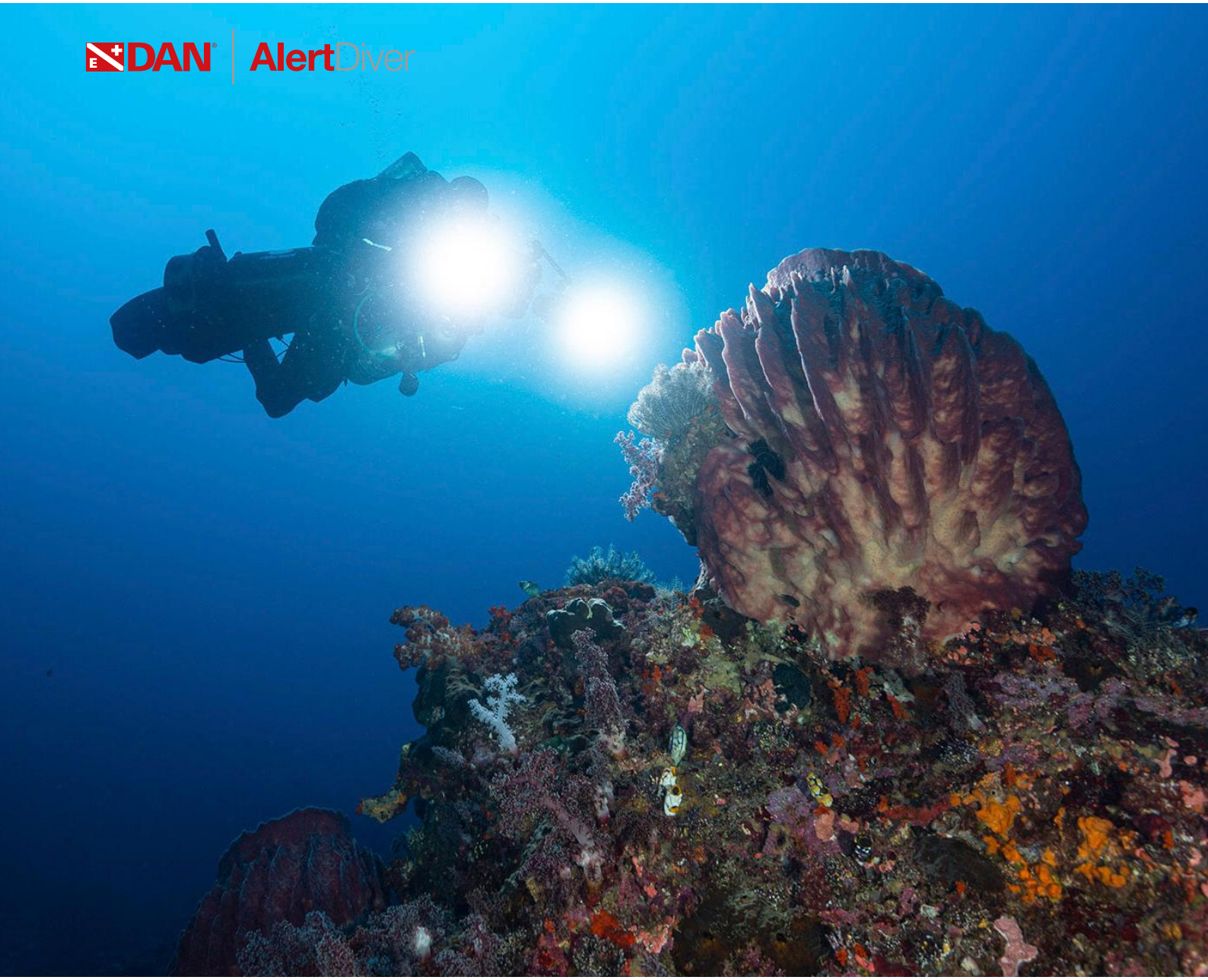
Many thanks to Nick at Cuddlefish Divers for arranging everything as well as Amelie for spotting and guiding me around, and of course Megan, who waved the carrot to challenge me to dive this area of Singapore again. Which, probably no diver in their right mind would even think of going to, especially one living outside of Singapore.

