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THINK OF EXTREME DIVING and we're likely to leap mentally into technical depths, with mixed gases, multiple cylinders, rebreathers, overhead environments, extended hangs – the cold, the dark and the challenging.

Like countless other people, divers and non-divers alike, I've been bowled over by a feature-length documentary called *My Octopus Teacher*. Many of you will already have seen it. For those who haven't, while I'd like to describe its wonders I'll do my best to avoid any spoilers here.

What I can say is that this film involves extreme diving of a completely different sort. The underwater environment, though not deep, is challenging enough, but it's the dedication to the point of obsession of the diver at its centre that's extreme.

That diver is Craig Foster, a South African marine biologist and film-maker. He's one of seven media and science pros who run the Sea Change Project. They've spent the past decade documenting marine-life behaviour and discovering new species in the southern kelp forests that feed their passion.

The underwater action is all filmed while freediving, and is so natural that you soon forget that the person behind the camera does have to surface every now and then. These seas can really churn, but whatever the season Craig can be found daily in the 8-9°C waters without benefit of wetsuit. Imagine it: you don't feel great today but still, in you go.

Extreme enough, but more so is the fact that he always heads for the same dive-site. I wrote recently about how few divers get to know any one site intimately. That's far from the case for Craig.

He seems to be in a bad place psychologically and emotionally at the start of the film, and his underwater interactions would seem more for his benefit than for his eight-armed, three-hearted and nine-brained acquaintance. Yet over time a strange symbiosis does seem to emerge.

WHAT MAKES THIS FILM work so well is that the narrative develops without overt sentimentality or anthropomorphising. Ultimately it's all the more moving for that.

Like the *Blue Planets* it's a great advertisement for positive interactions beneath the sea. And as we seek escapism it's hard to overestimate the impact a trending Netflix offering can have, with that global audience of nearly 200 million subscribers plus families and friends.

I hope it does cephalopods a bit of good into the bargain – I've always had a great soft spot for them – though I won't hold my breath.

Can I tie this in with a feature on octopuses in this November issue? No, it couldn't compete. However, we can offer you cuttlefish in the UK, tiger sharks in the Maldives, moray eels in New Zealand and much else in the way of marine life besides.

Lots of wrecks in the news too – the coronavirus pandemic might have stifled holiday travel but it does seem to have sharpened up the spirit of local enterprise and discovery.

Extreme diving can mean 80m dives to locate a WW2-era sub, as in our *Grenadier* feature, but it can also cover obsessive personal missions at any depth. We'll be expanding on this theme in the months to come...

FIRST



STEVE WEINMAN,
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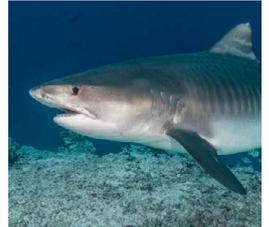
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MORTEN JOHANSEN / VIKING SHIP MUSEUM



Marine archaeologist Klara Fiedler examines the *Delmenhorst*.



Preserved timbers on the buried wreck.

VIKING SHIP MUSEUM

Cannon 'twinkled like gold' on lost Danish wreck

ARCHAEOLOGISTS HAVE discovered a missing 17th-century warship wreck off Denmark said to be one of the first ships ever to be constructed from drawings.

The *Delmenhorst* was also the last of three missing ships from a naval engagement that marked the start of Denmark's decline as a European superpower.

Deliberately grounded during the Battle of Fehmarn on 13 October, 1644, the wreck has been identified by marine archaeologists from the Viking Ship Museum in Oslo, Norway.

Its scuba-divers have been working against time since mid-August to survey and collect artefacts from the wreck before it is embedded in a new beach to be established at the site.

The *Delmenhorst* was discovered in just 3.5m of water, almost completely buried in the seabed 150m off the coast of Rødbyhavn in south Lolland, Denmark.

It was found during construction work on what will be the world's longest undersea tunnel, an 11-mile road/rail link between Denmark and Germany due to open in 2029.

The 31m ship was grounded in the final hours of the battle against a 42-strong Swedish/Dutch fleet in the hope that it could be defended by cannon fire from Rødbyhavn.

However, a Swedish "burner" ship was set ablaze and sent on a collision course with the *Delmenhorst*, causing

it to catch fire and sink. Of the Danish fleet of 17 vessels, two were sunk and the rest captured or dispersed in the engagement.

Fehmarn was the final battle of the two-year "Torstenson Feud", after which Sweden became the pre-eminent power in Scandinavia.

The other two ships recorded as sunk in the battle, the Danish warship *Lindormen* and the Dutch armoured merchant vessel *Swarte Arent*, were found at around 24m in 2012, also during work on the tunnel.

Of the *Delmenhorst*, Morten Johansen of the Viking Ship Museum says: "We found an oval – ship-shaped, you could say – pile of stones densely overgrown with seaweed.

"It was quickly clear that it was ballast stone from a larger vessel, and between rocks and algae we could



Four sizes of cannonball were found on the wreck.



Calculation coins like this one found on the wreck were used as part of a simple calculation system.

MORTEN JOHANSEN / VIKING SHIP MUSEUM

see the ship's frames and inch-thick cladding planks.

"On the very first dive, the sun shone down through the water, and it made dozens of burst and melted

pieces of bronze cannon twinkle like gold between the charred wreckage."

Four different sizes of cannonball were also found.

"The ship will remain in the environment where it has been for 400 years," said Johansen.

"We hope that in the future someone will find a way of deriving more knowledge from such a wreck than we are able to extract today."

The divers have also been taking some 30,000 photos to build a 3D model of the *Delmenhorst*.

"In this way, the shipwreck can be exhibited digitally at the museum, even though it is still on the seabed," said Johansen, adding that work was already under way on an exhibition about the three Fehmarn shipwrecks set for 2021. ■



Cast-iron cannonball from the end of a bronze cannon – the holes indicate the heat to which it was subjected.

MORTEN JOHANSEN / VIKING SHIP MUSEUM

WW2 cruiser found – right way up



The Karlsruhe.

THE WRECK OF long-lost WW2 German light cruiser the *Karlsruhe* has been discovered off southern Norway 80 years after her sinking, sitting upright at a depth of almost half a kilometre. The discovery was made by Norwegian state energy company Statnett.

The second ship of the Königsberg cruiser class, the *Karlsruhe* was launched in 1927 and operated before the war as a training cruiser for naval cadets in the Reichsmarine, before being modernised to serve with the Kriegsmarine. She was 174m long, armed with nine 15cm guns and had a top speed of 32 knots.

The *Karlsruhe* led an attack group that took the city of Kristiansand on 9 April, 1940 during Operation Weserübung, Nazi Germany's invasion of Norway and Denmark.

Karlsruhe landed troops at Kristiansand but, having already come under fire and sustained damage from Norwegian artillery, was struck by two torpedoes from the submarine HMS *Truant*, and finally scuttled by a German torpedo-boat.

Until now the vessel had remained the only large German warship lost in the assault on Norway that had not subsequently been located on the seabed. As it turned out, the wreck lay only 15m from an undersea power cable running between Norway and Denmark, 13 nautical miles from Kristiansand.

Sonar-scanning had revealed it as a mystery wreck during routine inspection work three years ago, but it was only this summer that Statnett's senior project engineer Ole Petter Hobberstad had the chance to investigate further.

He used a remotely operated vehicle and multi-beam echosounders from the offshore vessel *Olympic Taurus*. "When the ROV results showed us a ship that was torpedoed, we realised that it was from the war," said Hobberstad. "As the cannon became visible on the screen, we understood that it was a huge warship. We were very excited and surprised that the wreck was so big.

"To find such a special war wreck is rare and extra fun for us who work



Sonar scans of the upright Karlsruhe.

STATNETT/SURVEY

with underwater investigations."

Most surprising of all was that the *Karlsruhe* lay upright. Usually, as wreck-divers are aware, the high centre of gravity of large warships causes them to invert as they sink.

"But *Karlsruhe* stands firmly 490m below sea level with cannon pointing menacingly into the sea," says Frode Kvalø, archaeologist and researcher at the Norwegian Maritime Museum.

"With the main battery of nine cannon in three triple turrets, this was the largest and most fearsome ship in the attack group against Kristiansand... After all these years, we finally know where the graveyard of this important warship is." ■

★ **Another Karlsruhe and the secrets of the Amber Room, see page 9**

Missing diver came up with shell



SWANAGE COASTGUARD

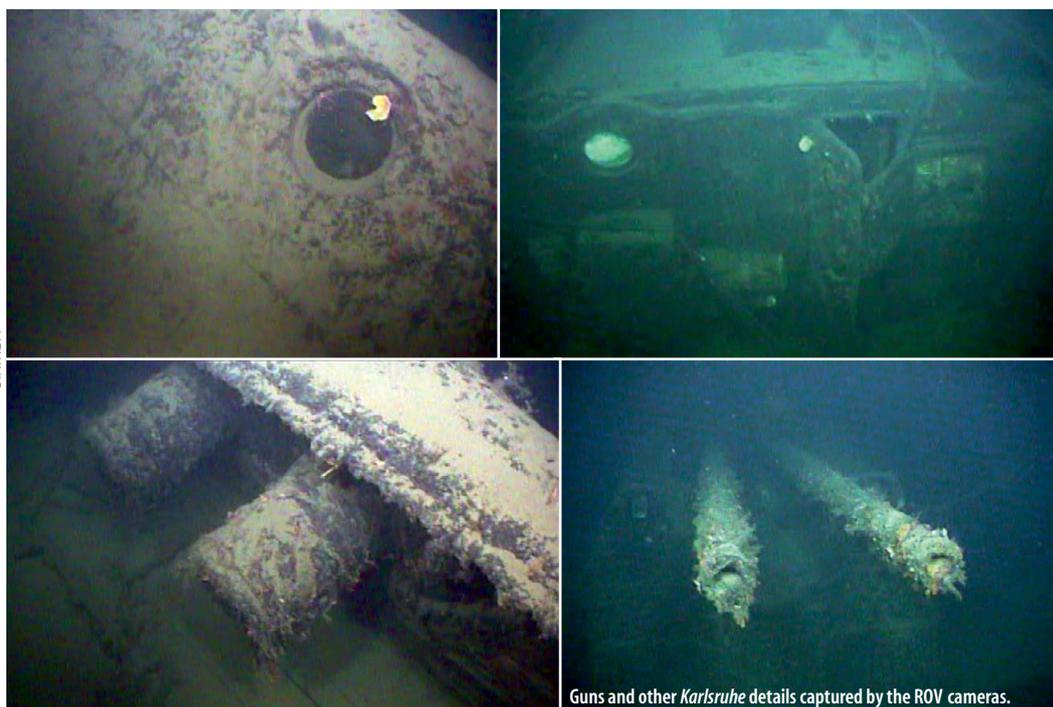
A SCUBA-DIVER reported missing off the Dorset coast on 25 September was then located – bearing, as Swanage Coastguard expressed it, "a surprise".

The Coastguard had received a report from a member of the public in late afternoon that a male diver who had been seen off Shell Bay, Studland several hours before had not reappeared.

A rescue team was dispatched and "quickly located" the diver, who they said then "presented them" with a piece of military ordnance he had located on the seabed.

A bomb-disposal team was called and part of the aptly named Shell Bay beach had to be cordoned off while they dealt with the item.

Coastguard advice to anyone who comes across what could be unexploded ordnance is not to touch it, to keep clear of it, to call 999 or 112 as soon as possible and to warn others of the possible danger. ■



Guns and other Karlsruhe details captured by the ROV cameras.

STATNETT

First Mayan slave wreck identified off Mexico

THE FIRST WRECK of a 19th-century Mayan slave-trading ship ever to be found has been identified in Mexican waters by researchers from the country's National Institute of Anthropology & History (INAH).

Some 100 people died when the ship sank, but shockingly the slaves were not counted among that number – because they were considered to be merchandise.

Discovered by scuba-divers at a depth of only 7m two nautical miles from the resort-town of Sisal on the Yucatan peninsula in 2017, the wreck has now been identified as the Spanish steamship *La Unión* – though it had originally been thought to be a British mail-ship.

The positive identification comes after three years of research on the wreck and in Mexican, Cuban and Spanish archives, according to INAH's Vice



Diver at the slave-shipwreck site.

HELENA BARBA / SAS-INAH ARCHIVE

Directorate of Underwater Archaeology (SAS).

For the six years up to its sinking in 1861 the ship carried away 25-30 of Mexico's indigenous people each month, including small children.

They were taken to Cuba to be forced labourers on its sugar-cane plantations. Some of the adults were prisoners of war, while others had been deceived into signing fake documents believing that these would enable them to become settlers.

Slavery had been prohibited when Mexico gained its independence from Spain in 1821, but 40 years later, when *La Unión* sank on 19 September 1861, President Benito Juárez was forced to issue a statement to prevent the forced extraction of Mayans.

Underwater archaeologist Helena Barba Meinecke, head of the SAS's Yucatan Peninsula office, said that no vessel that trafficked Mayan people had ever been documented before.

Other slave wrecks have been discovered in recent years, including the *Clotilda* in Alabama, the *Henrietta Marie* in Florida, the *El Trovador* in the Dominican Republic and the *San José* in South Africa, but Meinecke said that these had all been "black slave ships", trading between Africa and America.

The discovery of the wreck was recorded at the time in **DIVER**. Provisionally named "Adalio" after the grandfather of the fisherman who led the archaeological divers to the site, it had been described as a British paddle-steamer, thought to have been built by the Royal Mail Steam Packet Company.

The boilers had exploded and the ship caught fire, with the bilge falling out from the hull.

Buried in sand, many hull timbers remained preserved, while the paddle-wheels, boilers, compartments and copper bolts were still recognisable and have since been found to tally with contemporary descriptions of *La Unión*.

Porcelain, stoneware, glass bottles and brass cutlery have also been recovered.

The wreck's location matched the reported site of the sinking and the exploded boilers and charred timbers provided further evidence.

La Unión belonged to the Spanish company Zangroniz Hermanos y Compañía, set up in Cuba in 1854 and authorised to trade in Mexican waters between Sisal, Campeche, Veracruz and Tampico.

Officially it carried passengers and cargo such as sisal, leather, dyewoods and deerskins, but its captains secretly worked with slave-traders to carry Mayans in cramped compartments aboard.

In October 1860 the ship had been intercepted in Campeche while carrying 29 Mayans, including children aged 7-10, but had been allowed to carry on with its illegal trade.

It was the sinking, which resulted in the deaths of 60 passengers and half of the 80 crew, that finally forced the Mexican government to take people-trafficking seriously.

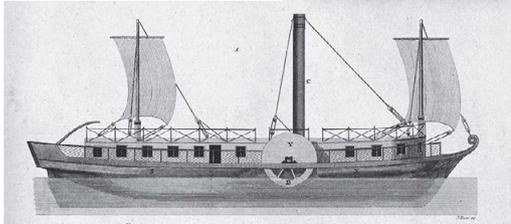
However, Zangroniz was re-established in Mexico later in the century, when it was awarded contracts for railway construction. ■



Iron skylight in the bow area.



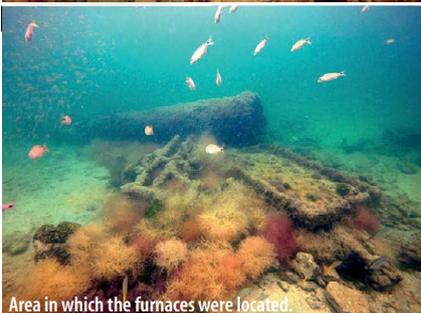
Part of one of the paddle-wheels.



Diver on the port side.



A diver inspects the steam engine.



Area in which the furnaces were located.

HELENA BARBA / SAS-INAH ARCHIVE



The 18th-century Amber Room has been recreated at the Catherine Palace in Russia.

Have Polish divers found fabled Amber Room?

ELSEWHERE IN NEWS this month the discovery of WW2 German light cruiser the *Karlsruhe* beyond diving depths off Norway is reported; we already know about the also-scuttled WW1 light cruiser *Karlsruhe* in Scapa Flow; but now Polish technical divers have found a third *Karlsruhe* – a steamship that potentially holds the key to one of the greatest shipwreck-related mysteries of all time.

“Looks like after months of searching, we finally came across the *Karlsruhe* steamer wreckage,” diver Tomasz Stachura of the technical-diving group Baltictech announced in early October. “We’ve been searching for this ship for over a year, when we realised it could be the most interesting, undiscovered story from the bottom of the Baltic Sea.”

The *Karlsruhe* was one of the vessels that took part in Operation Hannibal, one of the biggest sea

evacuations in history. The operation was designed to help more than a million German troops and East Prussian civilians escape the Soviet Union’s military advance in the latter stages of WW2.

The last German ship to leave the besieged port city of Königsberg, the *Karlsruhe* left hurriedly under heavy escort carrying 1083 refugees and 360 tons of cargo on 12 April, 1945.

The vessel was sunk by Soviet aircraft off the Polish coast the following morning, resulting in the deaths of all but 113 of those on board.

The divers reported finding the wreck at a depth of 88m “dozens of kilometres” north of the coastal town of Ustka, and say that it appeared “practically untouched”.

Baltic waters are known to maintain shipwrecks of all ages in an unusually good state of preservation.

“We discovered military vehicles, porcelain and many crates with unknown contents,” revealed Stachura. “We don’t want to get excited, but if the Germans were to take the Amber Room across the Baltic Sea, then the *Karlsruhe* steamer was their last chance.”

The Amber Room was a magnificent Russian chamber in the Catherine Palace south of St Petersburg. Built in Prussia, it was presented as a gift to the Russian Tsar Peter The Great in 1716, and was regarded as one of the wonders of the world at the time.

In 1941, during the WW2 Nazi invasion of Russia, the room’s amber, gold-leaf and mirror-decorated wall-panels were looted by German troops.

They were last reported seen in Königsberg – now Kaliningrad in Russia – in 1945 while it was under attack by British bombers.

As the *Karlsruhe* was the last of a number of ships to leave the port, it is possible that she was indeed carrying the looted treasure.

A replica Amber Room has since been built in the Catherine Palace, but Russia has declared in the past that it would demand the return of the original if it was ever found.

Apart from Stachura the 10-strong Baltictech dive-team consisted of Thomas Zwara, Marek Cacaj, Luke Pastwa, Jacek Kapchuk, Lukasz Piorevich, Peter Lalik, Daniel Pastwa, Christopher Wnorowski and Kamil Macidowski. ■



Members of the Baltictech team on a previous productive expedition.

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Still diving at 100

Pictured and below: Bill Lambert.

US CENTENARIAN Bill Lambert has claimed a Guinness World Record (GWR) for being oldest scuba-diver, after taking a lake plunge to celebrate his 100th birthday.

Lambert enjoyed a 27-minute nitrox dive with staff from the Loves Park Scuba dive-centre in Pearl Lake, South Beloit, Illinois on 7 September, two days after turning 100.

The former gravel pit has an average depth of 11m and is 26m in its deepest part.

Lambert started diving only when he was 98 and qualified in Cozumel, Mexico. He was quoted at the time as saying that the dive had been submitted to GWR, though he now says that wasn't the case.

He is almost exactly three years older than the current long-time world-record holder, but it remains to be seen whether GWR verifies his bid.

For now the record remains with British diver Ray Woolley, most recently for a 42m wreck-dive he

carried out last year to celebrate his 96th birthday.

That dive took place on the *Zenobia* in Cyprus, where he has lived and dived for the past 20 years.

Unlike Lambert, Woolley has been a scuba-diver for 60 years and has dived all over the world. He became 97 on 28 August and, as a WW2 Royal Navy veteran, was feted as guest of honour on the survey vessel *HMS Enterprise*.

According to RAF Akrotiri SAC colleague Dave Turner, who has been instrumental in organising Woolley's record-setting dives in the past, the veteran diver has been experiencing "some mobility issues" since falling from a ladder earlier this year, so was unable to carry out his customary birthday dive.

"Once he is fully fit we will be working up to his next GWR dive," Turner told **DIVER**. ■



GBR snorkeller survives saltwater crocodile bite

A SNORKELLER HAS survived an encounter with a saltwater crocodile on the Great Barrier Reef. The 33-year-old Australian man suffered head and neck injuries while exploring the waters of Anchor Bay 50m off Lizard Island, Queensland on the afternoon of 23 September.

The Royal Flying Doctor Service treated the man at the scene before he was airlifted to hospital in Cairns, an hour's flight away.

He was reported to be in a stable condition and expected to make a full recovery. Queensland Parks & Wildlife Service was said to be sending officers to the island to investigate.

The 4sq mile island, the GBR's most northern, was said to have permanent crocodile warning signs posted. It has a research station and a luxury 40-room resort offering scuba-divers easy access to famed sites such as Cod Hole, but has been closed because of Covid-19



restrictions and is not due to open until December.

Delaware North, which operates the resort, stated: "We view this incident as an extremely isolated and rare occurrence, and

emphasise that the current safety messaging provided to all guests and the resort staff is consistent with Queensland Parks & Wildlife's advice."

Lindsay Delzoppo of the Department of Environment & Resource Management told 7News that the "relatively minor" nature of the injuries indicated an immature crocodile about 2m long that, rather than regarding the snorkeller as prey, had simply been warning him to leave its territory.

He said that the Queensland coast north of the town of Gladstone was "croc country" and that because the reptiles could move 6-12 miles a day "we're not surprised if a crocodile turns up on Lizard Island". ■



POLETTIX / PIXABAY

DIVE-BOAT PROP DEATH – DIVE WIDOWER FILES LAWSUIT

THE HUSBAND OF A WOMAN who died after being caught in a dive-boat's propellers has brought a legal action for negligence against the charter-boat operator, claiming that a similar incident had occurred the previous day, on the vessel's first outing as a dive-boat.

The fatality was reported in **DIVER** earlier this year. Florida couple Sean Flynn and Mollie Ghiz-Flynn, 37, had been diving together off the state's Palm Beach on 29 March and, after waiting to be picked up by the boat, the 15m *Southern Comfort*, Flynn says they had been waved over by crew.

He claims that the boat had then been put into reverse and sucked them both under its stern, where his wife was struck by the moving propellers and trapped.

He and another diver and a crew-member had found it difficult to free her, and when she was eventually recovered into the boat with severe leg injuries she could not be resuscitated.

The *Southern Comfort* was owned and captained by Dustin McCabe of Florida Scuba Charters, and seven divers had been on board at the time.

With the coronavirus spreading in late March, the trip was said at the time to have been undertaken despite a Palm Beach County ban on diving expeditions and other water-based activities.

Sean Flynn, who was uninjured but described as traumatised by the incident, filed a suit against Florida Scuba Charters in a US district court on 11 September.

A Palm Beach County Medical Examiner's Office report had concluded that Ghiz-Flynn died of drowning and "chop wounds" to the legs. Its investigators had reportedly been told that in "rough current" the *Southern Comfort* had been lifted by a wave that had pushed Ghiz-Flynn beneath it.

The lawsuit states that the 32-year-old twin-engined vessel was a newly acquired fishing-boat in the process of being converted into a dive-boat, and had been operated as such by Florida Scuba Charters only from the day before the fatal incident, when two dives had been carried out.

It states that mechanical problems had been experienced on that day and that a similar problem had arisen when picking up divers.

Indicating that there was no clear line of sight between the helm and the stern, it states that McCabe had reversed the vessel towards a diver who had escaped only by pushing her speargun into the propellers and pushing herself away, and that she had been injured in the process, while a second diver had been pulled under the boat towards the propellers.

Back at the marina, the lawsuit states that McCabe had been unable to control and manoeuvre the vessel and had run it aground, damaging the rudder.

He had been warned by the divers not to take the boat out again the following day and, according to the document, had not informed the next set of divers about what had happened the day before. ■

Diver airlifted from Kent site

A SCUBA-DIVER had to be airlifted to a London hospital with suspected decompression illness after making an emergency ascent at St Andrew's Lakes in Halling, Kent on Sunday, 20 September.

Paramedics and the air ambulance were called to the inland site near Rochester at about 1.30pm. They told *Kent Online* that the diver had been in a "potentially serious condition" but was expected to make a full recovery following hyperbaric treatment.

"An experienced Master Diver had a malfunction with his own equipment and made an emergency ascent... standard emergency procedures were followed by the dive-school," said a spokesman for St Andrew's Lakes, which describes itself as "the newest inland freshwater scuba-diving site in the UK".

According to *Kent Online* another diver training with his club at the same site in late August had also required emergency assistance and been airlifted to hospital.

The St Andrew's spokesman said that the diver involved that time had failed to disclose an underlying health problem to his London dive-school, and that no council or HSE investigation had been deemed necessary.

"Diving can be a dangerous sport and accidents will sadly occasionally occur from time to time," said the spokesman.

St Andrew's Lakes, a former chalk quarry, boasts of blue waters and depths to 30m, with a lined course, training platforms and "abundant fish stocks".

The diving is in the process of being taken over by local PADI 5* centre Southern Scuba, and the site is said to provide facilities for schools and clubs to train divers from entry to technical levels. ■



DAVID BURNS



INLAND DIVE-SITE Cromhall Quarry in south Gloucestershire, which appeared to have closed for good in May, has reopened to scuba-divers under new management.

Dive-school South West Maritime Academy is now operating the site, which is located near Wotton-under-Edge. The triangular 4-hectare flooded limestone quarry has a maximum depth of 17m, a shallow beach area allowing easy access, platforms at various depths and a pontoon that had made it a popular training facility.

The previous operation, Cromhall Diving Centre, ceased trading when the quarry itself closed following problems

caused by flooding and the coronavirus lockdown, as reported in **DIVER**. The site's underwater attractions include a decommissioned naval gun-turret, aircraft cockpit, several small boats and telephone boxes.

At present to comply with Covid-19 requirements general diving sessions are limited to 50 people at a time with one booking per account between 8.30am and 4pm at weekends only.