If you're crazy like me and want to dive Pulau Hantu, contact Cuddlefish Divers:
www.cuddlefishdivers.com

FOLLOW GORDON:
www.instagram.com/gordon.t.smith

FEAR AND LOATHING IN SCUBA DIVING

WORDS BY **KLAUS STIEFEL**



Fear is a fundamental and useful emotion in humans and in our mammalian relatives. It signals the presence of a dangerous situation to the mind. Just as with all emotions, fear plays an important role in our mental functioning. In scuba diving, for example, the fear of entering a dark, narrow cave tells the diver correctly that diving this cave is risky, especially without adequate training.

Fear may also be counterproductive: Some folks don't want to dive at all because they are overly afraid of unknowns they might encounter during a dive, such as sharks. In other situations, fear may impede performance during a dive, and even escalate and lead to panic. We can think of these instances as improper functioning of the fear response, caused by putting humans in an environment (swimming underwater with scuba) which they didn't evolve for and are often not used to.

In this article, we will discuss what modern brain research has found out about fear, and how these findings relate to scuba diving.

THE PHYSIOLOGY OF FEAR

Once an individual becomes afraid, for example due to an unexpected mishap underwater, a number of physiological changes happen to his or her body. The breathing rate increases, the heart beats faster, and the blood pressure rises. Many readers will have observed these changes in their own bodies. But we are not passively at the mercy of our fear. By focusing the mind

and actively controlling our breathing, we can manage our fear.

This is the first insight from brain research we encounter – the brain talks to itself a lot. Most of the connections between brain areas do not originate from our senses (the outside world) but from other brain areas. The brain regions involved in planning and self-control can affect those involved in fear. But which brain areas are these?

FEAR IN THE BRAIN

The human brain is divided into multiple areas, each with distinct functions in controlling our emotions, sensations, and behaviours. The area of the brain most prominently involved in processing fear is the amygdala. The amygdala is part of what is called the limbic system, a system of brain areas involved in emotional and involuntary functions. There is one amygdala on each side of our brains. The amygdala connects input from our senses, such as vision and hearing, to information about unpleasant events. Basically, it's a switchboard in our brains which tells us what we should reasonably be afraid of.

The amygdala is also involved in what is referred to as fear conditioning: Experiencing pain while hearing a certain sound will make us associate the sound with the pain. The sound alone may make us shudder in the future: We have learned to fear the sound. Experienced scuba instructors will have encountered students who had a near-drowning episode in their childhood and have been afraid of going underwater ever since. This kind of association between a traumatic event (near drowning) and a sensation (being in the water) is stored in the amygdala. Erasing this kind of fear conditioning takes a lot of effort and patience.

The amygdala is highly interconnected with another brain area called the medial prefrontal cortex[1]. The medial prefrontal cortex is involved in executive functions, which is a fancy term for planning and self-control. The connections between the medial prefrontal cortex (self control) and the amygdala (fear) represent our psychological ability to regulate fear.

FEAR AND INERT GAS NARCOSIS

Most experienced divers will agree that inert gas narcosis affects their emotional states. When it comes to fear, the effects of narcosis can go in either direction: Being "narked" may calm you down, or it may amplify pre existing fears.

There are a few scientific studies from the last decades which directly address the connection of inert gas narcosis with fear and anxiety (two related but not identical concepts).[2,3] A study by Löfdahl and colleagues tested how subjects rate the emotional content of images while sitting in a decompression chamber at a pressure equivalent to a dive to 39 metres. At high pressures, subjects judged emotionally unpleasant images to be slightly less impactful,

rating fear-inducing imagery as less scary at depth compared to the same imagery at the surface. This soothing effect of narcosis might be related to a diver's experience level, with more experienced divers feeling more comfortable being "narked".