Tickets cost £16 and bookings can be made at cromhallquarry.com

Cromhall is also open to open-water swimmers at weekends, and it is understood that dive-schools can pre-arrange training sessions at other times of the week. ■



A NEW DIVER attraction has splash-landed at the Wraysbury inland site west of London – the forward section of a Boeing 737-300 airliner.

Richard Major, who runs Wraysbury Dive Centre, says that he first saw the front half of G-CELA at Cotswold Airport (formerly RAF Kemble) in Gloucestershire.

"The back half apparently was destroyed in a *Fast & Furious* movie," he told **DIVER**. "Her first flight was in 1986 for an Australian airline, and she went on to belong to Jet2 and eventually was converted into a cargo plane."

G-CELA's last flight was to Cotswold in June, 2017, and the front of the fuselage was driven to Wraysbury in May 2019. "We had been preparing her for sinking when the pandemic

halted our plans slightly," said Major.

The new attraction was finally sunk at the end of August, located in the shallower part of the lake to allow snorkellers as well as scuba-divers to enjoy it.

"We need to thank Mark Gregory at Air Salvage International, Lee Lifting for its huge crane and expertise, SSI for its sponsorship and our wonderful dive family who worked very hard to put it in place safely," said Major.

The 15-acre Wraysbury lake already has a large number of underwater attractions as well as what are said to be more training platforms at various depths than at any other UK inland dive-site, and waterside parking.

Admission costs £15 a day, wraysbury.ws ■



Marine-life protector makes her mark

BRITISH SCUBA-DIVER Emily Cunningham has been selected by the North American Association for Environmental Education (NAAEE) as one of its "30 global leaders under the age of 30" for 2020.

Cunningham, a trustee of the UK's Marine Conservation Society, has been recognised for developing a marine-education scheme designed to engage non-divers through virtual dives, as well as enabling underserved communities to experience UK seas at first hand.

She is said to have secured £5.1m in funding for UK marine and coastal projects.

"Before I learnt to dive, I had no idea how amazing UK seas were," says Cunningham.

She began her training while studying for a marine-biology degree. "On my first sea dive, on a chilly February day off north Wales, my mind was well and truly blown!

"Since then, I've been driven to share this awe far and wide and inspire others to take action to protect our amazing marine wildlife."

As a 30 Under 30 awardee, Cunningham is set to receive ongoing support from the NAAEE, which next year celebrates 50 years in operation.

The 30 Under 30 programme has been run since 2016. The organisation says that the resulting community of 150 leaders from 34 countries is having a significant impact on environmental education. ■



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MoD censured for two diver deaths

TWICE WITHIN THE SPACE of a month, Britain's Ministry of Defence (MoD) has been issued with Crown Censures by the Health & Safety Executive (HSE) following the deaths of military divers during training.

The system of Crown Censures is how the HSE formally records that a government body has failed to comply with health & safety legislation, and would probably have been convicted if it did not enjoy Crown immunity. This is the maximum sanction it can impose, and by accepting such censures the MoD has admitted its breach of duty.

In the first case in early September, the HSE issued two Crown Censures to the MoD for the death of LCpl George Partridge, 27, who ran out of gas while training at the National Diving & Activity Centre inland site in Gloucestershire on 26 March, 2018.

LCpl Partridge was on the seventh of a seven-week Army Diver Class 2 training course at the NDAC. He and his dive-buddy had been ordered to attach a distance-line from the base of a shotline to the deeper of the site's two Wessex helicopter wrecks, at 27m.

But LCpl Partridge had to be recovered to the surface after he stopped responding to lifeline signals. CPR was carried out before he was pronounced dead. His cylinders were found to be empty.

Sudden cardiac death syndrome was blamed for his death following a *post mortem* examination, which concluded that LCpl Partridge, who had been declared "fittest recruit" during his basic training, had an undiagnosed minor heart defect.

But at the original pre-inquest review his family had blamed his death on "systematic failures".

A Royal Navy service inquiry panel later published a detailed report in which it stated that he had been using faulty diving equipment.

It criticised the course and made 53 recommendations on remedial action. The HSE served the MoD with two Crown Improvement Notices, relating to failure to train all army divers in how to calculate air endurance, and failure to assess the risk of a diver running out of air.

LCpl Partridge had been serving with 26 Engineer Regiment in Perham Down, Wiltshire. He had been in the Army for eight years, including a tour of duty in Afghanistan in 2012, and was married, expecting his first child, and set to be promoted to Corporal.

The second Crown Censure also followed a fatal incident from 2018. On 14 November Marine Benjamin McQueen, 26, had been on a training

exercise in Portland Harbour, Dorset when he became separated from his group. He was recovered to the surface and given CPR before being pronounced dead.

In this case the HSE again served the MoD with two Crown Improvement Notices, noting failure to conduct suitable and sufficient risk assessments for the exercise. The MoD was said to have subsequently rectified these issues, according to a report on the proceedings.

The HSE has described the two incidents as tragedies for all concerned and says that "as an employer the MoD has a responsibility to reduce dangers to its personnel, as far as it properly can".

Both scenarios, of a diver becoming separated and running out air, were "very real risks that need to be managed." ■

PAOLO ISGRO / UNDERWATER PHOTOGRAPHY



Clownfish eggs, a previous category winner.

Ocean Art open for entries

ENTRIES ARE NOW being accepted for the Ocean Art Underwater Photo Competition 2020, organised by the US-based Underwater Photography Guide (UPG) website.

The international online contest for photographers at all levels offers diving-holiday and dive-gear prizes valued at more than US \$40,000, with category winners able to rank their preferred prizes.

There will be 50 winning images in 12 categories. These include Wide Angle, Macro and Marine Life

Behaviour, and the same three again for compact cameras only.

The other six are Marine Life Portrait, Cold/Temperate Water, Blackwater, Underwater Conservation, Nudibranchs and Underwater Art, which encourages creativity in post-processing.

The judges are Tony Wu, Martin Edge, Marty Snyderman and Scott Gietler, owner of UPG. Entries can be made until 30 November by visiting uwphotographyguide.com/ocean-art ■

THE REAL MEG: 16 METRES OF POWER

THE MEG IN THE recent film of that name was a prehistoric shark around 23m long, but until now the size of the extinct shark on which it was based has only ever been estimated.

Now a UK study has established that while Hollywood did go over the top, the real *Otodus megalodon* was still an awe-inspiring 16m long.

That compares with around 6m for the biggest great white shark, and the megalodon's dorsal fin alone stood as tall as an adult human.

Its jaws also had a formidable bite force – of more than 10 tonnes.

Researchers from the Universities of Bristol and Swansea looked beyond previous studies, which had compared megalodon fossil remains only with great white dimensions, and

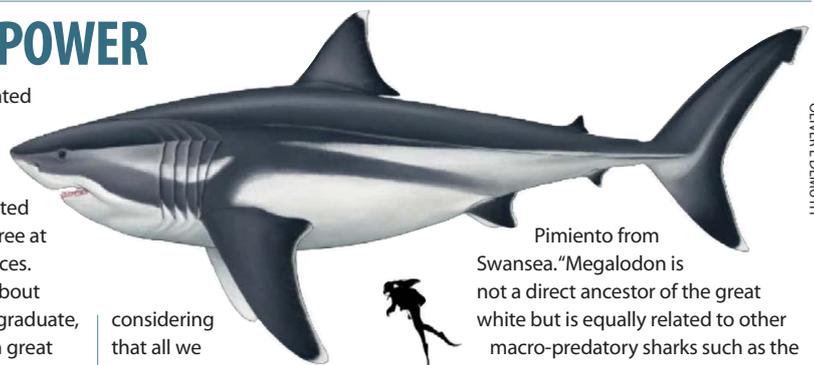
compared them with five related modern shark species.

The study was the "dream project" of scuba-diver Jack Cooper, who recently completed a palaeobiology masters degree at Bristol's School of Earth Sciences.

"I have always been mad about sharks," he said. "As an undergraduate, I have worked and dived with great whites in South Africa – protected by a steel cage, of course.

"This project was everything I wanted to study since watching Nigel Marven step into a shark-cage and meet a CGI effect of a giant extinct shark just one week before my seventh birthday!" said Cooper.

But he explained that studying the megalodon had "always been difficult



OLIVER E DENMUTH

considering that all we really have are lots of isolated teeth."

Otodus megalodon died out three million years ago after some 20 million years' existence, and the only fossil remains are triangular cutting teeth bigger than a human hand.

Cooper's project was supervised by palaeontologist Prof Mike Bento of Bristol and shark expert Dr Catalina

Pimiento from Swansea. "Megalodon is not a direct ancestor of the great white but is equally related to other macro-predatory sharks such as the makos, salmon shark and porbeagle shark, as well as the great white," said Dr Pimiento. "We pooled detailed measurements of all five to make predictions about megalodon."

The results indicate that a 16m megalodon probably had a 4.65m-long head, 1.62m-tall dorsal fin and a 3.85m-high tail. The study is now published in *Scientific Reports*. ■

Thailand deports 'ugly video' divers



Ott (left) and Simonetti in custody.

THAILAND SENT a message that it won't tolerate interference with its marine life, with the announcement in early September that it was deporting two expatriate divers who had filmed themselves doing just that.

The two men, Hungarian national Attila Ott, owner of the Pink Panther Scuba Dive Movie-Maker Club, and chef and boat-owner Francesco Simonetti from the Netherlands, had been charged by police with "intruding in an area designated for environmental protection" – a marine protected area off Koh Phangan in the Gulf of Thailand.

Thailand's Immigration Bureau branded the divers a "social threat", revoked their visas and blacklisted them prior to deportation, according to local press.

The divers had posted three minutes of GoPro underwater footage of themselves diving at a site off Salat Beach on Ott's YouTube channel to promote his business. In the generally poor-quality video, every slow-moving creature from pufferfish and hermit crabs to sea cucumbers and

cushionstars was either picked up, touched or prodded with a pointer.

However, the video was widely condemned, and described by a local diver who drew it to the attention of the authorities as "a very ugly act of diving". Conservationist Siththiroj Kaewnongsamed reported that such behaviour had been featured in previous underwater videos.

He said that Koh Phangan's marine life was essential for attracting overseas tourists, and had called on the expatriates not to endanger it.

The pair admitted to the offence, punishable under Thai law by a maximum fine of the equivalent of £2400 or a year in jail.

They and Ott's wife had already been fined for immigration violations uncovered by the investigation.

Ott's Facebook page described him as tropical island-hopper, underwater videographer specialist and former PADI divemaster, while Simonetti's was devoted mainly to sea-angling.

Regional immigration police chief Col Suparoek Pankoson commented that the penalties should be a lesson to all divers who might consider harming protected marine life. ■

LOTTERY THROWS COVID LIFELINE TO MARY ROSE

PORTSMOUTH'S Mary Rose Museum, under threat from the shortfall in income caused by the coronavirus pandemic, has been handed a lifeline in the form of £250,000 from the National Lottery Heritage Emergency Fund.

The museum was forced to close to the public in March as lockdown began, causing the loss of 84% of the income generated each year by visitors, mainly during summer.

More than 80% of the staff were furloughed, but cutting back on the high costs of conserving the 500-year-old shipwreck and artefacts in the required environmental conditions had proved challenging, says the museum.

The *Mary Rose*, King Henry VIII's favourite ship, sank in battle in 1545. Following a major diver-led operation, the wreck was raised from the Solent in 1982 along with 19,000 Tudor artefacts. The Mary Rose Trust is an independent charity and receives no government or public funding.

"National Lottery players were instrumental in funding the creation of the Mary Rose Museum, so we are exceptionally grateful to receive this renewed support to help cover the costs of caring for *Mary Rose* during

this crisis period," said Helen Bonser-Wilton, Chief Executive of the Mary Rose Trust.

"Securing more support over the coming months is going to be crucial to ensure that the *Mary Rose* can be enjoyed by future generations."

The Mary Rose Museum reopened in August, offering joint tickets to Portsmouth Historic Dockyard with the National Museum of the Royal Navy (NMRN).

The dockyard usually attracts 850,000 visitors a year, and the two organisations came up with a new "Ultimate Explorer" annual season ticket enabling them to explore all 11 attractions as often as they like.

On-site in Portsmouth besides the *Mary Rose* are the Royal Naval, Fleet Air Arm and Royal Marines Museums, HMS *Victory*, HMS *Caroline*, HMS *M33* and HMS *Warrior*. Also part of the museum group is NMRN Hartlepool, including HMS *Trincomalee*.

A waterbus service connects the dockyard site to the Royal Navy Submarine Museum, with HMS *Alliance* and the Explosion Museum of Naval Firepower.

The annual ticket costs £39 for adults and £29 for children aged 4-15. Book at historicdockyard.co.uk ■



The Mary Rose Museum.

HUTTON + CROW

ANTIQUES-HOARDING WRECK-DIVER ARRESTED IN CAMBODIA

A MAN DESCRIBED as an expert diver has been arrested in Cambodia for possession of 281 antique earthenware jars he is accused of having salvaged illegally from a shipwreck.

The 42-year-old was keeping the intact vessels of various sizes at his home, according to a report from

Associated Press. They are now being examined by experts and, though their exact age has yet to be determined, they are understood to date from between the 15th and 17th centuries AD, and therefore to be classed as legally protected antiquities.

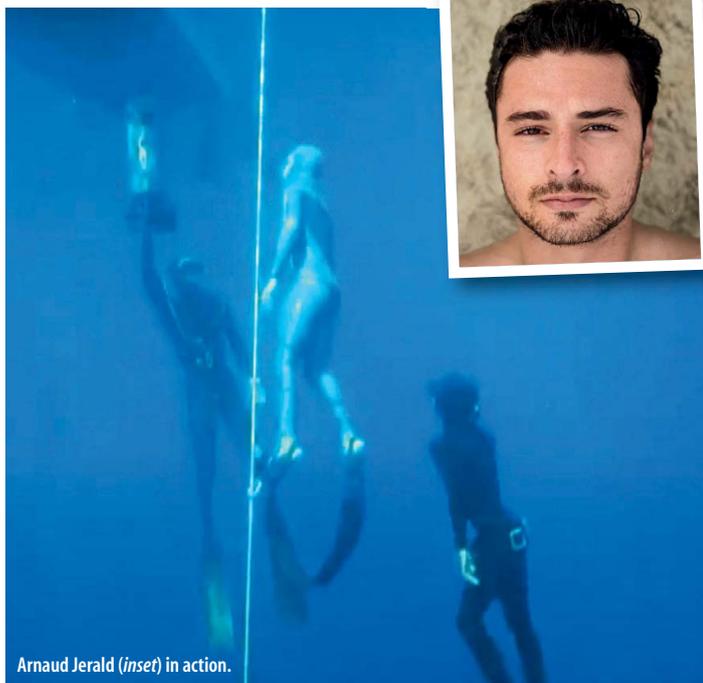
The man had been reported diving

in the area in which the ship had sunk off the city of Sihanoukville in the eastern Gulf of Thailand, though it is not clear whether the wreck had already been surveyed and how deep it lay. His home had been placed under observation before his arrest.

The police were questioning him to find out when and how he had

retrieved so many artefacts and whether his intention had been to sell them. He was expected to be charged with interfering with Cambodia's cultural heritage.

Five years ago several hundred similar items were said to have been collected from a Chinese shipwreck off nearby Koh Kong province. ■



Arnaud Jerald (inset) in action.

French freediver Jerald edges bi-fins battle

FRENCH FREEDIVER Arnaud Jerald has claimed a world record of 112m in the Constant Weight with Bi-Fins discipline – continuing a rivalry with the Russian Alexey Molchanov who had set a 111m record just days before.

Jerald, 24, carried out the dive on 15 September at Kalamata in Greece, in his sixth attempt since 10 August to be recognised as world champion – at his own expense.

World freediving records have to be ratified by governing body AIDA, which in May 2019 recognised Jerald's first world record of 108m in the same CWTB discipline at the Russian Open Depth Championship.

However, Molchanov equalled the feat the following day and surpassed it by 2m later in the year, marking the start of the two freedivers' rivalry for the title.

The Constant Weight discipline involves the diver descending and ascending while carrying a small amount of weight but not allowed to pull on the line or alter the weighting.

Bi-fins present a greater physical challenge to the diver than a monofin, where the men's record has been held by Molchanov for nearly eight years and now stands at 130m.

Jerald's partner and manager Charlotte Benoit told press that for his record bid the diver had opted for "zero media, zero sponsors, so as not to put additional pressure on himself",

and had spent around 15,000 euros in the process.

With two AIDA judges present at his own expense he made his first 2020 record bid on 10 August at Villefranche-sur-Mer in France and reached his target 111m, but because he had omitted to remove his nose-clip before signalling OK, he was disqualified.

Four days later he was disqualified again when a member of his team touched him before the surfacing protocols had been completed.

A third attempt three days later had to be abandoned because no doctor was available.

Jerald then decided to enter a European Cup competition in Kalamata, because although only 20 freedivers were competing AIDA judges would be present to validate a record.

He had reached 111m in training, but Molchanov pre-empted his record bid on 12 September at the AIDA Adriatic Depth Trophy event at Krk in Croatia by setting his own 111m world record on a 4min 10sec dive.

Jerald had never reached 112m on bi-fins before, though he had reached 118m in the CWT monofin category.

But he managed to outdo Molchanov by reaching and returning from the planned depth in only 3min 24sec. His achievement had yet to be reflected on the AIDA website as **DIVER** went to press. ■

Freda's Diver Dishes

Well, normally the UK dive season would be slowing down now, as winter and the dark nights loom – but not this year! Divers are keener than ever to keep going as long as possible, and those who normally jet off abroad are realising just how much UK diving has to offer.

So this month's recipe is a soup to warm you up on colder days. Spinach is a superfood and it's no wonder, what with its high level of antioxidants and its anti-inflammatory properties. Sea spaghetti is pretty super too, as it's high in magnesium, manganese (great for healthy bones) and calcium, as well as vitamins B2, C, B7 and E.

Spinach and Sea Spaghetti Soup serves 4 divers



Ingredients

1tbsp olive oil; 1 medium onion chopped; 2 sticks celery chopped; half leek chopped; 1 medium potato peeled and chopped; 1 litre vegetable stock; 10 fresh sage leaves; quarter nutmeg finely grated; 400g fresh spinach; 100ml double cream (or a dairy-free alternative); 20g dried or fresh sea spaghetti.

Method

Heat the oil in a deep soup pan, add the onions, leeks & celery and fry gently for 10 minutes until soft & caramelised. Add the potato and stock. Simmer for 20 minutes until the potato is cooked.

If you have dried sea spaghetti, place it in a heatproof bowl, cover with boiling water and leave until ready to serve. If you have managed to forage some fresh sea spaghetti, simmer it gently in water for about 10 minutes until tender, then drain and set aside for later.

Add the nutmeg, sage leaves, pepper & salt and spinach leaves to your soup and simmer for a few minutes until the spinach is well wilted. Blend with a stick blender until smooth.

Stir in the cream, check the seasoning and serve with the sea spaghetti on top and nasturtium leaves or fresh sage leaves to decorate.

Top Tip

This soup freezes well, so you can make batches and always have some in the freezer ready for last-minute use. This soup can also be a vegan dish if you use a dairy-free alternative to cream.

Sea spaghetti tastes like mildly salted asparagus and is surprisingly delicious! If using fresh sea spaghetti, try marinating it in some lemon juice before cooking it. This helps to speed up the cooking time and also adds flavour.

★ Freda Wright is a diver and chef on British diving liveaboard *mv Salutay*. Find more of her recipes in the book *40 Dives 40 Dishes*. It costs £16 plus £1.95 postage. £1 from every sale goes to Oceans Plastics Greenpeace, salutay.co.uk





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US fighter raised from Black Sea

A BELL P-39 Airacobra aircraft has been raised from the Black Sea in Crimea by a dive-team, the culmination of a joint expedition carried out by the Russian Geographical Society and the Ministry of Defence of the Russian Federation.

Some 5000 of the US-built mid-engined fighter planes were delivered to the USSR's air force until late 1944 under the WW2 Lend-Lease scheme.

Identified by its fuselage number, the aircraft found had been delivered to the 11th Guards Aviation Fighter Regiment of the Black Sea Fleet in 1943, took part in the liberation of Crimea from Nazi Germany and provided air cover during the Yalta Conference in February 1945, says the Russian news agency TASS.

Yalta had brought together Allied leaders Joseph Stalin, Franklin D Roosevelt and Winston Churchill, arriving at the airfield in Saki from which the regiment operated.

Providing protection for the delegates had been the regiment's final combat mission of WW2.

Five months later on 27 July during a training flight the Airacobra's pilot



The forward section and right wing of the Airacobra clears the surface.

SERGEI MALGAVKO / TASSO

Jr Lt Vladimir Shishkin saw smoke coming from the engine. He made an emergency landing on the water 1km from the airfield. The plane sank 30 seconds later, but he escaped with no more than a slight head injury.

The wreck was found by amateur scuba-diver Alexey Kazarinov 800m from the village of Novofedorovka in 2017. He had passed on the rough co-ordinates to the authorities but it was only in 2019 that divers were able to relocate and survey it during a wider search for WW2 wrecks.

They raised the aircraft using a crane on 14 September. It is now set to go on display, possibly in Crimea.

The Airacobra's accident report had been traced in the archives and the malfunction had been attributed to a broken connecting rod.

Jr Lt Shishkin had about nine hours' flying time on Airacobras before the crash and got in another 24 hours before graduating at the Stalin Naval Aviation School of the Order of Lenin a month later.

Bell Airacobras are said to have enabled individual Soviet pilots to collect more kills than any other US fighter ever flown. Other Airacobra wrecks have been found in Crimea, three in the Kerch Strait that links the Black Sea with the Sea of Azov, and one in Lake Tobechik, also in Crimea. All had been shot down in battle. ■

US diver finds historic wheels



The second of the paddle-wheels to be found.

GARY LEFEBVRE

A US SCUBA DIVER using an ROV has located two paddle-wheels that have been missing from an historic steamboat wreck for more than 200 years, in Lake Champlain, Vermont.

Gary Lefebvre located the first of the charred 5.5m-diameter wheels on 31 August at a depth of 57m, a mile off the lake's eastern shore.

The local diver had been searching for possible sites to dive from a list of 3000 sonar-scanned marks. His finds were announced by the Vermont Division for Historic Preservation and Lake Champlain Maritime Museum.

Lefebvre had shown footage of the first wheel to the museum, which had identified it as belonging to the steamboat *Phoenix*, based on its location, design and the extensive charring of the timbers.

When Lefebvre's ROV was sent back down three days later, further footage revealed an identical paddle-wheel lying nearby at 55m. Again there was evidence of charring, but the spokes and hubs on both wheels were said to be in excellent condition.

The *Phoenix* was built for the Lake Champlain Steamboat Co and launched in 1815. Only the second commercial steamboat to work on the lake, it ran between all ports from Whitehall, New York in the south to St-Jean-sur-Richelieu across the Canadian border in Quebec.

Captained by Jahaziel Sherman on the night of 4 September, 1819, the *Phoenix* caught fire. The blaze was blamed on a candle in the galley, although there were rumours that a rival might have been responsible.

As the vessel burnt from the centre the structures that supported the paddle-wheels on either side failed, causing them to tear loose and drop to the lakebed. The hull burnt to the waterline as it drifted south, ending up sunk in shallower waters on Colchester Shoal reef.

Forty of the 46 passengers and crew survived and today the *Phoenix*, as one of the USA's earliest-known paddle-steamer wrecks, is one of 10 wreck-sites that make up Vermont's Underwater Historic Preserve. ■



My Octopus Teacher No head-scratching this month, our star turn was a shoe-in. If you don't have Netflix, all divers should find this unforgettable man-meets-cephalopod love story £5.99 well spent!

Winter in Malta More in *Booking Now* next month, but dive-centre Maltaqua is offering packages of one- or two-month apartment stays in Sliema plus 20 dives for divers who find it "essential" to work from a new temporary home between now and March! Visit maltaqua.com

GoPro Hero 9 Ever been taken unawares and missed crucial action on your underwater video-cam? It seems we might need another Hero because the latest features "cache recording" and can roll back time to catch that action after all. See our *Just Surfaced* new products pages.

No Time to Die Never has so much ridden on a blockbuster movie as on the new Bond, and we were excited to learn that Andy Torbet is Daniel Craig's underwater stunt double. The only shame is that the release has been delayed again – until next year.

NEW MIGRATION DATA produced by tagging hammerhead sharks in the Atlantic should help scientists to protect at least one of the 10 hammerhead species at risk of extinction.

Researchers from Nova Southeastern University (NSU), the Universities of Oxford and Rhode Island and Fisher Finder Adventures have been studying the migration patterns of smooth hammerheads.

Sphyrna zygaena, which can grow up to 4m long, has been one of the least understood of the large hammerhead species because scientists usually have difficulty in finding specimens for study.

However, the researchers were able to satellite-tag the fins of juveniles off the US Atlantic coast and tracked them in near real-time for up to 15 months.

“Getting long-term tracks was instrumental in identifying not only clear seasonal travel patterns but, importantly, also the times and areas where the sharks were resident in between their migrations,” said Ryan Logan of NSU, first author of the newly published research.

“This study provides the first high-resolution, long-term view of the movement behaviours and habitats used by smooth hammerhead sharks.”

The sharks were found to migrate between New York coastal waters in summer and North Carolina in winter, seeking warmer surface waters and

Researchers nail down smooth hammerhead



One of the smooth hammerhead sharks in the study.

KYLE MCBURNIE

food sources. The areas were “prime ocean real estate for these sharks and therefore important areas to protect for the survival of these near-endangered animals,” said NSU’s Mahmood Shivji, who oversaw the study.

Identifying the areas could enable them to be designated as “Essential Fish Habitat,” in which the US government can protect declining species by limiting fishing or development.

The hammerheads spent much of the winter in a management zone known as the Mid-Atlantic Shark Area

(MASA), which is closed to commercial bottom longline fishing from 1 January to 31 July to protect another endangered species, the dusky shark.

However, the tracking data showed that smooth hammerheads arrived there before the New Year – in December. “Extending the closure of the MASA zone by just one month, starting on 1 December each year, could reduce the fishing mortality of juvenile smooth hammerheads even more,” said Shivji.

“It’s particularly gratifying to see such basic research not only

improving our understanding of animal behaviour in Nature but also illuminating pathways for recovery of species and populations that have been over-exploited, so we can try and get back to a balanced ocean ecosystem”

The detailed tracking of the smooth hammerheads (as well as mako, tiger, oceanic whitetip, sand tiger and whale sharks, blue and white marlin, and sailfish) can be found at ghrtracking.org

The teams’ complete research paper is published in *Frontiers in Marine Science*. ■

BAILIFFS SWOOPED THE DAY AFTER LOCKDOWN

ONE OF THE BAHAMAS’ longest-established dive-centres has been forced to cease trading, as a US \$9 million compensation claim for a US diver’s death some 17 years ago has finally been enforced.

Bahama Divers, based in Nassau, New Providence, had been resisting enforcement of the Bahamas Supreme Court judgment for the past 12 years.

Owner Matthew Whiteland, who took over the business started by his father in 1965, claimed that he had consistently received legal advice during that period to the effect that such a penalty could not be imposed on a business with relatively low income.

Whiteland told local publication *Tribune Business* that court bailiffs had arrived to seize the company’s assets the day after its July re-opening following the

coronavirus lockdown.

He said that with annual gross sales below \$2m even in normal circumstances, Bahama Divers’ liquidation would not come close to meeting the full \$9m award.

Its bank and landlord were also claiming back debts from the company, but Whiteland said that the liquidation costs alone could exceed the company’s net worth.

Fifteen staff, many of whom were said to have been with Bahama Divers for 20 years and more, were being made redundant and there was doubt about whether they could receive full severance pay.

Whiteland said that while he hoped to re-enter the dive business



The Bahama Divers dive-centre.

and re-employ some of his staff, this would be challenging in the current circumstances.

He explained that in the early 2000s a qualified scuba-diver had gone out with friends on a dive to less than 8m with Bahama Divers.

He had signalled that he was heading back to the boat but had failed to return and was later found dead.

The diver’s family had taken

legal action in Florida and the \$9m judgment had been upheld by the Supreme Court in 2008.

Whiteland argued that the timing of the seizures following the extended lockdown in which no revenue had been generated made no sense if the aim was to maximise recoveries.

“It’s a big mess, and I don’t know how they’re going to figure out all of it, who’s going to get paid and who isn’t,” he told *Tribune Business*.

“They might have seized everything, but it’s far from over for whoever has to liquidate everything and recover the money.

“My dad, who is 84, has pretty much bankrupted himself to pay the legal fees to continue the court work.

“The lawyers kept saying don’t worry – it’s too much money to wind you up.” ■



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BACKYARD



He has moved from the Coral Triangle to the West Country but does **HENLEY SPIERS** regard it as a comedown in terms of diving? Not a bit of it, as his words and images indicate – he now has an iconic British site on his doorstep

AT THE START OF 2020 my family moved from the Philippines to the UK. Little did we know how fortuitous our timing would be. If the relocation had been planned just a few months later, all plans for any form of international movement would have been scuppered.

Diver friends in the Philippines laughed in bewilderment at the prospect of our leaving Cebu's tropical waters for Devon's temperate aquatic environment.

I laughed too and could understand their surprise but, in truth, after more than 20 years of predominantly warmwater diving, I was secretly excited at the prospect of really getting stuck into British waters.

Feel free to call me weird, but at this stage I truly find green water and all its inhabitants to be more exotic than its blue cousin.

While I have loved travelling to new locales for diving, I am also extremely fond of having a backyard dive: one site, close to home, that you can visit on demand and get to know intimately.

My backyard dive went from the Shangri-La Marine Sanctuary in Mactan to Babbacombe beach in Torquay.

Now while Cebuanos might be bemused at this change in situation, I am aware that avid Brit divers will be muttering "you lucky so and so", because Babbacombe is an iconic dive-site in the UK, with an enduring popularity among underwater photographers in particular.

If Swanage Pier is one such Mount Rushmore dive, as described by Alex Mustard in the September issue of **DIVER**, Babbacombe is right up there alongside it.

Although you are in the popular touristic area of "Torbaydos" a visit to Babbacombe beach always has a hint of adventure, as you take a sharp turn at the top of the hill and make your way down a precipitously steep and narrow lane.

A beautiful bay awaits at the bottom, along with a small car-park, which can get rather competitive during the summer months.

When the sun is shining, Babbacombe's beach is prized by more people than just divers, so an



early arrival is advised to secure the nearby parking that our gear-laden activities require.

The machine accepts only coins, a point worth noting in this contactless era. Another practical note is that the toilet facilities have remained closed so far this year.

On the plus side, there is a much-appreciated cafe serving hot drinks and food. You will also find the Cary Arms & Spa, the nearest pub and accommodation option, which has recently undergone an upmarket remodelling.

Sadly there are no local air-fills available so, even if staying on location, you will need to venture to Teignmouth in search of more, precious, pressurised gas.

This scenic bay provides a natural harbour from the prevailing westerly winds, and can generally be dived year-round. If the wind does turn east, or north-east, then Babbacombe will

BABBACOMBE



who take the time to glimpse under water.

Yet another point in Babbacombe's favour is its relaxed topography. Sloping gently down, with no currents present, you will struggle to get lower than 8m deep.

Long, leisurely dives await, with just a little commonsense required when surfacing, because there tend to be some watercraft around.

The expanse of the bay is substantial, and worthy of multiple dives. Looking outwards from shore you will find a rocky reef system, and seagrass meadows to the left.

To the right there's a very shallow rocky drop-off, which can be followed right up to the pier (you know you're there once you start spying abandoned fishing gear). Swim straight out far enough and you'll reach a sandy expanse, and a whole new environment to explore.

Pictured: Pair of cuttlefish.

Below left: Spider crab.

Below: Ballan wrasse.

be exposed and is probably best avoided.

As you look out to sea, Babbacombe Pier is to the right, popular with fishermen and the kids who enjoy leaping off it.

To the left, the South-west coastal path carries you to nearby Oddicombe beach. If visiting friends or family, there is plenty to keep them entertained while you disappear for a dip!

EASE OF ACCESS from the car-park to the water is another attraction for this spot, with either steps to the beach or the slipway affording us divers a simple way in.

A high tide makes that even easier, and while you can dive Babbacombe at any tide it is easier to enter at high water, and the visibility will tend to be better too. The silty bottom in the bay can be stirred up inshore when the tides move out.

Entering the water during the warmer



months, you are greeted by a forest of bootlace weed stretching up from the seabed right to the surface. Catch it with a few metres of visibility and it makes for an ethereal opening to a dive – a spectacular environment, open only to those

AS I MAKE MY WAY over the kelp-covered seabed, a corkwing wrasse dashes for cover. With vivid colouring and intricate face-markings, this is a fish reminiscent of those we encountered back in the Philippines. I caught him mid-nest building, a responsibility that falls on the males of this species, and is most likely to be witnessed in spring.

Babbacombe acts as a marine-life nursery, and you might come across the eggs of cuttlefish and sharks. Common cuttlefish eggs are black and hung together like oversized grapes.

Nursehound-shark eggs, far more delicate, are romantically referred to as "mermaid's purses".

A single egg embryo lies inside the cream-coloured pouch, visible to the naked eye. If undisturbed, the juvenile shark will develop over many months, eventually breaking free from the egg-case.

This bay is not only a place for nesting, but also mating. With the advent of spring, adult cuttlefish have historically visited



Babbacombe to procreate, an activity that involves furious competition between the males.

Locals say that fishing-pots have had a noticeable impact on the number of cuttlefish aggregating in recent years.

One can only hope that lockdown has provided a brief respite from fishing pressure for these charismatic cephalopods.

Some cuttlefish will linger, and I was happy to encounter a pair on the reef, gently serenading one another close to a cluster of eggs.

KELP FRONDS are worth checking closely, because they can host a variety of macro subjects. Sea-slugs can be found in clusters, feeding on encrusting bryozoans such as sea-mats.

Sea-mats spread over the kelp as a colony of square shapes so perfectly geometrical that you'd think it was factory-made.

This is a favourite food-source for lined polycera sea-slugs, with white bodies and yellow lines. Painted topshells can also be seen on the kelp, although divers might more often refer to these pointed animals as "mermaid's nipples"!

Blue-rayed limpets are less than 2cm long but have vivid blue markings once you do get your eye in. They also feed on kelp, favouring that closest to shore.

Swimming slightly deeper over the rocky reef, purple-tipped snakelocks anemones adorn many surfaces and can act as a host for crustaceans.

Scorpion spider crabs often disguise their long-limbed bodies among the



Above from left: Tompot blenny; Babbacombe.

Right: Velvet swimming crab by snakelocks anemone.

Below from left: Compass jellyfish; bootlace seaweed forest.

tentacles, and if you're very lucky you might come across a decidedly exotic anemone shrimp that has used climate change as a valid excuse to migrate to British waters.

Particular favourites are the velvet swimming crabs, dark-bodied, blue-clawed and sporting satanically red

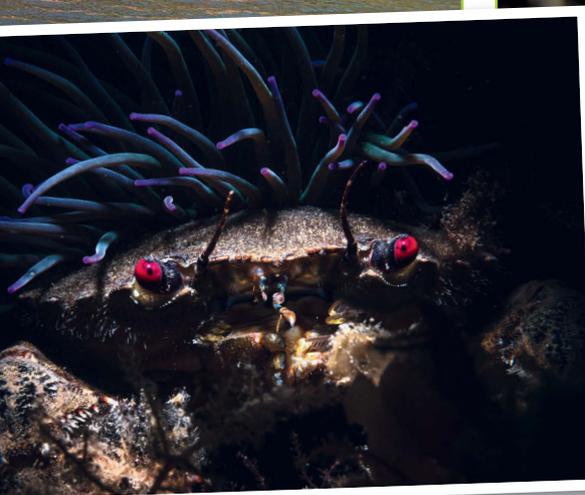
eyeballs. Spiny spider crabs are intimidatingly sized, dragging their oversized claws as they prowl the seabed.

It can be a little alarming to glimpse one of these creatures, and if you come across one in a feisty mood it will leap off its hind legs and use large foreclaws to karate-chop in mid-water.

Spider crabs will aggregate in enormous quantities to moult, using a "safety in numbers" approach during this vulnerable moment.

At times like these, the seabed will be





is Mushroom Rock. You might argue that it is the only discernible feature, and descriptions of where to find interesting marine life are often classed as “near Mushroom Rock” to a comedic degree.

The rock lies in about 8m of water on the seabed. Head north from the beach steps to find it, or descend close to the yellow Cary Arms buoy.

Bib crowd beneath an overhanging arch, and common lobsters will occasionally take shelter close by.

literally covered in massive crabs, sometimes piled two or three high.

In some years an aggregation will occur at Babbacombe, although it is by no means a reliable event. The sight of hundreds of spider crabs together is an incredible, yet somewhat apocalyptic natural event to behold.

The key topographic feature of the site

Above: Painted topshell, or mermaid's nipple.

Below: Moon jellyfish in space.

Below right: Hermit crab.

The lobster are shaded in navy blue across most of their bodies, but have more flamboyant splashes of bright blue on their legs and tail.

If you move slowly enough, Mushroom Rock is rich with marine life and could easily occupy a whole dive.

The floor is crawling with gobies, dragonets and the odd butterflyfish. The shaded walls of the rock are carpeted with jewel anemones: a supermacro visual treat for underwater



photographers, they come in a firework display of colours and textures.

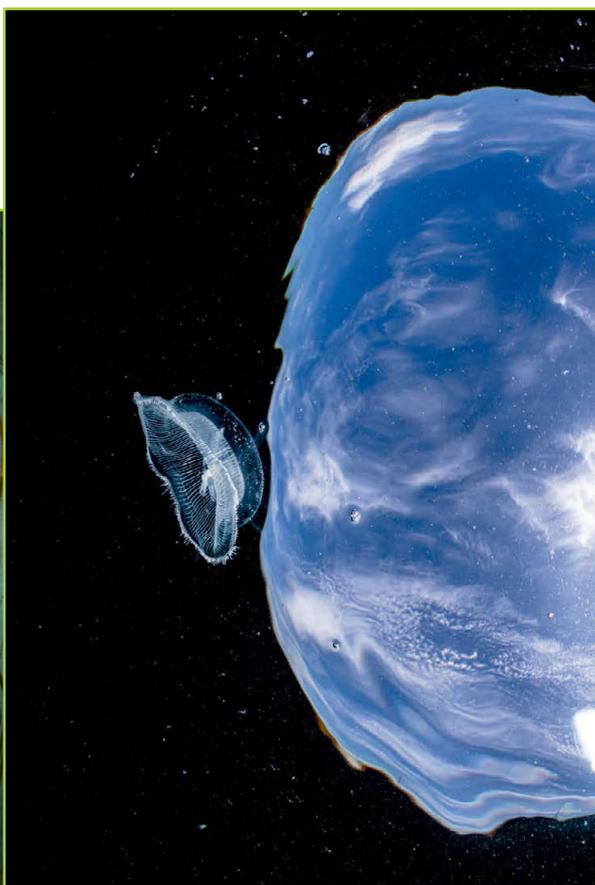
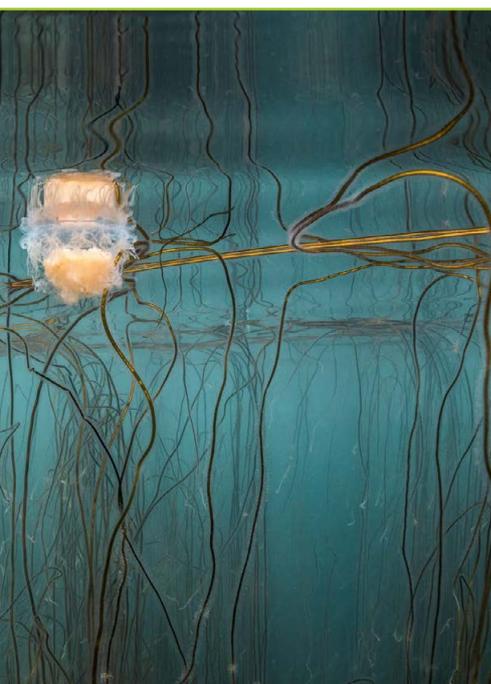
Don't rush to ascend at Babbacombe, because the finds continue all the way to the shoreline.

Intertidal white boulders encrusted with limpets are hugely popular with blennies. Shannies are frequently spotted here, moving in quick dashes before coming to a rest on their pectoral fins.

Tompot blennies, unmistakably attired with red, branched tentacles, can also be spotted in the nooks and crannies.

These could easily be seen even by any snorkellers in your party, who might also run into the various jellyfish that accompany plankton blooms.

Moon jellyfish have short tentacles



and four rings seen within their transparent bell, which I am reliably told are their gonads.

The elegant compass jellyfish has brown line markings on its bell, reminiscent of a compass.

Entering the water one day from the beach, some nearby children told me: "There are jellyfish!"; presumably as a warning.

My response – "Great!" – seemed to come as a surprise to them, but is a good reflection of the magnetic appeal jellyfish hold over underwater photographers.

This summer we even witnessed shoals of sand-eels appearing across British coasts, and I marvelled on dives as my entire line of vision was filled with life under water.

Temperate waters also have the thrill of seasonality, and I'm excited to see how Babbacombe changes as we head into autumn and winter.

It might be colder, it might be harder, it might be less diverse than a tropical coral reef, but Babbacombe and British diving offer a great diving experience in our backyard that shouldn't be missed. 

*** Head for and turn down Beach Rd, Torquay TQ1 3LX. Watch for oncoming traffic as you wind down to the car-park and bring coins because you'll need them there. Gear rental and air is available at Teign Diving Centre, Quay Rd, Teignmouth TQ14 8EL**



Above: Scenic view with a corkwing wrasse.

Right, from top: An aggregation of spider crabs; lobster; shanny.

Below, from top: A jellyfish among the sand-eels; Mushroom Rock.



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TIGER ZOO



-There are not too many places left where you can encounter multiple species of sharks on

a dive. Or encounter seven different species in the space of a week on one dive-site alone. Or see sharks on every dive of your trip. AND have guaranteed tiger shark encounters – daily! Fuvamulah in the southern Maldives is one of these special places, and all of the above happened on **ALEX TYRRELL**'s last trip



Left: Baiting for shark at Tiger Zoo, Fuvamulah



SITUATED IN THE FAR SOUTH of the Maldivian archipelago, surrounded by the deep waters of the Indian Ocean, Fuvamulah is a shark hotspot that, as yet, is not on most divers' radar. The island is small, with a population of around 14,000 and, so far, little in the way of tourism.

With two dive-centres, limited accommodation options (that can be arranged by your chosen operator) and only a handful of restaurants, this isn't a destination with *après-dive* activities.

The island is "dry", too, so there are no bars for a cool beer at the end of a day's diving. You can't even pass the evenings with a night-dive, because there are simply too many sharks about for the operators to deem it safe to be under water after sunset! But this means that you have nigh-on empty dive-sites.

The only other divers you're likely to see on a dive will be from your boat.

If you have heard of Fuvamulah, it will be because of Tiger Zoo.

This is the name given to the small dive-site at the entrance to the harbour where daily tiger-shark feeds occur.

Galeocerdo cuvier were originally attracted to this area by its fish-market, which has been operating for more than 15 years. At the end of each day, the fish-heads and guts removed from the catch were thrown back into the sea and, tigers being scavengers, they snapped up this free meal.

In 2017 Ibrahim Shiyan and Tatiana Ivanova set up Fuvamulah Dive and took advantage of the unique opportunity of having a resident population of tiger sharks. So now, instead of the fish-market



leftovers being dumped each day, they are collected and saved until it's time to dive.

Only then are these smelly, bloody bucketfuls thrown onto the dive-site, acting as a dinner-bell to the local elasmobranch population.

IT DOESN'T TAKE long for huge dark shadows to appear beneath the boat, signalling the arrival of the tigers, and this is the cue for the eager divers to enter the water too.

For obvious safety reasons, they are dropped a little further down the reef. They then swim into position to the side of the green-coloured cloud of blood that marks the bait to witness the feeding frenzy.

In addition to the tigers, numerous silvertips get in on the action, darting in to grab a mouthful of fish between the forays of their much-larger relatives.

Silvertips are beautiful sharks, reaching

Above: A silvertip responds to the dinner bell...

Below: ...as does a much bigger tiger shark.

lengths of up to 3m, though most of those at Tiger Zoo are smaller or, at least, seem dwarfed by the tigers!

The feed is fairly brief, with most of the fish-heads being consumed in 15-20 minutes of frantic, heart-pounding action. Having a 5m tiger shark swim inches over your head makes you realise how small you really are, and certainly gets the adrenaline flowing.

However, at no point did I feel threatened – the sharks know what is food and what isn't and swim around the site gracefully, apparently adhering to a pecking order that lets the larger sharks take priority.

When they do approach a diver they will veer off at the last minute; an agile manoeuvre for such a large creature.

Just in case, having something to block a shark that doesn't turn away makes sense, so the dive-centre provides a piece of metal tubing to act as a stick





that you can place in a vertical position in front of you. Should a shark not turn away it will bump its snout, which causes it to change direction immediately. (Note: the stick is not for poking the sharks!)

Having my hands full of camera meant that holding a stick was impractical, but the camera could be used to achieve the same result, though I never found this necessary.

There are also a number of guides in the water behind the group, checking for any sharks approaching out of a diver's field of view and either warning them or blocking their approach.

To date, there have been no incidents on the shark-feed dives, and I deemed the biggest danger to be that the dive takes place in the harbour entrance.

At times boats will pass overhead, so you need to ensure that you don't swim up too shallow.

Once the food is depleted the sharks disperse, but then the guides collect up any stray uneaten pieces of fish and use



Clockwise from top left: Silvertips in numbers; diver Nawax with a tiger shark; frontal tiger; whale shark; whitetip reef shark; tiger viewed from below.

Above: The Fuvamulah Dive dhooni.

Above right: Healthy coral reef at Fuvamulah.

them to entice the tigers back up from the drop-off, hopefully encouraging them to hang around in the shallows a little longer.

Once the final scraps have been consumed and the only remaining sharks are the silvertips patrolling in the blue along the drop-off, the guides go on the hunt for the tiger-shark teeth that fall out while they're feeding.

Tigers have very distinct dentition:

large teeth with curved cusps and finely serrated edges that are similarly shaped in both upper and lower jaws.

The teeth are largest at the front, decreasing in size towards the back of the jaw and located in rows, with the first two rows being used in obtaining prey.

As teeth are lost, broken, or worn down, they are replaced by new teeth that rotate into place.

THE CENTRE IS NOT sure how many resident tiger sharks there are, but 50-plus individuals were identified in the period between June and August last year.

The guides use GoPros to capture footage to be used for ID purposes.

My guide Ali has a database of more than 100 positively identified tigers, and this number is slowly increasing.

When I ask him about the maximum number he has seen on a dive, he replies: "I've seen about 15 tigers in view at once, but there would have been more out of sight. Tigers are quite cautious and, being





visual hunters, in reduced visibility more sharks will come in to feed, but this obviously makes it harder to see them from a distance.”

A daily dose of tigers should provide enough action to keep most shark-loving divers happy, but Fuvamulah has more to offer than just Tiger Zoo.

There are sloping walls all around the island, with pretty corals that are home to numerous species of reef fish as well as turtles, and there is always the chance of encountering something bigger passing in the blue, as well as some smaller whitetip reef sharks cruising in the relative safety of the wall.

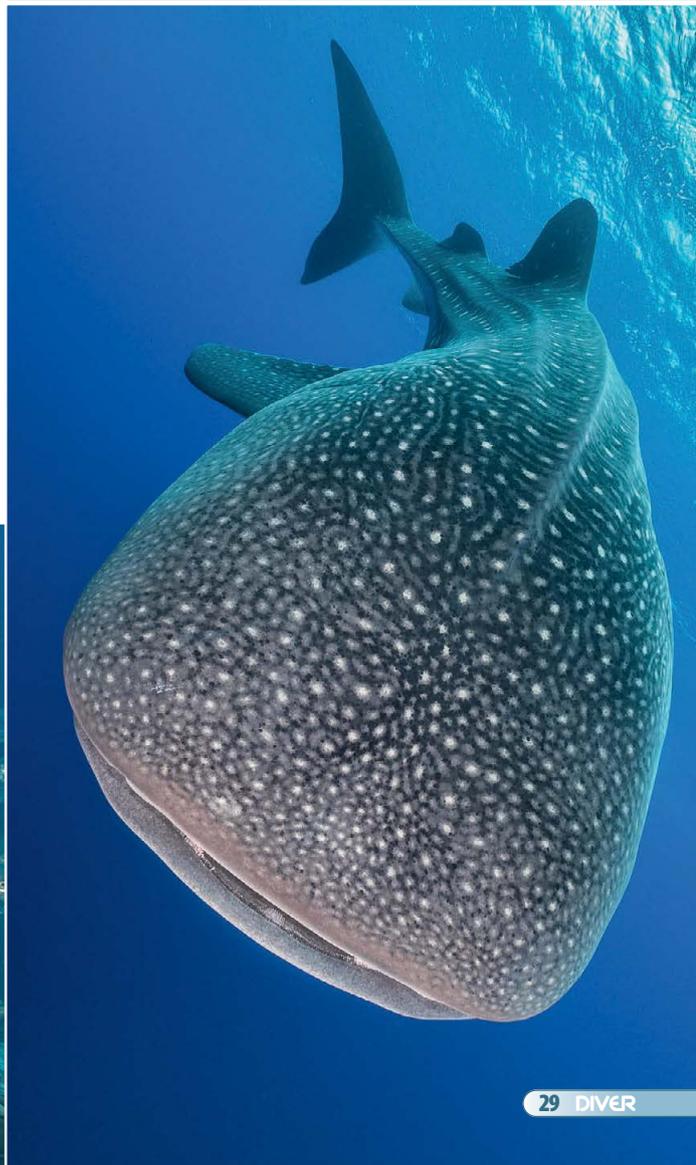
But given the pelagic action, the really exciting dives are on the reefs that stretch

out from the north and south of the island. While I was there the best diving conditions were at the tip of the southern reef, at a site called Farikedu, which translates to “corner of the reef”.

We dived there at least once a day, taking a 15-minute boat-ride from the harbour to our drop-off point.

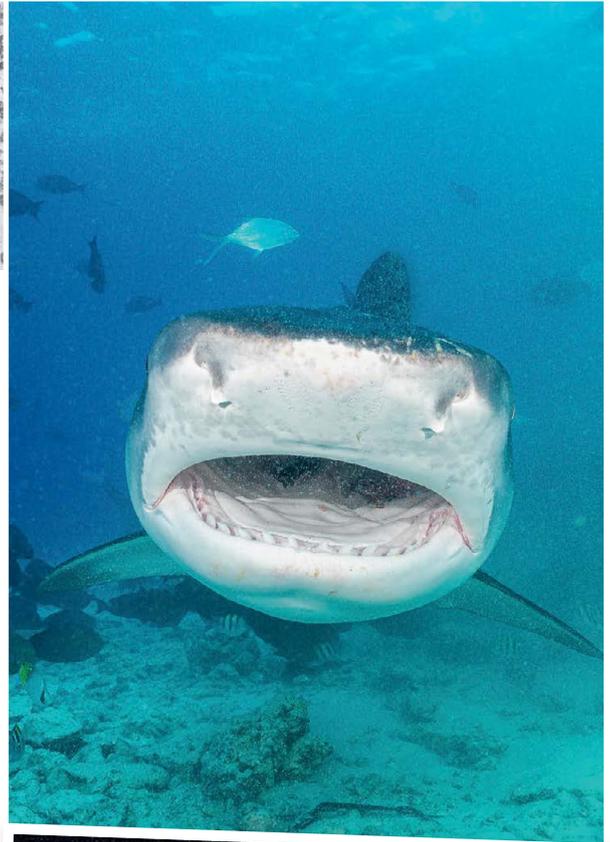
The dive starts with a descent into blue water on the east side of the reef, quickly dropping to our drifting depth of 30m (the maximum depth at which diving is permitted in the Maldives), then riding the current which, depending on the moon phase, can be minimal or strong.