A second study by Hobbs and Kneller showed that the effects of inert gas narcosis are exacerbated by anxiety. In this study, the subjects – generally experienced divers with 300 dives on average – were actually underwater, diving to about 40 metres. At depth, they did a type of IQ test by matching letters to numbers on a slate, with limited time to complete the task. Every single subject did worse at depth than at the surface; but divers who reported being anxious performed the worst. Fear always interferes with straight thinking, and it appears that the effect is stronger when experiencing inert gas narcosis. Could it be that the amygdala is on overdrive in these conditions?

DOES INERT GAS NARCOSIS AFFECT THE AMYGDALA?

An obvious question in the context of this article is how exactly inert gas narcosis affects the amygdala. The answer is that no one really knows. The effect of high gas pressures on the physiology of brain regions and individual nerve cells is a niche subject in brain science.

However, there is a small but valuable body of relatively recent research on the effect of high pressures on nerve cell function in general. Scientists have found out that the function of nerve cells is not just caused by changes in the fluidity of the cell membranes at high pressures. High gas pressures also affect the functions of ion channels, proteins which act as gates in the membranes of nerve cells. To my knowledge however, no one has specifically studied the amygdala at high ambient gas pressures.

Is it possible to extrapolate from studies on ion channels to changes in the function of our fear centre, the amygdala? Only in a very general sense. Ion channels are present in all nerve cells of the amygdala, in varying combinations and densities. As a result, all of these nerve cells will be affected in some manner. By way of an analogy, imagine someone tinkering with multiple components of a motorcycle at the same time – tuning up the engine, modifying the brakes, and putting on a size wheel. Will this combination of changes affect the way the bike rides? The answer is almost certainly yes, but how exactly is anyone's guess. This is similar to what's happening to the amygdala and the limbic system during a deep dive – we can expect significant effects, but we can't predict in which direction they will go.

We are all individuals, especially when it comes to our brains. The experiences we accumulate in our lives will wire the connections in our amygdala in ways that are specific to each person – the fear conditioning we discussed above. Any fear reactions we might experience while diving will be a result of this very specific wiring process.

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ABOUT THE AUTHOR

Dr Klaus M. Stiefel is a biologist, scuba instructor and science writer based in the Philippines. His latest book, with Dr James D. Reimer, "25 Future Dives" was published in 2024 with Asian Geographic (Singapore). Klaus' underwater photography & videography can be found on social media under "Pacificklaus".

DRINK AND DIVE? JUST SAY NADA!

WORDS BY **DAN STAFF**

After a day of diving, many divers like to unwind back on shore or on the liveaboard with a glass of wine or a cold beer, right? All fine and good. There are many ways to enjoy a trip, but diving while under the influence of alcohol is not one of them. If you plan to drink, it's important to do it responsibly and in a way that won't affect your diving, like after your diving is done!

A practical study showed that experienced divers with a blood alcohol concentration (BAC) of only 0.04 percent (the equivalent of two 0.35 litres beers over one hour on an empty stomach for a 80kg man) had significantly compromised ability to perform the skills necessary for diving safely. At lower BACs, situational awareness and inhibition may be lowered, leading a diver to take unsafe actions in the water. Impaired judgment and slow reaction time can compound a bad situation – a fact borne out by alcohol being involved in roughly 50 percent of traffic accidents by people of drinking age and associated with as many as 70 percent of deaths related to water recreation. Not good!

Recent alcohol intake can potentially also contribute to dehydration in divers, which can be a risk factor for decompression sickness. Breathing dry air, along with immersion and cold temperatures, can exacerbate pre existing dehydration. Alcohol may also enhance the effects of nitrogen narcosis, which when combined with elevated BAC and dehydration, can lead to otherwise preventable accidents.