There we encountered numerous shark species on every dive. We always saw silvertips in the blue and whitetip reef





Clockwise from here: Pelagic thresher shark seen far below the 30m depth limit; gaping mouth of a tiger shark; tiger teeth; collecting the teeth once shark-feeding time is over.



sharks resting on the bottom 20m below, and commonly had encounters with blacktail reef sharks (the Indian Ocean equivalent of grey reefs).

On quite a few dives we saw thresher sharks cruising around along the bottom at 50-60m, sometimes circling at cleaning stations. If you're lucky you might encounter them up the reef in shallower water.

We saw tiger sharks on a few occasions, with one swimming up from the blue to check out the group.

There are also schooling scalloped hammerheads there, but they prefer the colder water of the thermocline to bring them up from the depths.

You would need to search in the blue to find them, because they don't normally come close to the reef, apart from stray individuals. We did see a couple of lone hammers swimming along the bottom.

A **STHIS IS A DEEP** drift-dive it isn't long before you hit NDIs and run low on air, so don't expect to be knocking out hour-plus dives! But the action doesn't always stop when you start to ascend, so keep your eyes peeled.

We encountered a sunfish on one dive as we approached the 5m mark, though it didn't hang around for long.

On another dive, after following a hammerhead, my guide Ali and I separated from the rest of the group so ascended alone, and were greeted by a 9m whale shark as we started our three-minute safety stop.

Needless to say we spent an extended period off-gassing in the presence of the largest fish in the ocean!

Diving in this open-ocean environment can mean encountering strong currents, and drifting a long distance on the safety stop is always a possibility.

The guides at Fuvamulah Dive carry Nautilus Lifeline Marine Rescue GPS / VHF radios so that, if needed, they can contact the dive-boat on surfacing.

This is reassuring and shows their commitment to high safety standards, as

per the Tiger Zoo shark-feed dives.

My seven days of diving in Fuvamulah, logging 21 dives, ended all too quickly.

The weather was nice but a swell was coming through, creating quite a bit of surge at Tiger Zoo that stirred up a lot of sand, as to some extent did the sharks and the divers. So it was difficult to get really clean photographs.

This wasn't an issue on the offshore reefs, where we just needed to be careful getting back into the dive-boat, but with an experienced captain who could position it optimally for the least amount of rocking, it wasn't unsafe.

I hope to return in the not-too-distant future and, in slightly calmer conditions at Tiger Zoo, capture some cleaner shots.

For now, while the photos might not be quite as clear as I would have liked, the memory is as clear as if I were still there.

As are the pair of shiny tiger-shark teeth, given to me by Ali as a memento of my trip. 



FACTFILE

GETTING THERE ▶ From Male international airport Fuvamulah is an hour away by Maldivian Air. Its baggage allowance is 20kg but excess-baggage charge is only 19 rufiyaa (less than £1) per kg. It's also possible to fly to Gan in Addu via Sri Lanka, followed by a 90-minute boat ride to Fuvamulah.

DIVING & ACCOMMODATION ▶ Fuvamulah Dive, fuvahmulahdive.com

WHEN TO GO ▶ During Iruvaa (the North-east Monsoon) from December to April the winds are normally quite light, but during Hulhangu (the South-west Monsoon) from April to December there is more chance of stronger winds and stormy weather. Tiger, silvertip, whitetip, blacktail reef, scalloped hammerhead and pelagic thresher sharks can be seen year-round, as can whale sharks, though there is a higher chance of these from January to May. The best time for oceanic mantas is March-May.

MONEY ▶ Maldivian rufiyaa.

PRICES ▶ Return flights from £450. A "Best of Fuvamulah" package includes all transfers from Male or Gan, seven nights' accommodation with meal plan, 12-18 dives including Tiger Zoo, and other activities and excursions from US \$1990 including all taxes.

VISITOR INFORMATION ▶ visitmaldives.com

MORAY MANOR

WE HAD BEEN TOLD to look out for moray eels, but never expected them to be so abundant in temperate waters. From our first dive, they became a feature.

We saw their heads poking out of cracks. Others were sitting in the open, some hiding amid the kelp and a few swimming about.

We even found one curled up on the bottom wrapped around a scorpionfish!

Now morays generally prefer warm water, so we were very surprised to open a guide to New Zealand's Poor Knights Islands and see five species listed.

And after seeing three species and several dozen moray eels on our first dive, we set a goal to photograph all five.

The Poor Knights lie north of Auckland, off the small coastal town of Tutukaka. Washed by the warm blue



New Zealand's Poor Knights Islands might be in a temperate zone, but in this destination washed by a warm tropical current

NIGEL MARSH and HELEN ROSE found a great mix of species – stand-outs being those eels!

waters of the East Australian Current (EAC), made famous in the film *Finding Nemo*, the islands might sit in a temperate zone but are more like a subtropical destination.

While the rocky reefs are covered in temperate kelp and sponges, the fish life is a fascinating mix of temperate and

subtropical species, with much of it unique to the area.

The islands were declared a marine reserve in 1981, and went on to become New Zealand's leading dive attraction.

It's possible to dive there on a weekend liveaboard trip, but for our week-long stay we booked daily boat-dives with Dive! Tutukaka, New Zealand's best-known dive-shop. Established in 1999 by Jeroen Jongejans and Kate Malcolm, it sets a very high standard of service.

It has a well set-up dive-centre and operates five dive-boats to the Poor Knights, taking more than 12,000 people there annually. It caters for divers of all levels of experience as well as snorkellers, so aims to place customers of similar abilities on its boats.

And while it might look after several hundred people over a weekend or during busy holiday periods, with more than 60 dive-sites there never seemed to be a crowd under water.

Told to arrive at 8.15am on day one, we were greeted by a well-organised army of staff who quickly had us signing forms and organising our dive-gear. By 8.30 we were on *Bright Arrow*, the smallest of the dive-boats and one that caters for more experienced divers. After a quick briefing

Above: A pair of mosaic morays at Middle Arch.

Below: Most days this pod of common dolphins joined Nigel and Helen for the crossing to the Poor Knights.





by skipper Kevin Delonge, we left for what is usually the hour-long trip out.

That particular crossing took well over an hour, however, because we were side-tracked by a large pod of common dolphins. Kevin said this happened often, and was one reason why the planned outing often over-ran slightly.

The dolphins were not the only distraction. We also saw thousands of seabirds, including little penguins, and numerous flying fish.

There was something to see at the surface every day, including sun-basking hammerhead sharks. Whales, seals, sunfish and manta rays are all possible sightings – sadly for us, a pod of orca were spotted two days after our departure.

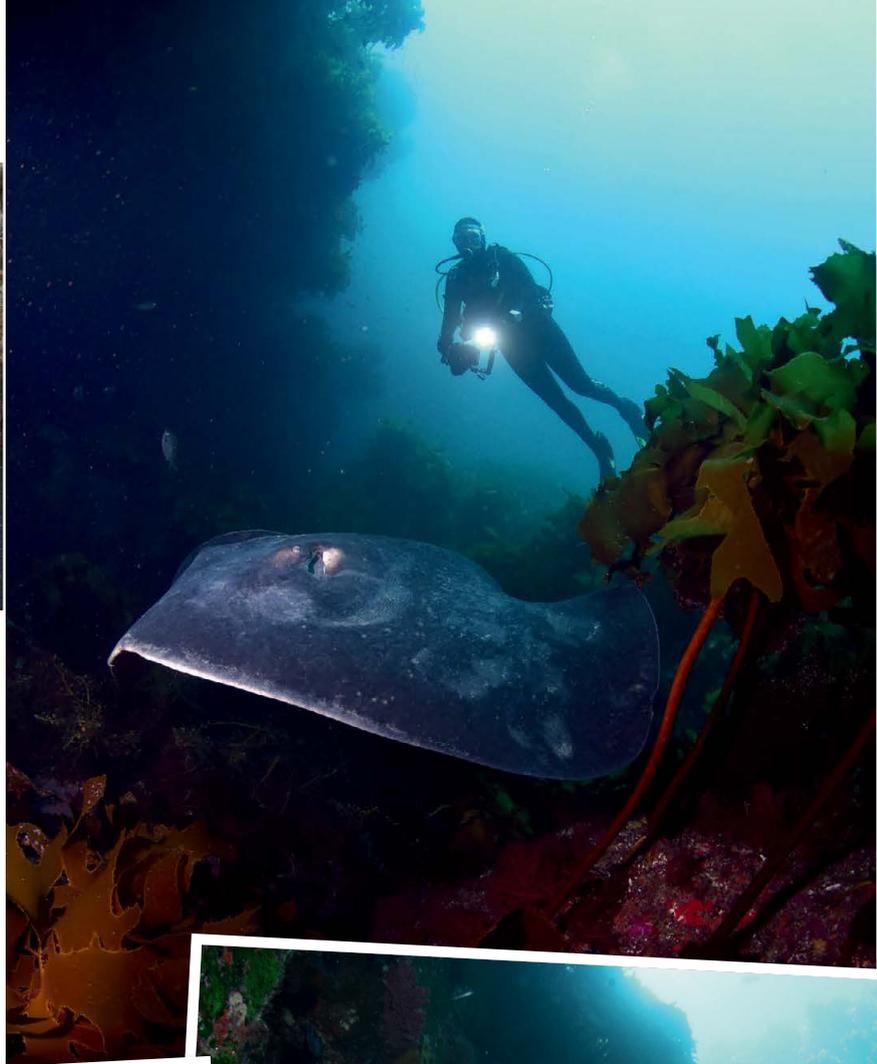
After running into a lumpy easterly groundswell we eventually arrived on the sheltered western side of the island and anchored at Northern Arch. This giant swim-through cuts through a rocky point, with the top of the arch rising above the water and its base 38m below.

We found visibility 15m and the water 19°C. This was February, and the EAC was unfortunately sitting a few kilometres wide of the islands, rendering vis and temperature a little lower than usual.

Above: One of Dive! Tutukaka's dive boats cruises around the islands.

Right and below right: Short-tailed sting rays are commonly found – this site is Cleanerfish Bay.

Below: One of the most colourful fish seen at the Poor Knights is the male Sandager's wrasse.



Below, from left: Masses of blue maomao in Northern Arch; colourful nudibranchs and triplefins are common at Poor Knights Islands – this is a blue-eyed triplefin and a clown nudi.

Descending on a rocky wall covered in kelp we headed for the arch, but found many distractions along the way.

There were all the fish: snapper, trevally

and yellowtail kingfish in midwater and, amid the kelp, desmoiselles, leatherjackets and wrasse. Then there were the colours.

Each rock was encrusted with sponges,



algae, anemones, hydroids and bryozoans – an artist’s rainbow palette also containing nudibranchs and cute little blennies, sea-perch and triplefins.

Within minutes we had seen the plain-coloured yellow and grey moray species but also a spectacular mosaic moray.

This eel, with a set of teeth as impressive as its patterning, is found only in northern New Zealand and the subtropical waters off eastern Australia.

We had already shot dozens of photos of the morays, the colourful sponges and fish and then we reached the arch – which took our breath away.

Around 6m wide and 30m long, its walls were covered in colourful sponges, but it was the fish swarming between the walls that left a lasting impression.

Here were dense schools of brightly coloured pink maomao and blue maomao and, among them, larger yellowtail kingfish, snapper and moki.

Closer inspection of the walls revealed many cracks and crevices, home to more moray eels, Lord Howe coralfish, toadstool gobies, butterfly perch and numerous large scorpionfish.

It was an incredible introduction to the Poor Knights.

KEVIN ANCHORED at Middle Arch, which also broke the surface but with a rocky bottom only 15m deep. First we explored a bay full of kelp-covered boulders containing more wonderful reef fish and eels, including a pair of mosaic morays sharing a lair. But this dive also introduced us to another local feature.

Resting between the boulders we found two large short-tailed sting rays. The world’s largest sting ray species, reaching a width of 2.1m, it is found in the temperate waters of New Zealand, South Africa and Australia (where it is called the smooth sting ray).

A large population is found in the Poor Knights, though it has been known to disappear when orca are seen in the area.

In summer large numbers of the rays can gather in the caves and arches for breeding, but these gatherings are unpredictable.

We proceeded into the arch, and it too was spectacular, coloured by sponges, overflowing with fish and with several more short-tailed sting rays cruising about. Among the eels we found the fourth species we had sought, the lowfin moray. According to experts this species is wrongly identified in the guides as the speckled moray, but this is found only in deep water.

We dried off and enjoyed a late lunch. Kevin told us a little about the islands’ history as we cruised past towering cliffs, rocky pinnacles and more archways.

Named in 1769 by Captain James Cook,



who thought their profile resembled the outline of a fallen knight with his shield covering his chest, the Poor Knights are the remains of a super-volcano formed more than 10 million years ago.

The islands were once inhabited by a Maori tribe, but after another tribe raided and slaughtered many of the settlers, they were abandoned, declared *tapu* or sacred, and have been uninhabited since.

It is now illegal for anyone to land on the islands, because they are an important habitat for seabirds, insects and reptiles.

As part of this tour we also visited

Above, clockwise from top left: More morays of the Poor Knights Islands – smallfin; yellow; a new record for the islands, this y-patterned moray; grey morays are often found out in the open, or draped over sponges and kelp; the elusive mottled moray finally run to ground at Brady’s Corner.

Below: A school of pink maomao in Northern Arch.

Rikoriko, the world’s largest sea-cave.

Once an air-pocket in the volcano, it is 50m wide, 100m long and 25m high, so can accommodate several boats.

We tested out the incredible acoustics – it has been the location of several concerts – and before heading back to Tutukaka we also cruised through the gigantic Southern Arch.

EACH DAY WE EXPLORED walls, caves, arches and reefs, and each site proved to be home to abundant marine-life and more than a few surprises.

At Jan’s Tunnel it was a slipper lobster; at Dutch Cove a giant boarfish; at Ngoio Reef a conger. At Blue Maomao Arch we were overwhelmed by blue maomao and at Mary’s Wall we found a paper nautilus shell. Back at Middle Arch we encountered a longfin boarfish and at Northern Arch a bronze whaler shark.

Another site we enjoyed was Cleanerfish Bay. Kevin suggested this because we



hadn't been seeing as many sting rays as usual. Almost as soon as we jumped into the water we found a short-tailed ray resting between two boulders, but after that nothing. We were starting to wonder whether a pod of orca had recently visited the islands.

We continued to explore the kelp-covered boulders, finding many caves and ledges, and a variety of morays, reef fish and nudibranchs, but no more rays.

Then towards the end of the dive we found a large cave, and inside it four sting rays swimming around. Were they hiding from orca?

We settled on the bottom, watching them patrol, and found them very inquisitive. They even swam above us several times. We certainly got our fill, because we found two more in another cave on our way back to the dive-boat.

WE WERE DETERMINED to find the final, elusive eel species – the mottled moray. Heading to Brady's Corner, a spot popular with snorkellers, we didn't have high hopes, but our guide Dean explained that a nearby wall that dropped to 30m was a great spot for morays.

He wasn't kidding. Just on the way to the wall we found a dozen among the kelp and boulders, and that wasn't all – we also saw schools of trevally, snapper, yellowtail kingfish and a giant boarfish.

Finding a southern eagle ray resting on the bottom was also a surprise, as it was quite content having us closely inspect it with our cameras.

The wall lived up to its promise, being home not only to several moray eels but also numerous nudibranchs and a cute sharpnosed pufferfish.



Below left: Spanish lobster at Jan's Tunnel.

Below right: Sharpnosed puffer at Brady's Corner.

WRECK-DIVING AT POOR KNIGHTS

The Poor Knights might be the major dive attraction off Tutukaka, but the area also has two scuttled navy ships that can be explored.

The first is HMNZS *Tui*, a 51m hydrographic research vessel that was scuttled in 1999. Resting on a rocky reef in 32m, the wreck has broken into three sections.

More popular is HMNZS *Waikato* (left), a 113m frigate scuttled in 2000. Resting on sand in 30m, it lists to port and its bow has broken off.

There is a lot to see, including the twin gun-turret, bridge and helicopter hangar. More experienced divers can also penetrate the ship. Being closer to shore these wrecks don't always have the best visibility, and when we explored *Waikato* it was in 5-10m vis. Dive! Tutukaka regularly schedules dives to both wrecks.

We photographed a strange-looking mosaic moray, whiter than any we had seen before, but couldn't study it for long before it disappeared into its lair.

Returning to the boat, Dean started waving frantically and pointing downwards. Looking into the gutter we could see the tail of an orange-coloured moray covered in white spots. It was the rare mottled moray.

For several minutes we tried to work out where its head was, but an urchin made that difficult.

The moray must have wondered what all the commotion was about, because it finally poked its head out to see what the bubble-blowing aliens were doing. We had finally captured the fifth moray!

When we excitedly told Kate about this back at the dive-shop she informed us that there were actually six species at the

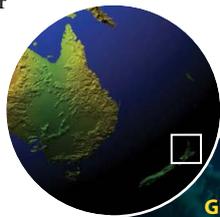


Poor Knights, with the Lord Howe moray occasionally seen but not featured in the guide.

This was unexpected, but then we remembered the funny white-coloured moray. We showed Kate the image and she said that although it wasn't a Lord Howe it was one she had never seen before.

She emailed it to a local fish expert and quickly received a reply. It was a y-patterned moray, a species normally found in deep water and a new record for the Poor Knights Islands.

We had an incredible time with so many highlights – the graceful sting rays, the masses of fish and the colourful arches and caves. But we will always remember this special destination for its amazing morays.



FACTFILE

GETTING THERE

Fly to Auckland via Singapore or Dubai. Reach Tutukaka either by local bus or hire car or take a domestic flight to Whangarei and then a taxi.

DIVING & ACCOMMODATION

Dive! Tutukaka operates five dive-boats 364 days a year, diving.co.nz. Accommodation in Tutukaka ranges from hotels to a holiday park. Nigel and Rose stayed at Lodge 9, run by and located behind the dive-centre, but quiet and private. Facilities include a heated pool and spacious lounge area, and the room rate included continental breakfast, afternoon tapas and free beer and wine.

WHEN TO GO Year-round, with marine-life varying at different times of the year. Water temperature ranges from summer highs of 22°C to winter lows of 16°C. Vis is generally around 15m, but can vary from 6-30m-plus.

MONEY New Zealand dollar.

PRICES Return flights from UK from £660. Lodge 9 room rate from NZ \$300 (£155) a night. Two dives with Dive! Tutukaka from NZ \$219-235 (£113-120), \$39 discount on second day.

VISITOR INFORMATION newzealand.com

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Invisible divers

WHAT'S THE VIS LIKE? It's the first question many divers will ask. Visibility is important. We like to know how much we're going to be able to see.

Unfortunately those guesstimates of underwater distance tend to be wildly subjective or woefully inaccurate. One diver's "Great vis – 10m-plus!" is another's: "Couldn't see my hand in front of my face – total disaster."

The flipside is that the more we can see, the more easily we are seen. Ideally we'd like to glide through the underwater world seeing all, but remaining invisible. Like watching *Blue Planet*, but wetter and weightless. Naturally those very sea creatures that we hope to approach and observe will have spotted us coming. And have scarpered.

This is entirely unsurprising. Despite widespread adoption of a stealthy-looking black colour for much of our kit, divers completely fail to go unnoticed. Far from that black wetsuit or drysuit transforming us into Ninja-mode, a clumsy black blob with a yellow cylinder is just a hazard sign wearing fins.

Mostly we only ever manage to "disappear" from our buddies, for whom our invisibility is not a superpower but a pain in the arse.

But some divers have almost accidentally stumbled onto a way of becoming more "invisible". It's the closed-circuit rebreather. And it's quiet. The marine world had long figured out that anything sounding like Darth Vader on *shisha* should be avoided, whereas a clumsy black blob with a yellow plastic box is a bit of a curiosity.

It's hardly news that the sound of bubbles makes you stick out like a sore thumb under water. Anyone who hunts fish with a speargun will tell you that freediving gives you a massive advantage when stalking your prey. For about two minutes at a time.

However, the average scuba-diver regards these people as fish-assassins; deeply suspect and borderline criminally insane. Whatever they claim or recommend will be discounted as toxic and ignored.

KNOWING THAT THE SOUND of a scuba-diver is far more offensive to fish than our clunky appearance should be a breakthrough. However, those of us who dive on rebreathers are usually technical divers – divers who like deep, dark dives, mostly on wrecks.

This means that those divers best placed to get close to the marine life are mostly those with the least inclination to do so.

It's all very well being invisible to fish, but torches are a must if you're going to get involved in deep dives. So we give up "invisibility" to see.

Wouldn't you know it, the creatures that live in the gloomy wrecks are quite partial to a nice bright light.

While scuba-divers on the reef are desperately stalking the marine life, rebreather-divers on a wreck are fighting off the unwanted attention of giant conger eels; desperately trying to lose an uninvited "buddy" who is becoming a pain in the arse.

Who are these divers who have taken on the superpower of invisibility? We dress in black, we have the stealth of ninjas – the ability to "disappear" under water. That box on our back looks like some kind of mutant turtle-shell. Anybody would think we were made-up creatures. Maybe even a cartoon.

LOUISE
TREWAVAS



BE THE CHAMP!



Autumn brings opportunities for seal interactions in home waters. Dive in the right place at the right time and you could get some unforgettable photos, says **ALEX MUSTARD**, and this is where fieldcraft comes into its own

'Seals are pretty easy to shoot, and how friendly they are is probably the most important factor'

A **SAUTUMN STORMS** blast the balmy days of summer away, the main chill I feel as a diver is from the realisation that my options are reducing, especially so in these days of restricted international travel.

However, for those in the UK there is a real reason to rejoice, because the best season for seal-diving is just getting started.

Fortunately, British seas are a real stronghold for seals. We actually have two resident species, the common/harbour seal – which is less common, rarely seen in harbours and only seldom seen by divers – and the far more affable grey seal. Britain is home to almost 50% of the world population of grey seals; our coasts are vital for this species.

Grey seals are found all around our coasts and provide underwater encounters in all four nations of the UK.

Despite Scotland having the most seals, the remoteness of many of the colonies and the fact that salmon farms have long shot seals means that the top three locations for seal-dives are in England, albeit in opposite corners.

The Scilly Isles off the tip of Cornwall have lots of sociable seals, but the location doesn't really cater for day-trip divers and the archipelago gets the brunt of any stormy weather.

Lundy Island between Devon and

Pembrokeshire has only a small population of grey seals, but they are especially friendly.

The steep island provides good shelter from westerly winds, although rough seas can make the long crossing impossible as the season goes on.

The Farne Islands, off the Northumberland coast, are close to shore in the cooler waters of the North Sea, and support a very large seal population. Their easy access and relative protection from westerlies make them the best choice for an autumnal seal shoot-out.

Once we have the right season, we need to pick the right days, especially with the tide.

Try to avoid booking a trip that will coincide with falling and low tides, because it is more likely to see them hauled out of the water on the rocks.

High tides definitely force more seals into the water, although I should stress that I have had special dives at all states of the tide and done plenty of high-water dives on which the seals have remained distant.

Great weather can be a bonus for photography in the shallows. In summer, hot weather does encourage the seals into the water, but in autumn it is unlikely to be a factor.

Finally, give yourself more than one

STARTER TIP

Chasing seals will always drive them off and never produces memorable shots. Instead, stay still and ignore them – it often seems to drive these naturally inquisitive creatures crazy. And soon they will be bothering *you* for a photo!

Right: This seal was chasing my fin, which I pulled out of frame just before shooting.

Taken with a Nikon D850 and 13mm fisheye. Subal housing. Retra strobes. 1/60th @ f/14. ISO 320.

chance. I usually go for two days of two dives each, which usually results in one humdinger, two decent dives and a dud!

THIS SEASON IS best for seals because it is when they are at their most interactive, providing the best photography opportunities.

Seals are pretty easy to shoot, and how friendly they are is probably the most important factor in how good our shots will be. Grey-seal pupping and mating seasons are autumnal, and it makes the seals more sociable with each other and with us!

The pupping season starts earliest in the south, kicking off in August in the Scilly Isles and as late as November-December in Scotland.

As well as helping our images, social seals make these dives the most fun you can have with your drysuit on. It is always amazing when any wild animal seeks us out, and when they go on to interact with us it is even more special.

You can't force a seal to play because they are much more mobile than us, so interactions are always on their terms.

We all want to be the diver who gets the most action, and the most important rule is to not chase around after them and wait for them to come to us. In fact, the less interest we show them the better.

I once explained this cold-shoulder seal strategy to a French photographer 🐾

Left: Friendly seals allow us to take a wide range of pictures.

Taken with a Nikon D5 and 15mm fisheye. Subal housing. No flash. 1/500th @ f/22. ISO 500.

MID-WATER TIP

Think about the types of images you want before the dives so you are ready with the correct techniques and strobe positions, when the action starts.

Many seal interactions are in the shallows, so do try some available-light shots, which can be colour-corrected or transformed to black and white. Try to keep the shutter speed above 1/125th to keep movement sharp.







buddy (female), who neatly summarised it: “Ah, exactly the same as when a woman is angry with her husband.”

That might make more sense to some readers than others.

We can attract seals further with a little flirting. My preferred method is to float head down in the kelp and waggle one of my fins up in the water.

Seals love creeping up on our blindside and tugging on our fins and this method makes them even keener.

Once they’re playing I flip around, almost sitting up, and shoot them as they buzz around my fins.

I even wear specific fins for these dives – some old light grey, floppy split-fins, which the seals love. They clearly prefer brightly coloured and flappy fins over rigid black ones.

They also feel more comfortable around divers who don’t flap about – the trick is to stay still and just wiggle the very end of a fin.

MY STRATEGY IS entry-level compared with those of the real expert: videographer, seal researcher, GP and all-round top guy Ben Burville.

Ben must have logged more hours under water with grey seals than anyone in history. In fact whenever seals are featured on the TV you can bet that he has been part of the production, and his Seal-Diver videos are social media stars on Twitter and YouTube.

Above: I drew this seal to my camera by wagging my left hand while shooting.

Taken with a Nikon D850 and 13mm fisheye. Subal housing. Retra strobes. 1/60th @ f/14. ISO 320.

Basically, he is seal-catnip in human form and can seemingly make any seal instantly adore him and pose perfectly for his camera.

Anyone who has seen Ben’s amazing footage will want to know how he does it? So I asked him! “There is no magic, it’s mostly common sense,” he says modestly. “The basics are more important than any of the tricks. Things like swimming and breathing slowly and smoothly with good buoyancy control make you much more attractive than someone who is all arms and legs.

“You usually first know that there’s a seal around because it’s tugging on your fins, and it has probably been sniffing your fins for several minutes.

“If you’re kicking your legs all over, it will go to someone else.”

“When you see a seal looking at you, don’t swim directly towards it,” advises Ben. “Close the distance in a game of hide and seek, ducking down into the kelp, moving out of sight and piquing its curiosity.”

ADVANCED TIP

Most photographers prize close-up portraits and gaping mouth shots most highly. But in the autumn we have the chance to catch a lot of natural behaviour, especially courtship and mating.

Don’t make the aim of all your encounters to get the seal interacting with your camera – there are even better shots to be had when they interact with each other.

When diving as a group, it’s worth making sure that everyone buys into the same philosophy. One person charging around can ruin the experience for all.

“Start by settling on your knees among the seaweed and minimise any unwanted movements. Then try using a deliberate, vertical wave of your hand.

“These slow vibrations seem to attract a seal’s attention, and when performed near to your camera can even be used to draw the curious seal into your desired composition.”

Less is more, and the seals also like it when we just hold our arm out straight with a fist for them to sniff.

“Seals are a lot brighter than people think. They are social animals and they are incredibly inquisitive,” says Ben.

“They will even grasp onto us with their flippers, which are like human hands. Wear warm kit and be prepared to spend a long time in the water.

“The seals need to feel comfortable with you, and often the best encounters occur at the end of dives.”

Finally, with all this talk of getting close, we must never forget that these are wild animals. They are big, powerful predators and should be respected as such. It’s easy for us to compare them to dogs, but my dog weighs 12kg on a good day, while a male grey seal weighs 220kg!

As Ben says: “Most importantly, respect these animals and you will find them remarkably accepting.”

You don't have to be a natural water child to want to be a scuba-diver, but some people do need more nurturing than others along the way. Persistence pays, says **NATASHA ROBINSON** – and, counter-intuitively, learning in challenging waters can help too



ZERO TO HERO IN MY OWN GOOD TIME

OVER LUNCH I WAS ASKED, as I often had been before: “When did you learn to dive?” I replied that “my first attempt was in 2005 but I actually qualified in February 2009”.

I looked up from my sandwich to find all my students staring at me, a little bemused.

I explained. I had never been a natural in water. Neither of my parents could swim, so I had never really learned. Swimming was a struggle, and I didn't like being out of my depth or putting my face in the water, so my technique was shocking.

I spent many years snorkelling with a noodle float, and I still won't duck-dive voluntarily (for demonstration purposes only!). But I had been mesmerised by what I had seen under water and on programmes such as *The Blue Planet*. I desperately wanted to see more, so I decided to learn to dive.

In 2005, having read all the brochures and believing what they said, I travelled to Egypt to learn to dive in fabulous conditions that I thought would make it easier for me to succeed.

It was a nice resort with a dive-school nearby, and it was just me and one other person on the course. I worked through all the theory and did OK with the knowledge reviews and exams, so off to the pool we went for the swim tests.

Hmm. Not a great start. I puffed and panted my way through the swims, using a combination of backstroke and doggy-paddle. I eventually completed the requirements but I was exhausted.

Treading water quickly followed. I had never been great at this either. I could feel my anxiety levels rising, and each time my head sank below the surface I panicked a bit more. In the end I had to stop.

The instructor muttered some words of “encouragement”. She said I could come back to the exercise later because we needed to hurry up – we had only a few days to complete the course before I had to travel home.

WE MOVED ON to some skills practice. I was quite pleased with my partial mask flood and clear, because that was a skill I had been dreading.

On we moved to regulator removal and

replacement. I watched the demo closely and, when asked, took my turn.

The regulator came out of my mouth fine but I couldn't open my mouth to replace it. The fear of water rushing in was too much and I shot to the surface (stood up).

The instructor joined me, told me off for holding my breath and eventually asked what my problem was.

After a few more “encouraging” words, we descended to try again.

I could feel the instructor and the other student staring at me because I was being so slow. It's easy, right? I knew that I was starting to hyperventilate and panic, and again stood up.

The instructor asked me whether I actually wanted to learn to dive, because I didn't really appear to be trying.

That finished me off. I moved to the side of the pool, sobbed and said that I quit. She just said “OK”, seeming happy to have off-loaded her needy student, and sank to concentrate on her more able one.

My confidence had taken a beating but I still held onto my dream of learning to dive one day.

Above: First dives in Egypt – more practice needed.

MY STUDENTS were still staring at me, a little confused to be hearing this from their instructor. I continued.

Fast forward to October 2008. I was on holiday in the Maldives island resort of Chaaya Reef Ellaidhoo. Snorkelling every day had fuelled my desire to learn to dive, so I booked a resort dive / Discover Scuba session in the sandy lagoon.

All I wanted was to sit under the water, breathe and, if I felt relaxed enough, perhaps try a mask-clear or a reg removal and replace. I needed to rebuild my confidence, and my instructor Adam was happy to let me do that at my own speed.

What a different experience! There was no rush and I was made to feel relaxed and under no pressure.

Adam exuded patience and empathy. I received genuine encouragement and the very helpful advice that I could try to use my tongue as a splashguard when replacing my regulator.

This minor step in the skill had either been missed or poorly explained before, but now seemed obvious and made all the difference. Success!

My confidence had grown and, once again, I believed that I could learn to dive.

I booked a second resort dive, we did the same again and then went for a short dive on the house reef.

Adam was completely in control of my buoyancy but I didn't care. I was too busy looking at moray eels, sleeping sting rays

and the loads of fish life. This sealed the deal. I was going to be a diver but I would learn in the UK at my own pace.

BACK IN THE UK I phoned a shop in Lancing, spoke to a very helpful chap called Graeme Pace and recounted the traumatic tale of my attempt to learn in Egypt a few years earlier.

Graeme invited me to come in for a chat. A week later I was at the shop to hear how Oceanview could help me overcome my fear and achieve my ambition.

After about 45 minutes I was signed up for my Open Water Diver course and Drysuit speciality to start in January 2010, and had reserved a place on a club liveaboard trip to Egypt in August to complete my Advanced Open Water Diver.

With my new-found confidence and Oceanview's understanding and encouragement, I was convinced that I could finally realise my dream.

I have happy memories of my OWD training in Brighton Marina that February 2010, the water a chilly 2°C and ice on the ground. My instructor remained patient, explained all the skills and ensured that I understood the key elements.

I was thrilled when he told me that I had qualified. Finally! Being free of that holiday deadline pressure had allowed me to relax.

This success opened the floodgates of my enthusiasm and I booked on to a Peak Performance Buoyancy course, because both my technique and confidence in my own ability still needed a lot of work. (I recommended this to my students as the next course they should consider after finishing their OWD.)

I completed my AOWD in Egypt that August (Deep Dive on the *Thistlegorm* and Wreck Dive on the *Carnatic*, amazing!) and recognised that I was still not a great diver but wanted to be more than just a holiday diver.

I love holiday diving – wetsuit, 2kg of lead, bliss! – but I needed more practice than a single annual holiday could offer me. Besides, the UK has so much to see, and living on the South Coast put its dive-sites on my doorstep.

Below, clockwise from top: A Plymouth club trip; a tompot blenny under Swanage Pier; guns on a Scapa Flow wreck; a nosy seal at Lundy island; finning over a wreck at Scapa.





“So what made you want to become an instructor?” one of my students asked.

In January 2011, as part of a club event, I attended a Discover Instructor Experience with platinum course director Steve Prior and Janet Prior. This provided a great insight into the life-changing potential of being an instructor.

I have always enjoyed teaching, helping others to learn and grow their skills. I used to be a gymnastics coach and have taught IT courses for many years (yawn).

I decided that I wanted to be a dive instructor and to help others who, like me, struggle with what some find easy.

I wanted to be the type of instructor I should have had back in 2005; one who could have spared me missing out on four years of amazing diving experiences.

I needed to develop my skills, so over the next few years I completed 11 specialities, with my Master Scuba Diver, Rescue Diver and Self Reliant Diver courses all primarily in the UK.

The learning still didn't come easy and I would get anxious about my own ability, but I learned to pause, take a deep breath, and give myself a stiff talking-to (mind over matter!). I would not give in to what were usually random, unfounded fears.

To help boost my skills, build my confidence and have fun I dived many UK locations including Plymouth, Scapa Flow (lots of stiff talking to myself happened there!), Swanage, Lundy, Teignmouth, Selsey and the Channel on my doorstep.

There were also trips to inland training sites: NDAC, Wraysbury, Snodland and Divers Cove. And I confess to some warmwater dives as well, in locations such as the Maldives, Egypt and Truk Lagoon.

I finally qualified as a Divemaster in April 2015, which was tough. It had only taken me three years to complete the course, but I had learnt so much.

I kept putting off my nemesis of the swim tests, hence the delay, but when I took them I did better than I had expected.

I enjoyed being a Divemaster, able to mingle with the trainee divers and try to make them feel relaxed, boost their confidence and celebrate their achievements. It was hard work but hugely rewarding.

The joy on a trainee's face when they had achieved something they thought they couldn't was a real rush.

SO SIX YEARS and 453 dives later, with the guidance, training and support of the Oceanview team, on 10 September, 2016, I started my Instructor Development Course in the UK with Steve and Janet.

Joining me on the course was Dan, and this was no ordinary IDC. We were among the first to participate in the new

Above, clockwise from top left: Celebrations at Wraysbury with a group of newly qualified students; a group hug for Team Prior at a chilly Vobster; studying hard in the classroom; practising teaching skills in the pool.

Below: Celebrations at Vobster.

combined PADI IDC and OCR Level 3 Diploma in Management – learning to instruct and also to run a dive business. Why do anything by half?

Over several days and weekends (and with lots of late nights of self-study) Team Prior coached, encouraged and guided us through all the materials, questions, standards, physics (yuk!) and practicals to equip us with the skills and knowledge needed to become awesome dive instructors.

We learned about teaching students to perform skills neutrally buoyant (while swimming about), how to deliver a briefing that actually was brief, cutting out the irrelevant and focused on the necessary. And we got to design, price and plan the marketing of our own course to understand what running a dive business would be like.

In December 2016 the weekend of judgment arrived. The Instructor Exam weekend coincided with an unseasonably chilly snap, with temperatures dropping well below zero overnight. I had left my damp weight-belt with lead-shot pouches in the car overnight and it froze.

I had to put it in the lake to defrost so that it would bend around my waist.

Five candidates with associated course directors, staff instructors and moral-support teams sat in a room at PADI HQ in Bristol at 7.30am, eagerly awaiting the orientation briefing that detailed the schedule. I began to realise that it would be a long weekend!

Saturday involved examinations, presentations and pool sessions in Bristol, while Sunday brought open-water sessions, rescue scenarios and



briefings at Vobster.

Steve had thoroughly prepared us for what was to come. I just needed to remain calm, breathe and do as we had rehearsed.

I read the exam papers carefully. Fresh v salt, gauge v absolute, “the effect”, flexible v inflexible.

Making sure to include objectives, key skill steps, safety information and reassurance in briefings/debriefings and being extra-vigilant during dives to spot the staged errors from my “students” (the other IE candidates). It was exhausting physically and emotionally.

By mid-Sunday afternoon, all that was left was the debrief with the examiner of the last dive of the exam. I waited to be called. A massive shout-out to Kieran, one of the moral-support team, for registering that I was struggling and offering much-needed encouragement at this critical moment (so demonstrating dive-instructor skills at their very best).

My name was called. My mind raced. Had I missed something? Would I fail? I delivered my debrief and congratulated my mythical students on doing so well.

There was a long pause. The examiner extended her hand across the table towards me and, with a big smile, shook mine and said: “Congratulations Natasha, you have passed, well done!” What a rush



Above: Natasha receives her NVQ Level 3 certificate.

of emotions! I had to apologise to the examiner for blubbing like a baby, but I had realised my dream of being a PADI Open Water Scuba Instructor.

ZERO TO HERO in, er, six years and 456 dives – rather than, as you see in the warmwater location adverts, 12 weeks and fewer than 100 dives all carried out in perfect conditions.

I checked our surface-interval time and told my students that it was time to finish lunch and kit up for their next dive. They nodded, smiled and started to get ready.

I feel strongly that my own struggle with learning to dive has made me a much more understanding instructor.

I really had to work to overcome my

own challenges all the way through my diving, so I appreciate that anyone who is terrified, but still determined to learn to dive, is already made of stronger stuff than many others.

What they need is support, understanding and encouragement. Small wins lead on to massive achievements with the right care and nurturing.

This belief was reinforced in December 2018 when I received a certificate of recognition from PADI, following some excellent feedback from one of my OWD students who had needed that extra encouragement and support to achieve her diving dreams.

I also believe that learning to dive in the UK has made me a better diver. The conditions can sometimes be challenging but you learn to take that in your fin-kick.

This is then rewarded by seeing the imposing silhouette of the rudders of the *Markgraf* rising above the seabed at Scapa Flow, or being mobbed by seals in Lundy or finding the adorable tompot blennies that live under Swanage Pier.

Diving with basking and blue sharks and seeing a seahorse in UK waters remain for now on my bucket-list.

For those who have yet to take the plunge, I recommend it. You’ll be surprised by just how much you can see. ▣

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ZIHUA SPLASH!

Above: Ali back-rolls off the dive-boat.

Below: The spotted pattern of a guineafowl puffer against a watery-green backdrop.



ALI POSTMA spent a week on Mexico's southern Pacific coast – less of a megafauna destination than the north but distinctive in its own right. Here's a day in the life at Zihua – additional photography by **JOEY POSTMA**

stayed true to its maritime traditions.

With its beachy-keen atmosphere and fresh-off-the-boat seafood cuisine, this west coast haven lives and breathes the ocean. It's a refreshing change from quintessential touristic spots, and even more so for a diver.

Fewer than 24 hours after touching down at the quaint Ixtapa / Zihuatanejo international airport, my husband Joey and I were on a dive-boat heading out into the topsy-turvy Pacific ocean.

We had come to Zihua for some diving and, by golly, we wouldn't waste a second.

As we puttered out from the harbour past colourful fishing-boats anchored on floating buoys, I was able to take in my exotic new surroundings.

The crescent-shaped landscape of Zihua and its environs consisted of leafy trees and green hilly jungle, dotted with elaborately constructed properties.

IF YOU ASKED MR TO PINPOINT

Mexico's famous diving locations on a map, I could do it in a heartbeat. As an avid scuba-diver, hot commodity destinations such as Cozumel island and the Baja Peninsula are very familiar territory.

The small municipality of Zihuatanejo on the other hand – that is a whole different story.

It's nestled on the ocean-front, along the unstable coast of Guerrero, and few travellers arrive there by chance.

For most of its existence, the quiet fishing town of Zihua, as it's known, has





Clockwise from above: Silvery grunt swimming in unison; a coral hawkfish; a blenny burrowed into the coral; jewel moray eel in its rock crevice.

Below from left: Camouflaged scorpionfish on the seabed; *Tambja abdere* nudibranch; black-nosed butterflyfish.



The buildings cascaded down along the rugged mountainside, framed by a series of golden-sand beaches that were just as I had seen described online - peaceful, protected and brimming with blue water.

But my picture-perfect moment was short-lived. As we exited the shelter of Zihua's protected bay, my aspirations for postcard-worthy water as found on the Caribbean coast, was shattered.

Here, white-capped rollers rocked our boat in a disturbing manner and the water looked so dense with plankton that it showed in hues of emerald-green and brown.

It had me seriously questioning how good our diving experience would be.

AFTER THE BUMPY ride to the dive-site Morros de Chato, the captain positioned the boat in a relatively sheltered location before signalling us to complete our preparations.

I back-rolled in as Joey, seated across the boat, did the same. The divemaster gave our group of five the OK sign and we slipped beneath the waves.

I had trouble getting my bearings. Up, down, swoosh! Up, down, swoosh! I had hoped to leave the choppy swell at the

surface but the ocean had other plans.

It was as if we had landed in a rhythmically pounding washing-machine.

It was a process, adapting from recent diving excursions in Bonaire to the savage and unpredictable Pacific.

Then again, Bonaire has a reputation for some of the easiest and calmest diving conditions in the Caribbean.

My body felt clunky and awkward, between the camera gear strapped across my chest and the tank on my back, and I found myself constantly fidgeting with my buoyancy in an effort to avoid bashing into fellow-divers before we distanced ourselves towards the back of the group.

As we sank deeper along the rocky escarpment of Morros de Chato the pounding wave action lessened and relieved my exasperated mood. I had been too distracted to take in the fact that the water was vibrant with life.

The temptation to start shooting was great, but if there's one thing I've learned about diving in new environments, it's that sometimes it's best to sit back and let Nature unfold before your eyes.

Black-nosed butterflyfish swirled before my mask, their zesty yellow coloration a nice contrast against the green water.

They fluttered from one rock to the next, picking away at the algae.

There were countless grunt, chromis and even the occasional jack.

My favourites, however, were the guineafowl puffers, with their navy-blue colouring and intricate white-spotted patterns. It made me chuckle to watch their pudgy bodies as they appeared to bounce around in the current.

As I enjoyed the fish-filled spectacle a slither of movement caught my eye as a moray eel disappeared behind a rock.

I turned my attention to what I had thought to be a barren rocky bottom only to discover that it too teemed with things to see. Beautiful constellations of seastars, unlike any species I had ever seen, littered the seafloor.

A camouflaged scorpionfish was another bottom-dweller that was a delight to find. Convinced that they are masters of disguise, they have no fear of divers, so I was able to get close to capture a shot of its white and pink fringes and pouty lips.

What had begun as a formidable adventure in rough water had turned into one of the more species-rich dives I had experienced. I was a little crestfallen when it was time to ascend.





On our second dive at Solitary Rock many of the species we had seen on the previous dive met us at the bottom.

Silly deflated pufferfish, serious-looking snapper and bashful Moorish idols – the ocean seemed to have an intelligence of its own and the fish were plentiful.

Halfway through the dive I spied something glittering in the distance. Was it the sun reflecting oddly on the surface of the water? We followed Solitary Rock's craggy escarpment to investigate further.

Finning closer to the shining, a large school of chere-chere grunt materialised, almost as if dancing in the swell.

The ball of several hundred fish moved over the uneven seabed and across the dive-site's rocky wall. Where

the shimmering fish-wall moved, the rest of the landscape just seemed to disappear.

Out of the blue the movement in unison of the chere-chere grunt was interrupted by the graceful flapping of a spotted eagle ray. With its unexpected arrival the grunt began swimming in disarray while attempting to flock together for protection. It was scaly chaos.

AS IF THE DIVE wasn't exciting enough in the shallows two strange-looking elasmobranchs revealed themselves. I had never laid eyes on a guitarfish before, an animal that looks to have the body of a shark and the flattened head of a sting ray.

Watching as they rested on the bottom, we enjoyed several

minutes close to these strange-looking creatures. But they dispersed like bullets when they realised that intruders had approached.

Speeding back to the harbour we caught glimpses of water-spouts in the distance. Humpback-whale season was just coming to an end in Zihua.

We were fortunate enough to catch sight of a few stragglers returning north to the cold waters of Alaska for the summer.

Perhaps on my next visit to the Pacific coast of Mexico, I'll get lucky and catch a glimpse of one under water, but for now Zihuatanejo has given me everything I could want in a dive destination; photogenic macro life, new underwater sightings and a longing to return soon. █

FACTFILE

GETTING THERE ▶▶ Flights to Ixtapa / Zihuatanejo international airport.

DIVING ▶▶ : Dive Zihuatanejo, divezihuatanejo.com. All diving is by boat.

ACCOMMODATION ▶▶ Zihua offers a range of hotels, villas, resorts and Airbnbs depending on budget.

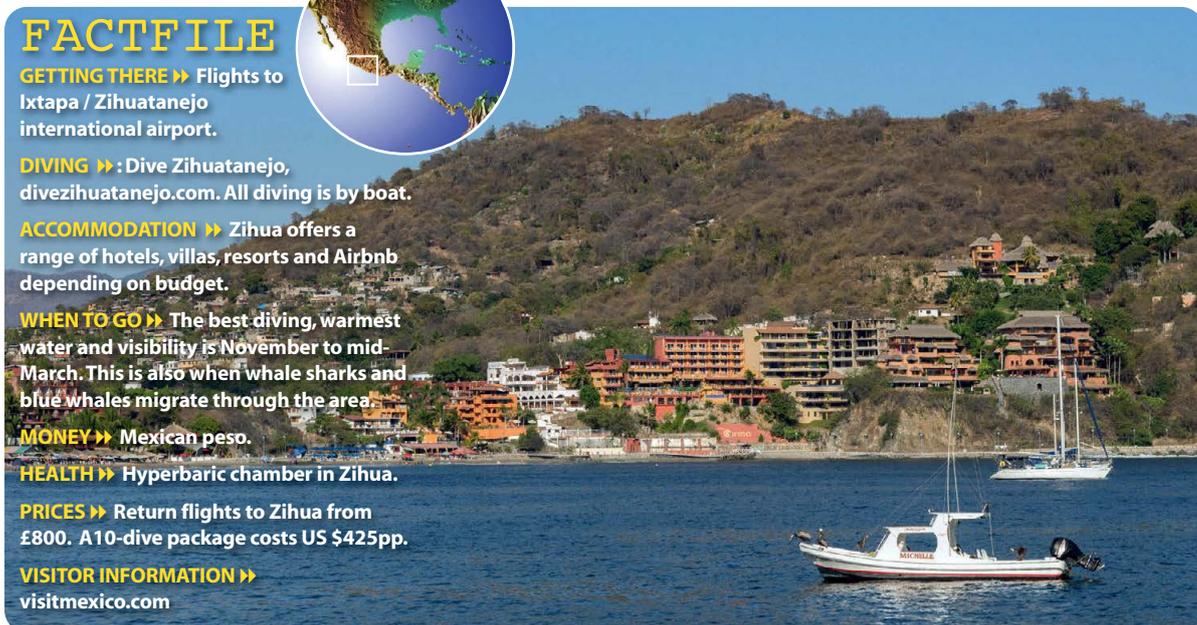
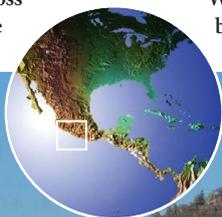
WHEN TO GO ▶▶ The best diving, warmest water and visibility is November to mid-March. This is also when whale sharks and blue whales migrate through the area.

MONEY ▶▶ Mexican peso.

HEALTH ▶▶ Hyperbaric chamber in Zihua.

PRICES ▶▶ Return flights to Zihua from £800. A 10-dive package costs US \$425pp.

VISITOR INFORMATION ▶▶ visitmexico.com



Above left: A speckled guitarfish rests on the seabed.

Left: A fishing boat moored in the protected bay of Zihuatanejo.

Below: Joey hangs off the boat post-dive.



DIVING THE GRENADIER

40

60

80

97

It's one of those wreck-finds divers dream of making, and it has it all – back-story, depth, even abundant marine life. Lance Horowitz describes it to **STEVE WEINMAN**; underwater images and scans by **JEAN LUC RIVOIRE**



BEN REMENANTS



Top: Sonar scan of the submarine wreck.

Above: Three of the dive-team, from left Benoit Laborie, Jean Luc Rivoire and Lance Horowitz.

Left: Launch of USS Grenadier in 1940.

“WE WERE EXCITED, BECAUSE as we got closer and closer we’d had a pretty clear image with the side-scan, and also a pretty good image with the down-scan. That had got our hopes up.” Lance Horowitz is describing the first dive on what seemed a promising mark for a submarine wreck in the Malacca Strait, 80 nautical miles south of Phuket in Thailand.

“The site is exposed, with very strong currents. So we hooked it and went down the line. It’s a very large structure, sitting upright at 80m depending on the tide, and the conning tower and periscopes have been completely wrapped in big old

fishing nets that extend far above the wreck and sway in the tide.

“There were huge amounts of fish just feeding off the net and circling in the thermocline, where an upwelling of cold current hits the sub and shoots up into the warmer temperatures. The amount of marine life around us made it quite surreal. As we went down our lights hit the wreck, but we couldn’t see to the ends.

“The discovery was exhilarating and we knew we’d been lucky with the tides and currents, and in achieving our goal fairly quickly.

“But we were also remembering what the survivors had gone through during and after the battle. To be seeing that sub for the first time after so long was a very powerful feeling on multiple levels.

“It was just a beautiful dive – but it was really just a bounce-dive to check that it was what we thought it was. It wasn’t necessarily conclusive, because we didn’t have a lot of bottom-time available for swimming around.

“We wanted to believe that it was the sub but on such a large structure, strange to say, what looked like a large conning tower was covered with net, and though it looked to have a curved hull structure it could have been a boat lying on its side.

“We were trying not to speculate too much, but after that first dive we were addicted.

“We had to go back for longer, we had to be better prepared, we needed DPVs, we needed this and that... the excitement about the next dive just escalated!”



Above: Stern view of USS *Grenadier*.