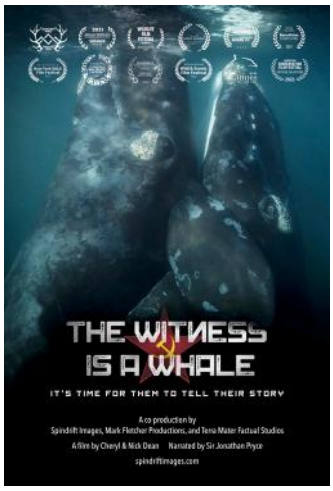
If boating is part of your dive trip, there are additional risk factors to consider. According to 2017 US Coast Guard statistics, alcohol use is the fifth-highest contributing factor to boating accidents and the number-one contributing factor to deaths in those accidents. Not only does alcohol cause accidents, but intoxication combined with operator inattention, inexperience or machinery failure also makes the accidents much more likely to be fatal. So take heed.

While a drink or two with friends might be just the thing after a day of underwater exploration, don't forget that a relatively safe activity can quickly become much less so when mixing alcohol with diving. Save your mixing for nitrox instead! Safe diving!

AN EDA MOVIE SCREENING + Q&A

THE WITNESS IS A WHALE

Thursday 14th August 2025 | Deep Dive Dubai | Doors Open 6:30pm | Film Starts 7pm (50 mins) | Q&A Starts 7:50pm (30 mins)



Whales once ruled the seas, shaping the ocean's ecosystem. This captivating story uncovers their forgotten legacy and the secrets behind their past glory.

Join us in watching The Witness is a Whale and finish with a Q&A with Dr Ada Natoli from the UAE Dolphin Project Initiative (Zayed University) on the Whales in the Arabian Gulf: what we know, what we do not know, what can we do to protect them.

SYNOPSIS

A thousand years ago there was an ocean full of giants. Whales were at the heart of a global web, connected to everything. They were the architects of the sea, and in places, even the land. A whale's past glory is written in their behaviour, their character, their community, and the world that was formed around them.

In a basement in Odessa, top secret Soviet whaling reports are hidden. During the cold war, illegal whaling was out of control, run by the KGB, and few suspected how many whales were killed. In a thrilling and interwoven story, ships logs appear from garages, attics and cellars. For the first time, we know how many whales were killed, and so, how many there once were.

We used to think that whales were rare specialists that reach gigantic size, a natural curiosity. But if there were ten times more than was thought, or a hundred times more, then their role in the ocean was more important than anyone imagined. Suddenly, the whales themselves, their behaviour, make more sense. They are the witnesses, not only to Soviet and Japanese secrets, but to their own past.

Sperm whales were the most valuable and secret catch. In a state archive in Vladivostok, an undercover researcher risks all, and finds the shocking truth.

The threads are tied together. The discoveries of cold war secrets reveal a bigger truth. A thousand years ago many millions of whales dominated the sea. An early description is of so many whale blows, plumes of spray, that the surface of the ocean resembled a forest. The implications to how we think of the modern ocean, and help it back to health, are profound.

DO YOU KNOW?

GUARDIANS OF THE BLUE

OUR MISSION

Guardians of the Blue is an environmental NGO based in Byblos, Lebanon. It was founded in 2020 out of passion and urgency, mostly from the absence of local marine protection, and the lack thereof at the national level.

The diversity of our local marine ecosystems is still poorly known. Yet, they are dangerously threatened by pollution, climate change, unsustainable fishing practices, and invasive species.

We experience the sea everyday through our dives. Our sea is not dead. Our sea is vibrant, mysterious, ancient, powerful, abundant, and unique.

We need to understand our sea. We need to reconnect with it. We need to protect it.

https://weareguardiansoftheblue.org

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جمعية الإمارات للغوص
Emirates Diving Association

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MISSION STATEMENT

Our mission is to conserve, protect and restore the UAE's marine resources by emphasising and promoting the underwater environment and environmental diving.

LEGISLATION

EDA is a non-profit NGO registered with the Ministry of Community Development as per the Ministerial Decree No. 149.

The Decree stipulates the following responsibilities for EDA:
- Ensure environmentally respectful diving practices in all EDA members.
- Support the diving industry within the UAE by coordinating the efforts of the diving community.
- Promote safety in the commercial and recreational diving fields through standardisation of practices.
- Preserve historical aspects of diving within the gulf region and enhance environmental education to diving and non-diving communities through EDA projects and events.

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