Below, clockwise from top left: Top hatch on the conning-tower; capstan; portside torpedo tubes; propeller blade.

THE WRECK THAT HAD caused all the excitement seems almost certain to be that of the USS *Grenadier*, one of the 52 US Navy submarines lost during WW2.

The 94m Tambor-class *Grenadier* (SS-210), launched in 1940, was regarded as the navy’s first fully successful fleet submarine. Now, at dawn on 21 April, 1943 and on her sixth war patrol, under Lt-Cdr John Fitzgerald, she was pursuing two Japanese merchant ships off Phuket when a Japanese aircraft spotted her.

Despite diving to 40m she could not avoid being hit, sustaining severe damage, losing all power and lights and sinking to

the seabed. Imagine the tension as the crew worked frantically to repair the sub and avoid it becoming their tomb.

After 15 hours’ work they did succeed in bringing the submarine back to the surface, no doubt to their immense relief, but the damaged engines proved unable to propel it in any direction. They even tried to rig a sail, and managed to see off another aircraft attack.

But, seeing vessels in the distance, the captain then took the difficult decision to send USS *Grenadier* back to the bottom, to stop her falling into enemy hands.

The eight officers and 68 crew waited at the surface to be picked up by a Japanese armed merchant ship. They were taken to Penang for questioning before being sent to other prison camps along the Malay Peninsula and, finally, to Japan.

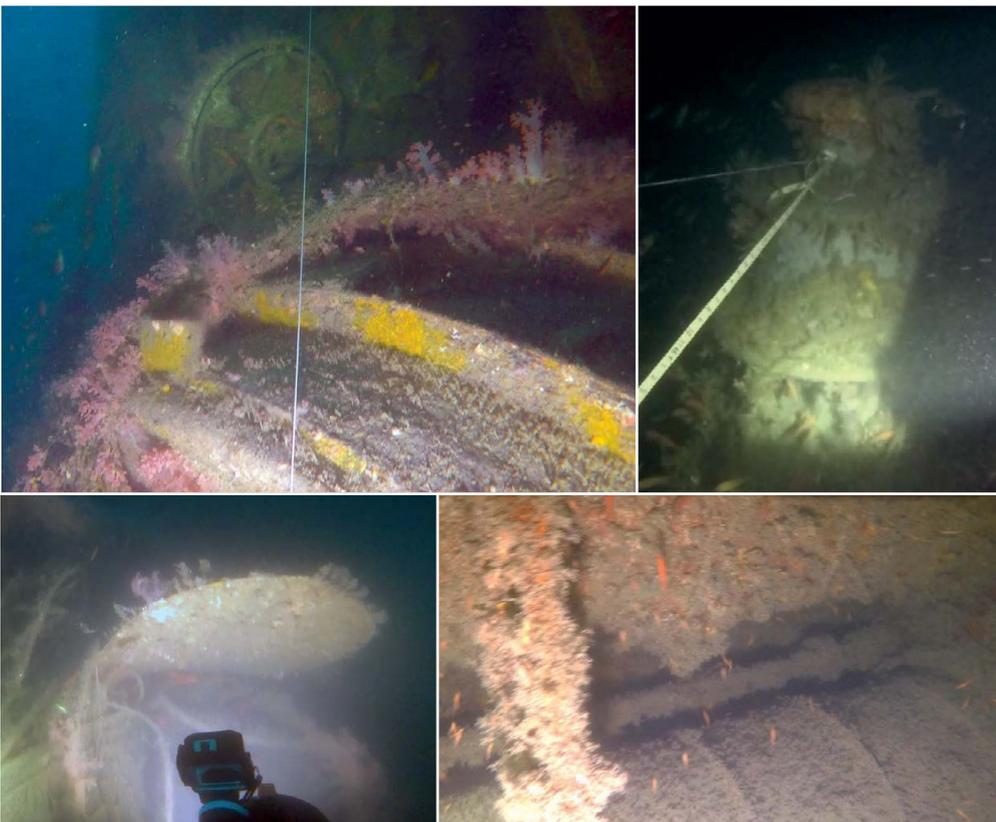
Despite being brutalised throughout the final two years of the war the men refused to reveal military information. Four of them never made it home.

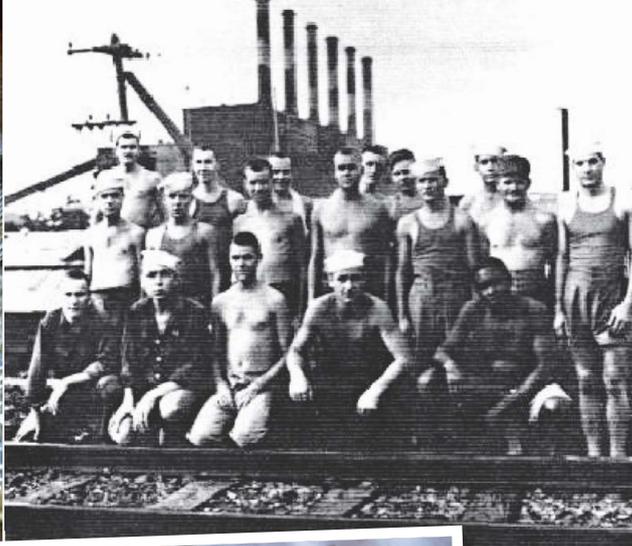
“We didn’t see the open hatches until the second dive, when we had the DPVs and more mobility,” says Horowitz. “That was our first clue. There were no torpedo holes in the wreck, no signs of massive explosions – and every single one of the hatches was open.” As they would be in the case of a deliberate sinking.

The submarine’s topside skin had been torn off, presumably by the nets and anchors of the fishing-boats, leaving the pressure-hull exposed.

After six dives on the wreck, the team of four technical divers is convinced that it has to be the *Grenadier* – all the more so because only three WW2 submarines are recorded as missing in the area.

The others are the British vessels HMS *Porpoise* and HMS *Stonehenge*, and they were respectively bombed and (most likely) mined later in the war.





Above left and inset left: Rheostat showing the words "OHMITE CHICAGO", the name of a US manufacturer.

Above: The *Grenadier* crew in a Japanese prison camp in September 1943.

Below: The sub in New Hampshire in 1941.

Bottom: Rivoire, Horowitz and Reymenants.



The divers only recently went public with the discovery, which they made last October, but for now they must wait for the identity of the wreck to be officially verified, once US Naval History & Heritage Command has carried out its due diligence and determined how best to protect the site.

THE FOUR DIVERS in the team got together to look for shipwrecks some three years ago.

"It's every technical diver's dream to find a piece of history – we train a lot for these challenging dives because we like to explore and find what is not easily accessible," says New Zealander Horowitz who, like Belgian diver Ben Reymenants, is based in Phuket.

The others, Frenchmen Jean Luc Rivoire and Benoit Laborie, are old

friends and partners in a Singapore-based energy business. Rivoire owns the yacht *Spirit* used for the expeditions, and Horowitz, who owns a yacht service business in Thailand, captained the vessel.

"We all had similar interests and we all had the dream of finding something interesting and doing some fun technical diving, so the plan started coming together from that," says Horowitz. "We hadn't found anything like this before as a group – or on an individual level either."

"We were basically looking for interesting historical wrecks, and with three WW2 submarines in the region we were hoping to find one of them.

"Ben had a collection of marks from fishermen that he'd been accumulating over the years, but there are hundreds of such marks on both sides of the Malay peninsula. A lot of them are rocks and it would be impossible to search them all. So we tried to cross-reference what we had with historical archives and accounts of battles to narrow down the search.

"The story of the *Grenadier* is well-documented, with books and the Japanese records. Finally, it was just down to a lot of mowing the lawn and looking out with the side-scan sonar for interesting shapes. That took two trips over about seven days all-up before we found the wreck-site."

The divers were all using JJ closed-circuit rebreathers along with bail-out



tanks. Reymenants used a Triton chest-mounted CCR as a bail-out rebreather.

Did the series of six dives go smoothly? "No, not perfectly smoothly!" says Horowitz. "It was harder than expected to hook the wreck – getting a shotline down wasn't that easy.

"It would be a bit stressful because we have fairly large tides in this part of Thailand, up to 3m, and on a spring tide it's a bit of a no-go, so we were pretty much restricted to slack and neap tides.

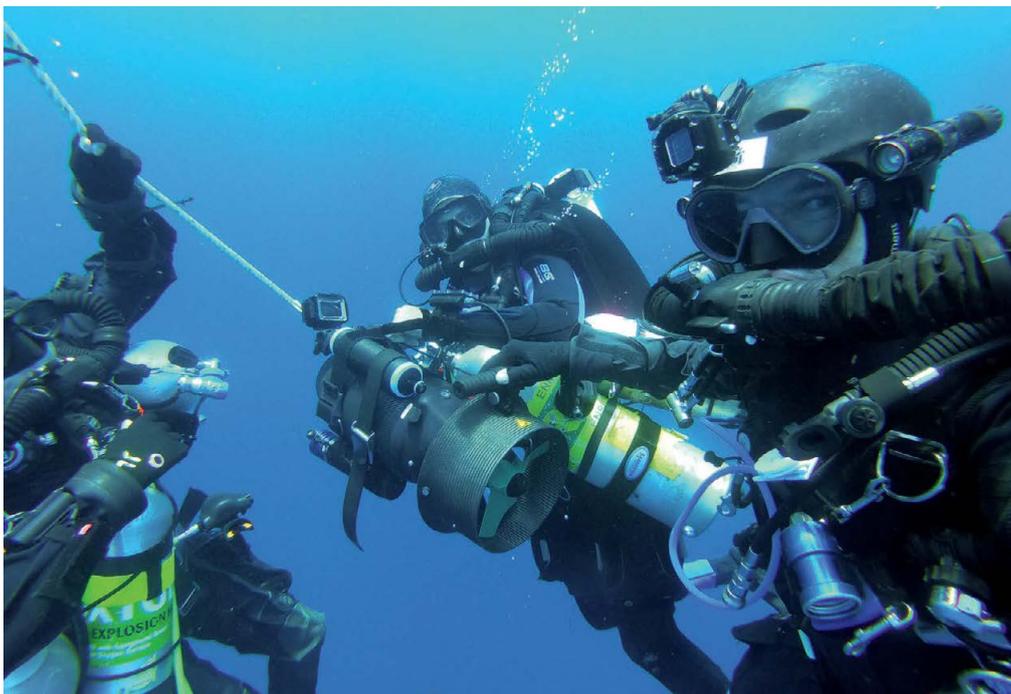
"Another complication was just getting the tides wrong sometimes, making it too difficult for us at the bottom.

"Big swells also made it complicated trying to stage tanks, and loading up that many tanks onto a dinghy was complicated by having so much motion.

"Jean Luc also had an entanglement issue on the wreck when his DPV propeller got caught up in net."

In the low visibility and particle-filled waters the risk of entanglement or losing the line was ever-present, as was that of drifting away in the powerful currents on long decompression stops.

The conditions were far from ideal for photography too, says Horowitz, but the team were armed with Paralenz and



BENOIT LABORIE



BEN REYMEYANTS

GoPro action cams to record the dives.

After the second foray the team requested technical drawings of the *Grenadier*, and the US Naval Department was able to oblige by sending those of a sister-sub.

And then the divers discovered a rheostat, an electrical instrument used to vary the resistance of a current. Horowitz says they were well aware of the official restriction on penetrating such wrecks, but had been able to reach inside to recover it in a bid to prove its identity.

The instrument turned out to be marked with the name of Chicago-based power-resistor manufacturer Ohmite, which has been making electrical parts for naval vessels for more than 90 years.

“On the last dives we scooted the whole length of the wreck with tape measures and line, taking precise measurements of key components like the conning tower, capstans and hatches, and sent them to the Navy,” says Horowitz.

NOW IT WAS TIME to scour the archives of 12 countries that might have had unaccounted-for submarines in the Malacca Strait. This was where Rivoire came into his own. “He read all the accounts, contacted every single historical archive that had an active submarine in WW2 – he was very diligent in his research.” Of the only three remaining possibilities, the wreck seemed a perfect match for the USS *Grenadier*'s description and dimensions.

“An unexpected surprise was that

when we released the story we had family members of the survivors contact us,” says Horowitz. “That was very interesting, and it’s only a shame that one of the last of the survivors passed last December.

“The relatives have seemed quite grateful that it brings a bit of closure to the story, and have also been very helpful and lent us journals and diaries full of additional information.

“One gentleman in particular told us that it had been a very powerful experience for his father serving on the submarine, with the scuttling and being taken prisoner, and he’s been able to give us a lot of information.

“He let us know how his father had scuttled the sub, and how the crew had actually left two of the torpedoes active, and had other devices inside that we hadn’t known about.”

The divers have not disclosed the wreck’s location and say they are co-operating with government agencies and following guidelines on war heritage sites.

Above, clockwise from top left: The camera gets a view through the forward hatch; the rear angled hatch; Horowitz, Rivoire and Laborie after the first dive.

Below: The USS *Grenadier*.



Uppermost in their minds are the well-publicised instances in South-east Asia of wholesale illegal scrapping of war wrecks for the valuable pre-atomic steel they contain.

“Protecting the wreck is one of our top priorities,” says Horowitz. “Making it a protected historical dive-site, maybe gearing towards making it a technical-diving destination, would be the best way to protect it. The US Navy would try to get the Thai government to support them in policing the site.

“I think if everyone knows it’s there it’s actually harder for looters to get away with spending a few days in the vicinity.”

“We have permission from the US government to dive it again, and plan to do so as soon as we can.” The team would particularly like to explore the guns, torpedo-tubes and periscopes.

“We would also like to go on looking for the other submarines at some point, but Covid restrictions have made it very difficult for us, with part of the team in Singapore and us in Thailand.”

FINDING DEEP SUBMARINE wrecks lost for decades is always going to excite divers, but what strikes me about this one is how Lance Horowitz keeps returning to the colourful impression left by the *Grenadier* wreck-site, the result of the wealth of marine life that now calls it home.

“The dive itself is quite stunning,” he says. “It’s made a really beautiful artificial reef teeming with marine life, which was quite surprising for us to find in the middle of nowhere.

“There was a lot more coral than you’d expect at that depth. There’s still a little natural light, the water is very nutrient-rich and we saw big schools of pelagics – barracuda, trevally, jack and sharks.

“We saw grouper the size of me inside the wreck, sticking their heads out of the holes, and big moray eels.

“There was as much or more marine life than you’d expect to find at a well-established shallow dive-site.”

It’s the wreck with everything, but for now it’s a matter of awaiting that official verification, and the chance to get out hunting those missing British subs. █

STILL THE GARDEN

Researchers on a five-year global reef-health mission were particularly excited about New Caledonia in the Pacific. Can their work help it to remain an underwater coral paradise? Photography by **KEN MARKS** unless otherwise credited

THE GLOBAL REEF EXPEDITION was a five-year research mission that circumnavigated the planet to collect baseline data on the state of its reefs and the threats they face.

And of the 22 separate missions conducted in the western Atlantic, Pacific and Indian Oceans, it was the reefs of New Caledonia that stood apart as some of the most beautiful and well-preserved, say the scientists, who brought back images to back up their claims.

The mission has now been completed and written up – Global Reef Expedition: New Caledonia Final Report was released in June. But the time spent in New Caledonia came early in the mission – can the combination of circumstances that made it so special stand up to the pressures of accelerating climate change?

New Caledonia is a French island group in the South Pacific, some 2000 miles east of Australia across the Coral Sea. Its marine-life-rich lagoon is one of the biggest in the world and the huge barrier reef around the main island of Grand Terre has made it a popular location with scuba-divers.

The expedition was run by scientists from the Khaled bin Sultan Living Oceans Foundation (KSLOF), a US-based environmental charity. They declared many of the reefs to be in surprisingly good health, even in places where that was not expected to be the case.

“Simply spectacular... incredible

diversity... remarkable morphology,” were among the comments of Dr Sam Purkis, KSLOF’s chief scientist and a professor at the University of Miami, after his dives in New Caledonia. But there, as elsewhere, he noted that “the reefs are gravely threatened by local impacts and climate change.”

KSLOF achieved two important objectives in New Caledonia, said Purkis. “First it mapped, using satellite, many of the remotest reef systems for the first time. Second, the field data collected by

the foundation set a baseline condition for these reefs that can be tracked into the future to understand change.

“We hope that future change takes the form of an improving condition of the reefs, as new conservation initiatives are sparked by the Living Oceans dataset.”

The KSLOF team worked closely with local experts, researchers from France’s Research Institute for Development and other marine scientists from around the world, spending more than a month at sea to conduct comprehensive surveys of

Below: Typically pristine New Caledonia coral reef.



OF EDEN?

Right, from top:
Diver and gorgonians;
undercut rock;
researchers on a RIB.

New Caledonia's reefs and fish, and creating detailed seabed maps.

The 14 American Academy of Underwater Sciences-certified divers would carry out at least three dives daily, each one averaging 65-70 minutes at average depths of between 9 and 30m.

Purkis also collected a certain amount of the data used for mapping topside using GPS equipment, drop-cams and satellite imagery.

The accuracy of the habitat maps was verified with the scuba surveys and drop-cam footage so that, even when making maps from satellite imagery, diving remained a critical component.

MORE THAN 1000 SURVEYS of corals and reef fish were carried out, and more than 1000sq miles of shallow-water marine habitats mapped in 10 locations, including reefs in the Entrecasteaux Atolls, Cook Reef, Ile des Pins and Prony Bay.

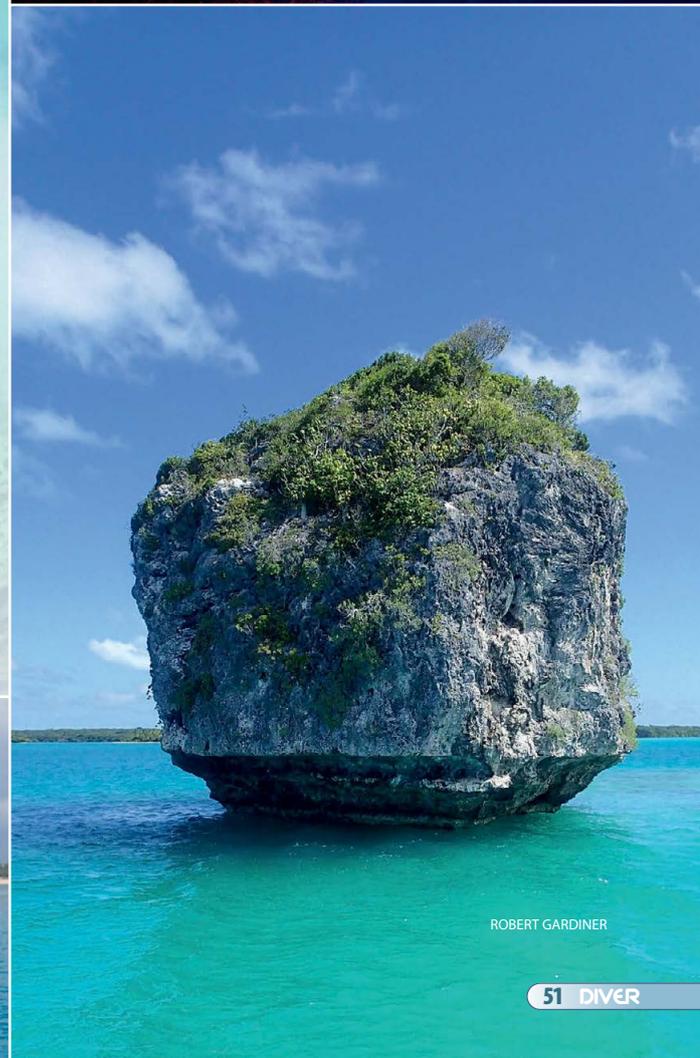
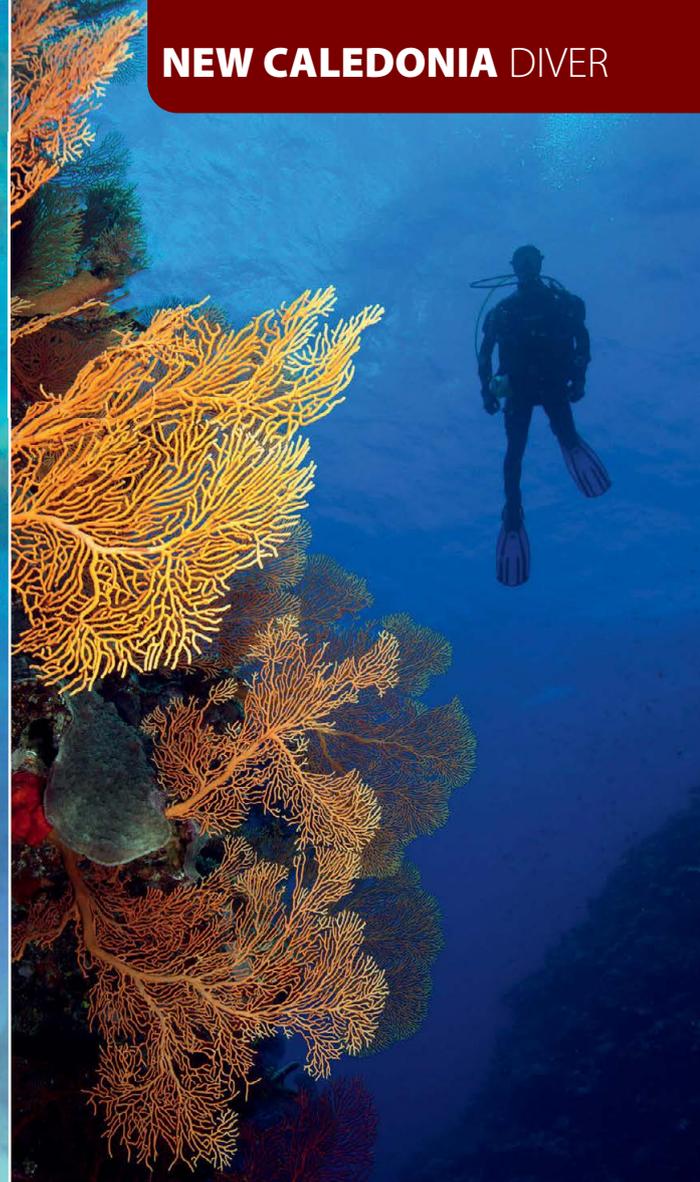
Most of the reefs turned out to be relatively healthy, with abundant and diverse coral and fish communities.

Those far from shore, or in marine protected areas (MPAs), were in particularly good condition, though many nearshore reefs showed signs of fishing pressure, with little sign of large or commercially valuable fish.

"One of our most surprising findings from New Caledonia was coral reefs thriving in unexpected locations, such as Prony Bay," says Alexandra Dempsey, KSLOF's Director of Science Management and one of the report's authors.

She was shocked to find such high coral cover in the bay's murky waters. In fact it was the highest live coral cover observed in the country, particularly unexpected given the nutrient and sediment run-off from nearby copper mines, and the presence of hydrothermal vents in the bay.

"Corals were surprisingly abundant in what would normally be sub-optimal conditions for coral growth," said Dempsey. "This gives us hope for the future of coral reefs. More research is needed, but this finding shows us that



ROBERT GARDINER



Above: Healthy fish and coral life.

Left from top: Fire clownfish; white-mouthed moray eel; coral meadows.

Below right: Remoras.

at least some corals can adapt to survive in high-stress environments.”

So why should the coral be so healthy in New Caledonia? “It’s at the eastern edge of the Coral Sea and to the south-east of the Coral Triangle, an area where the highest marine biodiversity in the world is found,” another of the report’s authors, marine ecologist Renée Carlton, told *DIVER*.

“There are many reasons why a coral reef may be considered healthy or successful, but it’s usually a combination of factors that play into this. Habitat structure, reef-fish populations and human interactions with the environment all affect the success and health of a reef.

“Ocean currents, water temperature and nutrient availability are just a few aspects that have contributed to the

diversity and success of the coral reefs of New Caledonia. Combining this with the conservation efforts there, they have remained healthy and diverse.”

The original dives took place in late 2013 but the world has changed as climate change has accelerated. Are the findings still valid?

“Yes, there have been many changes to the world’s reefs since this research was completed,” agreed Carlton. “However, this research – and all of the research done on the Global Reef Expedition – is vital to help understand the changes that have occurred since then.

“It provides essentially a snapshot of what the reefs looked like prior to the bleaching events. I have heard from other researchers in New Caledonia that some of the reefs have actually fared much better with regards to the global-





Above, clockwise from left: Red sea fans; Bennett's featherstars; Golden Shadow research vessel; blue clam; KSLOF team, including its 14 divers.

'THIS GIVES US HOPE FOR THE FUTURE OF CORAL REEFS'

bleaching events that have occurred since our research – although they were not unaffected.

“This makes this extensive survey of the reefs of New Caledonia even more valuable, because we may be able to better understand coral resilience as these global changes continue to occur.

“But we can't confirm that they're still the healthiest reefs in the world because we've not been back to resurvey since this data was collected.”

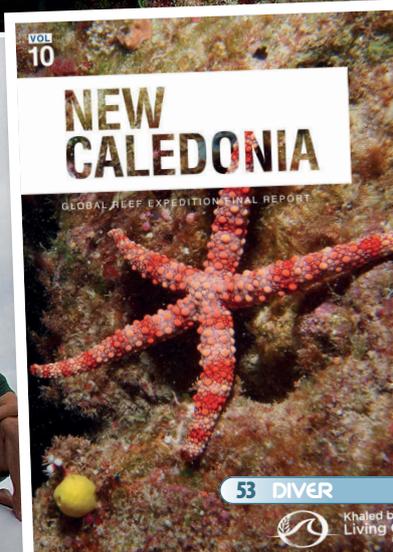
REASON TO BE HOPEFUL comes from the fact that New Caledonia is a global leader in marine conservation, say the scientists. The site of the world's second-largest MPA, they say it has made great strides to protect its reefs and coastal marine resources. The report includes baseline information on reefs

inside the Natural Park of the Coral Sea, an MPA established there in 2014.

The foundation says its baseline data can help marine managers to identify areas in need of additional protection, and allow ecosystem changes to be tracked through time.

“We hope the data will inform ongoing marine conservation and management efforts to protect coral reefs and fisheries in New Caledonia, so that these reefs continue to thrive for generations to come,” says Carlton.

As part of its commitment to Science Without Borders, KSLOF provides data to organisations, governments, scientists and local communities working towards sustainable ocean protection. The New Caledonia and other reports can be viewed at lof.org.





ON A COLLISION COURSE WITH IRMA

Prologue

SCREAMING INTO MY EAR OVER the terrifying cacophony, Jenn asks: “Are we going to die?”

I truly believe we are, as I’m sure she does too. I look into her eyes momentarily and see my fear reflected back.

I want to be strong, I want to be positive, but rather feebly I answer: “I hope not.”

Petrified and covered in the corner of the room with the storm raging all around and with what can only be described as buckets of seawater being thrown into my face, I close my stinging eyes, try to block out Irma’s terrifying 200mph howl and think, how did I get here?

With degrees in marine ecology and marine biodiversity, a criminal conviction that won’t go away and mounting experience as a dive pro, in 2017 **MARK R WILSON** started a job on a Caribbean island just before a hurricane struck. In his book *Irma: Life Lessons from the Worst Storm in Atlantic History*, he reflects on aspects of his life, good and bad, and shares life-changing encounters in and beyond the marine environment. Here are some extracts edited for DIVER...



Above: Hurricane Irma, shown in this satellite image about 15 miles west of Mark’s new home, St Martin.

Below: With the great white shark cage in Gansbaai.

Gansbaai, South Africa 1998

The white shark swims past the cage less than a metre away as I gaze into its large black eye. Some refer to such an eye as soulless. Not for me though; I see a huge, beautiful black pearl.

I am lost in that eye and, as I hold my breath under water and time stops, I feel calmer than I ever have. Nothing else matters; it is just me and Nature’s finest and perhaps most powerful animal, and as it regards me with that gleaming black gem I believe it understands me.

The white shark swims so close to the cage on its next pass that its pectoral fin comes inside the window and rubs along my chest. It touched me and, while it is against all the rules, I am desperate to touch it.

But it touched me; accident or not it still touched me and I’m elated and

connected. It soon comes back and heads straight for the cage this time; opens its mouth right in front of me and stays there with its teeth touching the bars.

This time I make no attempt to resist. I break all the rules, reach through the narrow window and with both hands rub the shark on the snout, and in the same manner you might rub a dog’s head.

Seeing the shark from the boat was fantastic, seeing it under water was incredible, but touching it even if just for a few seconds gives me a rush of pleasure. I can almost see the sensory information race to my brain and light it up like never before.

If I didn’t already, I now feel deeply connected with the shark and in turn with the ocean. I feel calm, relaxed, welcome, at home. I trust the shark and, unlike with people, I give myself over to it easily, freely and completely.





Utila, Honduras 2004

During the short walk to the dive-centre the anticipation of seeing another whale shark builds, and I can't wait to get into the water.

Along the way I pass Johnny's Water. Parked outside are numerous small blue delivery trucks in various states of repair and I can see Johnny inside filling out his tickets. To everyone's delight hummingbirds hover at the bird-feeders over the door, their wings a blur.

We cast off from the wooden dock and slowly make our way out across the natural harbour. We are soon passing the old airport and Pumpkin Hill looms as large as it can. It's not long before it's behind us, signalling that we're in prime whale shark territory, and looking for boils and circling birds begins in earnest.

"OK, who's ready?" shouts the divemaster enthusiastically a short while later. I for one am very ready. My mask is on, and all I need to do is slip on my fins and then slip into the water.

Four of us enter the water together and swim toward the shark amid clouds of baitfish, as tuna rise from below to pick them off.

The sun's rays penetrate the perfectly clear, warm water and dance their way over the backs of the tuna and deep into the blue. It is only a matter of seconds before the whale shark is visible, hanging straight down in the water with its mouth

just at the surface. It opens and closes its mouth like a huge bellows, forcing water and the hapless baitfish to pour in.

All too soon the peaceful scene is interrupted when a splashing and thrashing group of snorkellers swim between us and the shark; some perhaps within a few feet or so.

After a few seconds the shark sinks into a horizontal position and starts to swim. I swim with the group but no sooner does it start swimming than it dives.

I climb back onto the boat, annoyed that our experience was interrupted, and wonder if its quick exit was connected to the arrival of other snorkellers. I can see that there are three boats here now, full of

people hoping to see a whale shark.

Later, another cry of "whale shark!" comes from the captain and all aboard are busying themselves looking for their equipment.

I am scanning the surrounding water for a boil and/or a shark but see nothing until someone aboard shouts: "Here, here it is!" while pointing.

The shark is right next to the boat, less than 4m away. The boat has been positioned right next to the shark.

I am dumbstruck while others aboard leap from the boat all around the shark; I just cannot believe what I am seeing. This is no way to interact with Nature – suffice to say, I stay on the boat.

Below: Whale shark at Utila.



On the third day, and after seeing numerous sharks mostly from the boat, I can't help but speak to the divemaster.

"It's a shame the sharks don't stick around for longer, so we can all get a decent swim with them," I point out.

"Yeah, they pretty much always swim away when we get into the water," she replies casually.

"Do you think there might be a reason for that?" I ask, not attempting to be sarcastic but to prompt her to think about it if she hasn't already.

"Don't think so," she answers somewhat quizzically, "they just always do."

"There must be a reason," I suggest.

"Don't think so," she shrugs.

"I've recently seen whale sharks in Australia and Mozambique and had some really long swims there," I reveal.

"Everything was so well organised – I think you could easily do the same here."

"Yeah, but they always swim away," she repeats.

"In other places just one boat at a time approaches the shark at a safe distance and one group of 10 snorkellers enter the water at any one time. Everyone rotates turns in the water and everyone gets to see the shark."

"Maybe that works elsewhere," she answers, sounding a little fed up now.

"How about when two or three boats all turn up very close to a shark at the same time and it turns into a free-for-all – do you think that's right?"

"Everyone wants to see the shark, so you have to hurry to get a look before it swims away," she says by way of explanation.

I'm dumbstruck and can't believe she can't see it. I'm unsure if she is unwilling to accept that they are perhaps doing something wrong here, or if she doesn't understand.

Co-operation does not appear to reign here. I have no doubt that marine tourism is a good thing but any activity needs to be conducted mindfully and, first and foremost, with the animals' interests at heart.

Protea Banks, South Africa 2004

We ride the Baz Bus around the coast to Margate, about 60 miles south of Umkomaas where I dived on Aliwal Shoal in 1998. We have come here so that I can dive on Protea Banks.

Well-known within the diving community, Protea Banks is famed as a world-class shark-diving destination with the opportunity to see blacktips, duskies, guitar sharks, raggies; also hammerheads and bull sharks, known locally as Zambezis and, for the very fortunate, occasionally even tiger sharks.



Above: Mark with a dusky shark in South Africa.

Below: Hammerhead shark.

The dives on Protea are serious dives and very different from those at many other popular dive destinations around the world.

The dives are deep offshore drifts and are not for the new, the novice or nervous diver. Not because of the presence of sharks but for the combination of being deep, offshore, the current, the need for excellent buoyancy control in midwater, and the importance of staying together as a group. Also, to avoid missing the dive-site due to surface currents, having to make much quicker descents than are perhaps normal.

There might well also be a thermocline that can see the warm 24°C surface temperature abruptly give way to 15° water.

I didn't come here in 1998 because I was a newly certified diver at that time and didn't feel ready. I am certainly still a novice but I have been diving enough in the past few months that I feel ready for a diving challenge.

Trevor's briefings are heavily focused on all aspects of safety. He has a way of configuring divers under water and when he turns he expects to see you where he has told you to be.

There is no finning off to explore here, not even for a second. We drift together as a group and we must work if necessary perhaps across a current to maintain our assigned positions.

Dropping from the RIB to be greeted by two circling Zambezis is a great start to

any dive. As their curiosity builds they swim in ever-decreasing circles in a slow, almost lazy, calm and relaxed manner until both sharks are within a mere 2m of us. They stay and check us out for a while before moving off, with their curiosity perhaps satisfied.

Each encounter on Protea with the Zambezis is different; sometimes seeing only one or two and often groups of five or six.

During his briefings, Trevor always insists that dives are never over until we are back on the boat, and even on the safety stop we should keep looking down and all around, as you never know what might show up.

A dive not being over until it's really over proved to be very true for me while indeed on a safety stop.

As normal I am primarily looking down when I glance up to see Trevor pointing at me, or in reality behind me.

I turn to my right and am instantly greeted by a large black eye only inches away. It takes a second for me to realise that the eye belongs to a hammerhead.

I could have easily touched it but resisted this time and watch with a grin as it slowly swims past. After the dive Trevor was certain that had I not turned when I did, causing the shark to rapidly turn too, it would have casually bumped me in the back of the head.

There have been many memorable encounters on Protea over the years and, despite all being very different, they do all have one thing in common. Not once have I felt threatened by the sharks.

Each encounter on Protea served only to reinforce my love and respect for these fantastic animals and for the ocean.

Diving on Protea Banks has been my best, most memorable and rewarding diving. The unpredictability combined with the reward of seeing apex predators in their element under natural wild conditions means that Protea with Trevor and African Odyssey must be one of the best dives on the planet.

Saint Martin, Leeward Islands 2017

It is my first morning in Saint Martin and Chris, owner-operator of Octopus Divers, ties the boat to the buoy at the Japanese Gardens dive-site.

I listen intently as Chris gives the briefing to the guests, while trying to cover up the fact that I have only been on the island for about 15 hours.

We all jump into the water and make our way down the mooring line and find it attached at the bottom to a huge concrete block in 9m of water.

As per the briefing I follow a sand groove into deeper water, where I now



BAECHI/PIXABAY

have options in terms of depth and direction. I follow the reef down to about 15m and then decide to turn left and follow the reef.

Back on the boat Jenn, the divemaster trainee, quietly announces: "I can't believe we got back to the boat, I'm amazed – and how did you do that?"

"Thanks," I chuckle.

"I've been here a few times, and I didn't know where we were," she admits.

"Well, it's quite easy when you know how," I say. "I'll tell you later."

"So how did you do it then?" asks Jenn as soon as the guests leave. "I'm sure you didn't use a compass."

"You're right, I didn't. A compass is useful and an essential part of your kit but you don't always need to use it."

"You don't?" she asks, surprised.

"No, other techniques are much more useful sometimes," I say. "Different techniques and combinations will work better in different places and situations."

"So, what did you do at Japanese Gardens?"

"I used depth and time, that's all," I say.

"Depth and time?" Jenn repeats, sounding a bit puzzled.

"OK, so how much water was the mooring block in?" I ask.

"Don't know."

"It was 9m," I say.

"Sounds about right."

"OK, so that's the first thing. I needed to know the depth of our entry and exit point," I explain. "Then I found the sand groove."

"Yes, I do know that part."

"Then I followed it until I decided to stop. I stopped at 15m and decided to turn left," I explain as Jenn listens intently now, as I had to the brief.

"So when I turned left I checked the dive time and remembered it," I explain. "It took about four minutes."

"OK."

"Then I just made sure to follow the 15m contour until we were at the midway point of the dive."

"How did you decide that?"

"When the first person reached half a tank of air," I say.

"Ah, yes, yes," Jenn says knowingly.

"Then, I check the dive time again and figure out how long we've been following the 15m contour – 20 minutes. Then turn left again and keep swimming at the same pace, which for me is slowly, until we're back up to 9m. Then turn left again and keep swimming for around 20 minutes. When the time gets close, I knew to start looking for the mooring block, and then we bumped right into it."

"We did, brilliant," she says.

"You have to remember to keep the same pace for the time to work accurately, which is easy for me, super slow, and



consider any stops you might make. You need to remember to figure the time and distance you swim to fit with your total planned dive time, and remember that dive time works in conjunction with air consumption. If you have a dive time as your turnaround signal but someone reaches half a tank before that time, then that's when you turn regardless."

"Yes."

"You might not do it exactly like this on every dive, it will be situational, but this worked well for the site today. You try it next time," I suggest.

"Yes," she beams.

I'm glad to be Jenn's mentor and am looking forward to helping her become the divemaster she so wants to be.

Irma 2017

This can't be real. We are now in our own movie but, unlike actors, we have no stunt doubles. Irma's howl is more monstrous and terrifying than ever; the sense of foreboding is excruciating.

This is not stopping, and it is becoming ever clearer that we have seen nothing yet. I want to scream at the top of my lungs: "If you've come to take us then take us, why make us wait any longer?"

I can only compare the monstrous noise to what it might be like to stand directly behind a jet engine, as I try to quash the terrible sense of impending doom and mounting hatred for our tormentor.

Then it strikes me as odd that St Martin is where thrill-seekers seek out a jet-blast at the airport fence.

Somehow the fear then slaps me across the face and finds its peak and moves beyond frightening. Momentarily, I don't know quite what it is I feel. I am chilled to the bone, and a blood-curdling panic goes through me

Above: This is where the dive-centre reception and shop on St Martin had stood. It had been suggested as a safer place to shelter from the hurricane than the house.

from my head to my toes. It penetrates and shudders through to my very core.

I hear and feel what I think an explosion must be like. I am momentarily frozen to the spot, as you might be if out in the bush and hearing a not-too-distant roar from a lion.

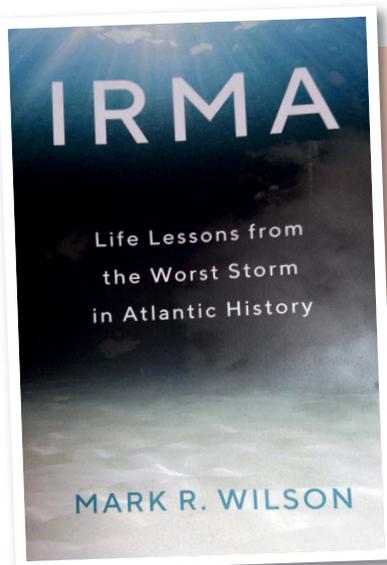
We're together, yet at the core the three of us are exposed and alone with our own versions of fear, panic and dread. The senses are completely overwhelmed and time stops.

The sound is different now, and not only can I hear the wind, I can feel it. It is thumping and pounding at our chests in a manner anyone who has stood too close to a speaker at a concert will recognise.

But this is different. Irma has no rhythm – there is no joy, no pleasure. She pins me to the work surface and beats on my chest like a crazed primate.

Surely this is a bad dream and if I blink I will wake up. In the confusion it takes a few seconds to access the scene and realise that we are surrounded by sheet metal and wood.

A look to the heavens confirms that the roof of our single-storey abode has disappeared and we are exposed to the elements, to Irma and all her might and wrath.



Now read the book

To read about other exciting and life-changing encounters – many though by no means all under water – read *Irma: Life Lessons from the Worst Storm in Atlantic History* by Mark R Wilson.

It's available now on Amazon in paperback (ISBN: 9781089822639, 260pp, 15x23cm, £5.50) and in a Kindle edition (257pp, £5.50).

Volivoli goes the Blue Oceans way

The team at the 4* Volivoli Beach Resort and Ra Divers have been accredited as Fiji's only Blue Oceans dive resort.

This global eco-awareness project (formerly SSI Mission Deep Blue) commits them to supporting a wide range of procedures to protect the



environment, collect underwater rubbish and ghost-fishing gear, report violations on use of marine animals as souvenirs, avoid touching or disturbing the underwater environment, minimise waste, recycle and educate others in their responsibilities.

Fiji is currently an approved destination for UK travellers, although as we write entry remains barred. Volivoli was established in the 1990s near Rakiraki at the northerly tip of Viti Levu, the largest island, and now has 33 rooms, two restaurants, three bars and 90 staff. Dive-centre Ra Divers takes guests exploring Bligh Waters and Vatu-i-ra.

Next year's ocean-view room rates start from Fiji \$2380 (about £875) for seven nights (two sharing) and a 10-dive package costs \$1540 (£568) and unlimited nitrox would be \$250 (£92).

All in-house guests on a dive package are also offered free unlimited diving 24/7 on the two house reefs.

▶▶ volivoli.com



Grenada has been steady

Grenada has to date remained a viable destination for UK divers. It boasts the largest shipwreck in the Caribbean, the *Bianca C*, many other good-quality wreck dives, coral reefs and a wealth of marine life. The True Blue Bay Boutique Resort lies where the Caribbean and Atlantic meet, so offers access

to all sides of the island, and you can book seven nights there through Ultimate Diving from £1695pp.

This includes flights from Gatwick, airport transfers, B&B accommodation (two sharing) and 10 dives.

▶▶ ultimatediving.co.uk



Out of the armchair in Egypt or Maldives

"This year's events have led to divers becoming reluctant armchair travellers," says Holly Hawkins of UK tour operator Diverse Travel, "but many of our customers have been using this time to plan their future getaways.

"When the world opens up again for international travel, demand is going to be high and prices will certainly rise as we've seen with domestic tourism this year."

Hawkins says that now is the time to secure 2021 holidays with "unprecedented low deposits and some incredible savings."

As an example the operator is offering Red Sea trips in 2021 from £765pp with a £60 deposit. If Foreign Office travel advice is still in place when the balance is due, the deal is that you can change your holiday with

no fee charged.

The trip includes easyJet flights from Gatwick to Hurghada, seven nights at El Gouna's Three Corners Ocean View Resort at Abu Tig marina (above) on an all-inclusive meal plan, 10 guided dives and airport transfers.

An alternative is a 2021 Maldives liveaboard trip from £1675pp with a £100 deposit and the balance payable six weeks before departure when you know that it's a go – again fully refundable if the FCO says no.

This trip includes flights from Heathrow to Male with Sri Lankan Airlines and 30kg baggage, seven nights' full board (two sharing) on *Emperor Atoll*, 17 guided dives including one night dive with free nitrox, an island barbecue, optional Male city tour and airport transfers.

▶▶ diversetravel.co.uk

MAINLY ABOUT MANTAS

Two new Manta Expeditions are lined up for next autumn with the *Seafari Explorer* liveaboard showcasing the Maldives' northern atolls during the "highly productive" monsoon season.

The aim is to use the knowledge of the onboard Manta Trust experts to locate manta-ray mass-feeding aggregations. The dates are 12-22 September and 3-13 October and the price tag is US \$2480pp.

Earlier in the year ME plans to visit Mergui Archipelago in Burma (12-19



March) for both macro and pelagic dives, with smoothback guitar sharks, whale sharks and, of course, oceanic mantas, among the hoped-for attractions (\$1950pp).

▶▶ mantaexpeditions.com

BOOKING NOW

COMPLETE YOUR NITROX CERT BEFORE YOU LEAVE

Who needs to go to diving to be certified as a nitrox diver these days? Magic Resorts in the Philippines says PADI has now allowed it to offer the complete course online.

You buy and complete the theory section through PADI eLearning, then Magic instructor and course director Jamie Gladwin arranges a video call during which you complete a question & answer section, learn how to analyse nitrox tanks, plan your dives with a nitrox computer and carry out a simulated dive.

If and when you come to stay at Magic Oceans or Magic Island within



two years of completion you'll get five free nitrox fills. Expect to pay around £155 for the course.

► magicoceans.online



Tiburon for Galapagos

What Explorer Ventures proclaims as the newest and most spacious liveaboard diving vessel in the Galapagos, the 38m *Tiburon Explorer*, was scheduled to undertake its first charter from 19 September.

Starting from the hull design and machinery specifications of the well-known *Humboldt Explorer* and other Explorer Ventures vessels, the operator says it has added a double hull in critical areas, redundant power systems, a reworked diving deck, state-of-the-art onboard communications and a modern fire-

control system. There are nine air-conditioned staterooms with large private bathrooms designed for a maximum 16 passengers.

The vessel (pictured above in dock in Ecuador) will take divers to experience big-animal action at Wolf and Darwin Islands as well as Cabo Douglas, Punta Vicente Roca, and Cousins Rock.

Prices to July 2021 are US \$6395pp (two sharing), rising to \$6895 the next year, plus fees. This includes seven nights / eight days full board, up to four dives daily and island transfers.

► magicoceans.online

WHERE CAN WE DIVE?



THE SHRINKINGLY SHORT LIST

Listed here are the diving destinations that appear on the UK Foreign & Commonwealth Office "whitelist" for non-essential travel, and that are also exempt from a two-week quarantine period on return (on the separate UK Department for Transport list).

Each destination also has its own entry requirements or bans. Those marked Q2 indicate that two weeks' isolation is mandatory on arrival. NDF indicates that no direct flights may be available.

Check countries' own testing, screening and certification requirements at fco.gov.

The list reflects guidance as of early October.

EUROPE

Cyprus
Gibraltar
Greece (limited entry)
Ireland (Q2 on arrival)
Italy
Norway (Q1.5 on arrival)
Sardinia (Italy)

AMERICAS

Barbados
Bermuda
Cayman Islands
(No entry from UK)
Cuba (limited entry)
Dominica (NDF)
Grenada
St Kitts & Nevis
(No entry from UK)
St Lucia
St Vincent & The Grenadines
(NDF)

ASIA-PACIFIC

Australia (No entry from UK)
Fiji (No entry from UK)
Malaysia (No entry from UK)
New Caledonia
(NDF, Q2 on arrival)
New Zealand (No entry from UK)
Taiwan (NDF, Q2 on arrival)
Thailand (No entry from UK)

ATLANTIC

Azores (Portugal)
Madeira (Portugal)
St Helena (NDF, Q2 on arrival)

Start your St Lucia day with a breath-conscious dive

If you take your breathing seriously, Windjammer Landing Villa Beach Resort in St Lucia has launched an Underwater Breathwork programme, which it says combines wellness, breathwork and diving for the "ultimate, therapeutic underwater experience".

The resident diving and wellness teams at the property have collaborated on the programme, which is based around a sunrise boat-dive. On the way to the site, visualisation and mindfulness exercises are followed by a briefing of the breathwork involved during

the 45-minute dive, with more exercises after the dive.

Four main breathing techniques



are used alongside yoga postures, with benefits said to include slower heart-rates, lower blood pressure

and stress levels and deep feelings of calm. "For divers breathwork is the key to buoyancy, oxygen control and maximising your time under water," say the team.

St Lucia is currently open to UK visitors and the Covid-19 certified Windjammer Landing on the north-west coast reopens on 19 November. Rooms start at US \$266 a night. The 2.5hr Underwater Breathwork programme including dive starts from \$180pp.

Later in the day you can go reef or wreck diving again to put your new skills to the test!

► windjammer-landing.com

WELL AND TRULY TESTED



STEVE WARREN has a disparate collection of new products on test this month – a mask, a freediving computer and a changing robe that could make you the object of envy in chillier diving environments

MASK OCEANIC SHADOW

WHEN I HAD A DIVE SHOP, WE CARRIED

more than 20 models of mask. We would take clients over to the display and show them how to test for a seal, check the field of view and ensure that they could equalise their ears. Then we'd leave them to figure out which model they preferred.

Mask-choice is very personal, and subtle differences in faces influence how effective they will be. Some divers, such as underwater photographers, might have additional requirements to satisfy, to use viewfinders or for modelling, for instance.

The Design

The Shadow is a classic mask design, combining low volume, a nose-pocket and a single lens with a slightly dropped or teardrop shape.

To this tried-and-tested styling Oceanic has added frameless construction to save weight, a high-quality silicone skirt with double seal and a nylon and neoprene slap-strap.

It's available in both standard and small sizes.

In Use

The close-fitting Shadow places the lens very close to your eyes and the peripheral, upward and downward field of view is superb.

If you need corrective lenses, other than stick-in gauge-reader magnifiers, these will need to be custom-made by an optician and bonded in.

Oceanic offers many split-lens design masks for which it provides off-the-rack lenses.

The silicone body is very soft – you can easily roll the skirt over itself. This suppleness provides a number of benefits. Firstly, you're more likely to get a good seal over laughter-lines and facial hair (I had about three weeks' growth).

Secondly, a soft seal makes for greater comfort over long, repetitive dives.

But the third advantage is that it allows the Shadow to be collapsed to lie almost flat for storage in a pocket as a back-up. I often dive full-face masks, so that's an attraction for me.

I also travelled with the Shadow flattened into a notebook pocket in my briefcase.



The extremely low volume meant that I could fully clear the Shadow 15 times on a single breath (an impressive trick in front of newbies and of no real-world value whatsoever) and my lung volume is pitiful.

The mask is easily cleared hands-free. I had to deliberately flood it to test this, because the seal was perfect, despite the moustache.

But I appreciated the low volume, because I was freediving, so equalising it requires very little air. If you Valsalva to clear your ears, the nose-pocket is easily pinched or blocked from underneath, even with thick gloves.

The buckles swivel to help set the strap at the most effective position. The Shadow came with a slap-strap, which is very comfortable

and secure. You need to adjust this properly before diving because it's not easily adjusted while wearing the mask. If you fit a normal strap, pulling on the free end will tighten it and pushing up on the buckle loosen it.

For Photographers

Five attributes of a mask are important to me as a photographer. The first is that it must let me get my eye close enough to a camera eyepiece to see all of the screen for framing the image.

My working cameras all use monitors but one has a magnifying hood that requires me to get my eye right up against the optic, and the Shadow worked fine with that.

I also checked the mask with my old SLR and can confirm that it just clipped the corners with my image-reduction finder.

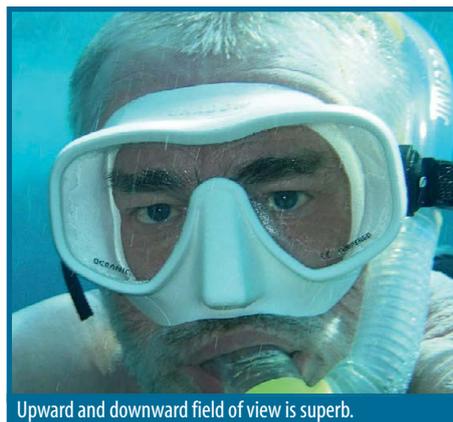
With decent 1:1 and magnifying viewfinders, I would expect viewing to be edge to edge.

Secondly, I want a solid rather than clear skirt to stop extraneous light causing reflections on the camera screen or affecting the light-meter.

The Shadow meets this need and, of course, this makes it a good choice for other divers who want to minimise distracting peripheral light.

That said, with wide-vision masks such as the Shadow, the shading is minimal.

Thirdly, from a modelling point of view I often have to shoot selfies – when testing regulators, for example. I prefer brightly coloured mask-



Upward and downward field of view is superb.

skirts because I think they look better.

Some shooters like a choice of skirt colours for their models so that they can match or contrast them with, say, corals. It helps with getting the look you want for a front cover.

Fourthly, the wide single lens and shallow skirt makes it very easy to light a model's face and, I think, highlights the model's expression better than a split-lens mask.

Finally, Oceanic uses high-quality glass in the

Shadow, so you won't see your model's face imbued with a seasick green hue!

This mask is highly recommended. ■

SPECS

PRICE ►► £50 including box

COLOURS ►► Yellow, pink, sea blue, white, black and clear

CONTACT ►► oceanicworldwide.com



COMPUTER

SALVIMAR DEEPER FREEDIVING WATCH

IN 1998 THE BBC SCREENED AN INTRIGUING documentary about freediving. At *QED*'s core was Howard Jones, a former Royal Marine. Until then, in the UK, deep, prolonged snorkelling had mostly been linked with spearfishing and little reported in the diving or general media.

QED changed that, and Howard became the face of the new sport of freediving for the simple pleasure of doing it.

Soon afterwards, I joined a group at the Navy's 30m-deep submarine escape training tower for a weekend's training with Howard. What struck me at the time was that several of the students had never tried scuba-diving and had no intention of doing so.

And those are the people who really drive the market for dedicated freediving computers. Many scuba computers have a Freediving mode, but if you aren't a scuba-diver why pay for complexity and features you don't need?

Salvimar's Deeper Freediving watch is a straightforward, low-cost digital time- and depth-measuring computer for this niche sector. Salvimar is an Italian brand, formed in 1962, that specialises in freediving and spearfishing equipment. The Deeper is the newer of two computers it offers.

The Design

The Deeper is a traditionally styled digital wristwatch, with a range of basic day-to-day time-keeping and sports modes. You can set it to display two time zones at once for travel and there's a day/date readout. You can also set an alarm-clock function.

For exercise, you have stopwatch, countdown and an eight-lap timer function, but it's the Deeper's applications for breath-hold diving that are the focus of this review.

In Use

I found the instructions a little hard to follow using the PDF (there's no waterproof cue card).

The manual is refreshingly brief but not always clear. For example, the Deeper is powered by a CR2032 battery, but there are no instructions on how to change this, so I guess it's a job for a watch-smith.

There are four large push-buttons, broad and easy to press with thick gloves. I'm pushing 60 and have lousy vision so, as I worked through the Deeper's on-screen menus, I struggled. Even reading glasses didn't help.

Ultimately I reached for the supermacro function on my camera and used that to see some of the smallest icons. The issue with the icons being so tiny is that you sometimes have to remember the screen layout to figure out what the numbers beside them really mean.

However, once you've made your choices the digits for time, depth and other displays are large, high-contrast, with a decent backlight and easily read.

The Deeper displays your current depth as you descend and ascend, and elapsed time. You can program in audible

and flashing visual alarms that activate as you descend through as many as five depths.

The audible alarms for depth are logical enough – it sounds one to five

successive tones as you hit each target depth.

You can also program a countdown alarm to alert you when you have been down a certain time. During my

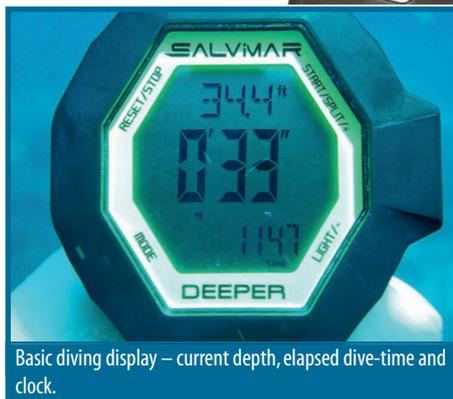
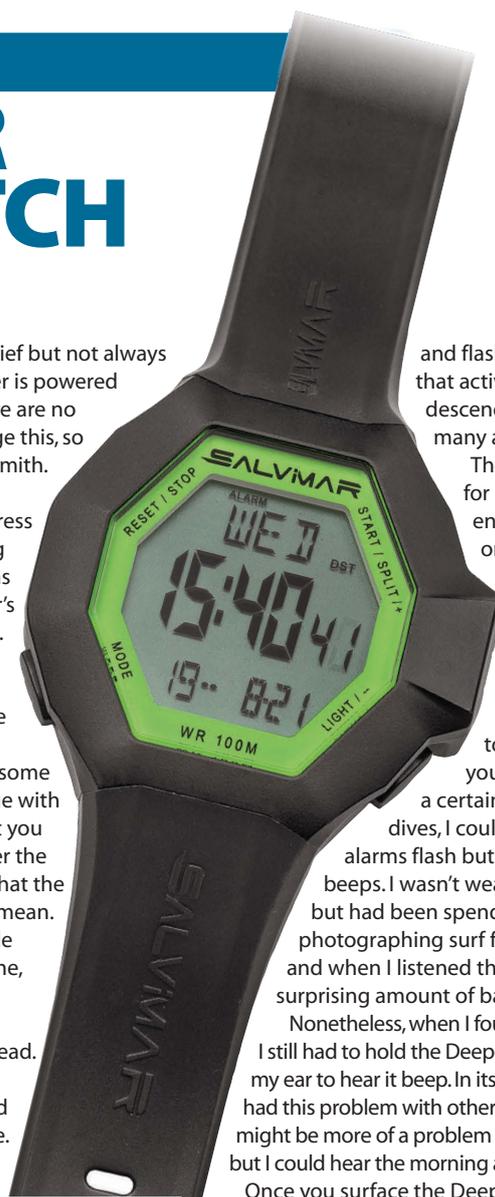
dives, I could see the preset alarms flash but not hear the beeps. I wasn't wearing a hood, but had been spending a lot of time photographing surf from under water, and when I listened there was a surprising amount of background noise.

Nonetheless, when I found quieter water I still had to hold the Deeper almost against my ear to hear it beep. In its defence, I have had this problem with other computers, so it might be more of a problem with my hearing, but I could hear the morning alarm well enough.

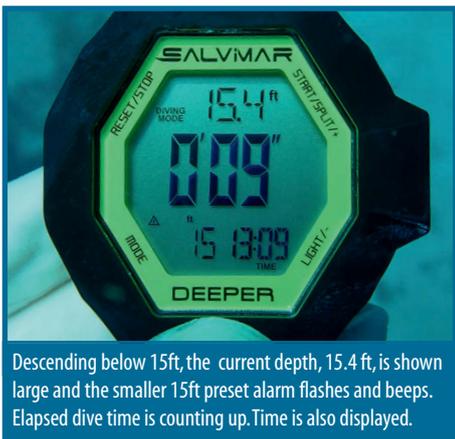
Once you surface the Deeper begins to time your surface interval. If you're using breathing-up tables you can easily keep track.

As far as I could tell, the Deeper doesn't automatically change from Surface to Dive mode as you descend – I had to select Dive mode manually. It automatically resets to Surface mode an hour after you stop diving.

Checking the log is straightforward. Toggle into Record mode and move back and forth to check date, maximum depth, length of dive and temperature. Once again, however, while the numbers are clear the icons indicating their meaning are tiny. I ended up using a magnifying glass to figure them out.



Basic diving display – current depth, elapsed dive-time and clock.



Descending below 15ft, the current depth, 15.4 ft, is shown large and the smaller 15ft preset alarm flashes and beeps. Elapsed dive time is counting up. Time is also displayed.

If I have interpreted the manual correctly, the Deeper logs 30 individual dives. If you want to record these for posterity you'll need to enter them manually into your log – there is no download link.

Conclusion

The Deeper is a low-cost freediving computer and its specifications reflect that. It's basic. But let me express an opinion here. Once in a while I still dive my vintage Orca Edge dive-computer from the mid-1980s and, unless I'm using nitrox, it still tells me all I need to know. And, because it has only an on-switch, I can't mis-set anything.

For freediving, the Deeper presents all the information you need but won't necessarily offer all the features you might like, such as extensive downloadable logs.

Its affordability is a big plus and I can see the Salvmar Deeper being an excellent rental unit for freediving schools. ■

SPECS

PRICE ▶ £127
DEPTH ▶ 100m
BACKLIT ▶ Yes
CONTACT ▶ spearfishing.co.uk

GARMENT

RED ORIGINAL PRO CHANGE ROBE

FOR THREE SEASONS I WORKED AS

underwater director and cameraman on a docu-soap called *Gibraltar - Britain in the Sun*.

Inevitably, there were the occasional run-ins with equipment failures. A broken camera monitor, a regulator switching block that fell apart and erratic radiophones – they all came my way. But one was especially irksome. Fitting a P-valve.

The problem began with piss-poor planning. I had forgotten to “fit my kit” before turning up for the shoot. Result, I'm sitting in Dive Charters' bus with its overabundance of windows in a very public place trying to slip on a roll-up... well, let's just leave it there.

Red Original's Pro Change Robe would have had me covered – literally. The brand specialises in accessories for the surfing and paddle-board community but much of its range seems to be well suited to divers.

The robe protects your modesty – and if you aren't modest, at least prevents others being offended by your exhibitionism. A complaint that has been levelled at divers in the past was a disregard for the sensitivities of other beach-users, especially those with families. It also allows you to change quickly without having to wait for a changing-room to become free.

Moreover, board-riders tend to pursue their sport year-round from beaches in the grip of icy winds and where, even if there are changing-rooms, they are likely to be closed out of season. And, of course, they use wetsuits.

So the Red Original changing robe outer shell is made to provide maximum protection from the assailing elements, while inside it keeps you warm and dries you off.

As we live through Covid-19, one effect we might see is more people diving in the UK instead of only overseas. A well-designed

changing robe could be a desirable addition to their kit-bag.

The Design

The robe uses a 90% polyester / 10% Spandex outer and a 100% polyester lining for the main body.

Seams are stitched and taped for durability. By using breathable material, and a deep towelling lining, moisture inside the robe from your wet dive-suit is wicked away to keep you dry and warm.

There is a double zip, so you can partially open the robe from the bottom to take a leak. The zips are by YKK, long-time favourite of dive-suit manufacturers because they don't rust. Miniature lanyards replace ordinary zip-tabs.

Plastic tubing keeps the loop open and easy to use with cold hands or, to my surprise, even with 5mm gloves on. A storm-flap closes over the zip, using four press-studs.

There are two roomy hand-warmer pockets. There was enough space for my hand and a rolled up full-size Red Original microfibre towel



as well. On the outer chest is another pocket, closed with another YKK zip with a large pull-tab. The zip-tab slips into a sleeve to protect the robe from zip abrasion when stored. The pocket has plenty of space to take a wallet and a mobile phone.

In Use

The sleeves end just below your elbows and the robe hangs just below your knees. When changing, your arms are inside and sit securely



Zips can be used even with thick gloves (left); and the roomy chest-pocket will accept a phone and wallet (right).

on your shoulders and head, if you have the hood up. It's roomy enough that I was able to easily wriggle into and out of a back-entry, 4mm compressed neoprene drysuit – far less stretchy than a wetsuit, so harder to remove and a good test.

Zipped wetsuits are easily taken off, as you might expect, though a zipless freediving jacket proved more difficult. These can be tricky to remove anyway without help because, at best, only one side is nylon-lined.

This makes the seams vulnerable to parting, and I've heard a few stitches pop when I've flipped a jacket over my head and pulled on the jock-strap to take it off by myself.

The suits I used all had outer nylon linings that were wet when I changed out of them.

I was curious to find out how damp my street clothes would be once I'd put those on under the robe. In fact, the deeply flocked towel-lining does its job extremely efficiently and my clothes were dry when I took the robe off.

I had used the robe a few times but in fair weather. Luckily, torrential rain strafed Kent and I went out into my back garden at night and stood in the downpour for 20 minutes. The robe shrugged it off.

It's really wind-resistant as well. Wind-chill at the surface can bite mercilessly through lined wetsuits when wet – one reason that you don't

see much in the way of outer nylon linings on surface-sports wetsuits.

Conclusion

I was very impressed with the design, functionality and attention to detail of the Red Original Changing Robe. It's something I would have really liked back in my teaching days at UK inland sites.

Making several dives a day, even in my drysuit and premium Thinsulate undersuit, meant that getting cold was inevitable.

Being able to throw the robe over my drysuit between dives would have really helped.

Where I dived, to sit inside the café you had to change into dry clothes, so the robe would have let me choose to do that or use it for shelter to sit outside at the "wet" tables while still in my drysuit.

Highly recommended. ■

SPECS

PRICE ►► £120

SIZES ►► M, L for men and women

WEIGHT ►► 1.5kg

COLOUR ►► Grey with red lining, navy with grey lining

CONTACT ►► redoriginal.com

BRITISH STANDARDS INSTITUTE: Respiratory Equipment – Open Circuit Self-Contained Compressed Diving Apparatus – Requirements, Testing & Marking

TO ME, 50m IS A DEEP DIVE. It's in the narcosis zone where my thinking becomes impaired and no-stop times are so short that I really have to plan them as full decompression dives.

Yet there I was, having dragged my great friend Nick Balban with me, by mistake.

Nick and I were breathing for all we were worth from my regulator and octopus, but that wasn't my mistake. That was planned.

I had just taken up gear-testing for **DIVER**, and we were undertaking an exercise to see if a test regulator really could provide for two divers breathing moderately hard at depth, as per my impression of the EN250A standard.

The EU sets down minimum standards that products must meet to be sold in the single market. If you've been researching purchase of a regulator, you might have seen terms like EN250 and EN250A bandied about.

My problem was that I didn't really know what the standards said, let alone what they meant.

I'd been an instructor, had occasionally run equipment speciality courses and had sold

countless regulators from dive-shops, including my own, without knowing. Understanding regulator performance had never been part of my diver, instructor, sales, product-knowledge or servicing training.

An Internet search failed to turn up a copy of the EN standard, only basic info that seemed to have been cut and pasted by a few dive-shops, possibly from a regulator manufacturer or, more likely, Wiki. And it conflicted.

All agreed that the regulator had to support a single diver taking 25 breaths, each of a volume of 2.5 litres per minute at a depth of 50m, but they disagreed about the depth of the safe-second test.

This further test was introduced to determine how well a single first stage could supply a buddy-pair breathing simultaneously from two second stages in an emergency-sharing situation. Some posts stated 30m; one said 50m. My mistake had been to assume that 50m was correct.

Respiratory Equipment was the BSI document

I needed. It's aimed mostly at manufacturers and the test-houses that assess whether a product meets the requirements to be sold to divers in the EU. It chiefly covers components of the breathing system, including tank-valves and full-face masks and, of course, regulators.

It explains exactly how a regulator must be tested on a computerised breathing machine, for example. This includes the different positions in which the valve must be positioned, the supply pressure of the air feeding it and the limits for inhalation and exhalation resistance.

It dictates how far the venturi dive/pre-dive switch can turn and to what extent exhaled bubbles can interfere with vision.

It's a gold mine of background information, though because I'm weak on physics there have been call-a-friend moments.

Does this document have value for anyone other than manufacturers and test-houses? Yes and no. You can argue that because EN250 exists, you the consumer need to know only that your regulator complies. But I'm a nerd and wish I'd had this information when I was teaching diving and selling kit. Had I been a service technician, I'd also have wanted it as a reference.

For my role at **DIVER**, I use the standards with other references, such as the *US Navy Diving Manual* and *Deeper into Diving*, as I try to learn more about the cyborg relationship between humans and the diving equipment on which we rely. If nothing else, I won't be going to 50m again on the whim of a bit of fake news.

But you won't be buying this 50-page document on a whim – it costs £240.

shop.bsigroup.com ■

NEW BUT UNTESTED

The latest kit to hit the dive shops



GoPro Hero 9 Action-Cam ▶▶▶▶

Shooting 5k video and 20MP stills, the new GoPro can go as deep as 10m as is, or to recreational depths using an optional housing. And to avoid missing once-in-a-lifetime events, it has “cache recording” – you can set it to film continuously but without saving to card until you hit the record button, when it saves the last 30sec it took. So if you fall overboard into a sailfish baitball you still get the shot! The Hero 9 also features improved Super 8x slow motion and enhanced stabilisation, and it costs £430.

▶▶ gopro.com

Fourth Element Ocean Positive Hydroskin Rashguards ▶▶▶▶

Fourth Element’s commitment to recycled plastics continues with its new rashguard line. Designed to be worn alone for sun and sting protection or under wetsuits for extra warmth, the Hydroskin offers a choice of short- and long-sleeved vests styled for both women and men. The short-sleeved version costs £40, the long-sleeved £42.50.

▶▶ fourthelement.com



Oceanic Ultra Dry 2 Snorkel ▶▶▶▶

▶▶▶▶

Do you wear a snorkel on your mask-strap while scuba-diving? The flexible mouthpiece on this new model drops to the side to stop it interfering when you’re breathing from your second stage. Contoured wraparound styling keeps the tip out of the water, says Oceanic, adding that an oversized purge makes clearing a cinch and the Liquid silicone mouthpiece ensures comfort. It isn’t cheap for a snorkel, however, at £45.

▶▶ oceanicworldwide.com



Christopher Ward C60 Lymphstone Watch ◀◀◀◀

Named for the Royal Marines’ Devon base, the automatic C60 Lymphstone is a 600m-rated dive and “survivalist” watch. The marine steel casing has a DLC anti-reflective coating, and the carbon dials and Super-Luminova hands and indices are designed to make the instrument easy to read in low light. The countdown bezel can be set in 30sec increments and there is an inner compass ring to aid navigation. The price is £875.

▶▶ christopherward.com



Sherwood Oracle + Mask ▶▶▶▶

Reached the ripe old age of affluence where you can afford to do those critter trips and own a nice camera – but can’t even see the pygmy seahorse, let alone check that it’s in focus? Sherwood’s Oracle + mask addresses that problem, with built-in 1.75-dioptre magnifying lenses to boost your near vision. The £65 low-volume Oracle + also has a soft silicone skirt and promises one-handed strap adjustment.

▶▶ midlanddiving.com



Gates Komodo Camera Housing ▲▲▲▲

“Don’t take a chance, take a Gates” is the professional housing manufacturers’ confident slogan, and it is standing by it with its new backpackable, 11kg ready-to-shoot Deep Komodo system for the Red Komodo broadcast camera. It’s 75m-rated, comes with monitor and seal-checker and its port system is said to provide access to the world’s finest cinema lenses. Prices start from around £6250.

▶▶▶▶ espritfilm.co.uk

Akona Luxor Dry Bags

▶▶▶▶

An addition to an already extensive range of drybags, the Akona line is made from siliconised Cordura fabric, said to make the bags exceptionally tough, lightweight and able to be packed up tightly. Available in 5-litre (£16) and 10-litre (£23) sizes, they have roll-top closures and come with a carry pouch.

▶▶▶▶ midlanddiving.com



Waterproof Body X Underwear ▲▲▲▲

Coldwater dive-suit specialist Waterproof’s new Body X drysuit underwear employs hollow individual polyester fibres that allow it to fill with air and boost insulation, says the maker, with sweat quickly wicked away to keep the user dry. A perfect fit is also promised thanks to the hi-stretch material and a choice of 10 sizes for both men and women. The shirt costs £78 and the trousers £72.

▶▶▶▶ cpspartnership.co.uk



CHRISTMAS TREASURY

Divers’ artefact discoveries – some more fitting than others to the season for peace on Earth – are a running theme in our December issue

TIM LAWRENCE

NEXT ISSUE

Be The Champ 100

Don’t miss Alex Mustard’s extended century feature!

Twilight Zone

Exploring the shallows and deeps of Curaçao

European Roadtrip 2

Our Swedish diving tourists hit the UK

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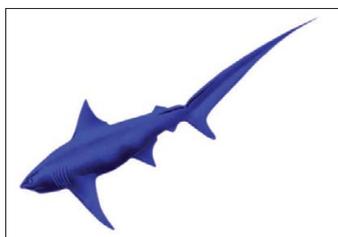


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HSE MEDICALS and phone advice - Poole

Dr Gerry Roberts and Dr Mark Bettley-Smith.
Tel: (01202) 741370

Diving Medicals - Midlands (Rugby) - HSE, Sports Medicals and advice at Midlands Diving Chamber. Tel: 01788 579555 www.midlandscdivingchamber.co.uk (72756)

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Alfreton (Derbys) BSAC 302. Welcomes new members and qualified divers. A small but active club with own RIB, wreck diving a speciality. Contact Angela on 07866 799364. (68370)

Appledore Sub-Aqua Club (SAA 35) Friendly club welcomes experienced divers from all agencies. Regularly dives Lundy island, own hard boat / compressor. Contact Damian 07831 152021.

Banbury SAC. Friendly, active club with weekly meetings and training sessions, own boat, compressor and equipment. Welcome divers/non-divers. www.bansac.org or call 07787 097 289. (69308)

Birmingham Underwater Exploration Club. Friendly, active dive club. Weekly pool sessions. Regular trips. Own RIB based in south Devon. Training and equipment loan available to members. Tim 07775 580033. (65792)

Bracknell Sub Aqua Club welcomes new and experienced divers from all agencies. Meets poolside at Bracknell Sports Centre, Thursdays from 8.30pm. Diving, training and social calendar: www.bracknellscuba.org.uk or tel: 07951 855 725. (65792)

Braintree Riverside Sub Aqua Club based in Braintree, Essex. A friendly club, we welcome divers of all abilities and have an active diving and social programme. Come and join us! email: denise.f.wright2@btinternet.com www.braintreeriversidesac.co.uk (69397)

Bromley/Lewisham Active divers required. Full programme of hardboat diving throughout the year. Check out Nekton SAC www.nekton.org.uk or contact Jackie (01689) 850130. (68537)

Buckingham Dive Centre. A small friendly club welcoming all divers and those wanting to learn. We dive throughout the year and run trips in the UK and abroad. www.stowe-subaqua.co.uk Tel: Roger 07802 765366. (69433)

Chelmsford and District SAC meet at 8pm every Friday at Riverside Pool. New and qualified divers are welcome. See our website for details: www.chelmsforddiveclub.co.uk (68620)

Cockleshell Divers, Portsmouth, Hants. Small, friendly club welcomes new and experienced divers from all agencies. Meets at Cockleshell Community Centre, Fridays at 8pm. Email: cockleshell.divers@aol.co.uk (64762)

Colchester Sub-Aqua Club welcomes experienced divers and beginners. Sub-Aqua Association training. Diving at home and abroad. Meets at Leisure World Friday evenings. Contact Tony (01787) 475803. (68263)

Chingford, London BSAC 365. Friendly and active club welcomes divers from all agencies and trainees. Meet Wednesday 8pm, Larkwood Leisure Centre E4 9EY. Information: www.dive365.co.uk Email: loughtondivers365@gmail.com (69208)

Cotswold BSAC, a friendly club based at Brockworth

Pool, Nr Cheltenham, Fridays 8pm. Regular inland diving and coast trips. Tel: 07711 312078. www.cotswoldbsac332.co.uk (68577)

Darlington Dolphins Sub Aqua Club, small friendly BSAC/PADI, open to new and experienced divers. Meet Friday night in Dolphin Centre at 8.30. Tel: 07773 075631 or email robkilday@hotmail.co.uk (72665)

Darwen SAC, in Lancashire, with an active diving programme. Own RIB. New members welcome regardless of agency/training. We provide BSAC training. Weekly pool sessions. www.darwensac.org.uk (69161)

Dream Divers. Very friendly dive club in Rotherham welcomes divers of any level/club. Meet at the Ring O Bells, Swinton, last Thursday of the month at 19.30. Email: info@dreamdiversltd.co.uk (69699)

Ealing SAC. BSAC 514. Friendly, active club, own RIBs; welcomes new and experienced divers. Meets Highgrove Pool, Eastcote, Tuesday nights 8.30pm. www.esac.org.uk (68413)

East Cheshire Sub Aqua. Macclesfield based BSAC club. Purpose-built clubhouse, bar, two RIBs, minibus, nitrox, compressor. Lower Bank Street, Macclesfield, SK11 7HL. Tel: 01625 502367. www.scubadivingmacclesfield.com (65609)

East Durham Divers SAA welcome new/experienced divers of any agency. Comprehensive facilities with own premises half a mile from the sea. Contact: John: 07857 174125. (68663)

East Lancs Diving Club based in Blackburn. Friendly, active club welcomes new members at all levels of diving from all organisations. Tel: 07784 828961 or email: ELDC@hotmail.co.uk www.eastlancsdivers.co.uk (69411)

Eastbourne BSAC. RIB, Banked air (free) to 300bar, Nitrox, Trimix. Enjoy some of the best diving on the South Coast, all qualifications welcome. www.sovereigndivers.co.uk (65695)

Eastern Sub Aqua Club SAA 1073. We are a small friendly dive club and welcome new and experienced divers alike. We are situated north of Norwich for training. For more information please see our website: www.esacdivers.co.uk (65879)

Elton Sub Aqua Club, Aberdeenshire, welcomes newcomers and experienced divers. We dive year round and meet on Thursday evenings. Contact www.eltonsubaquaclub.co.uk (65523)

Fife Scuba Divers Tel: 07575 372575. www.fifescubadivers.com. SAA Club No203. Meetings: Thu 19.30, 81 East Way, Hillend, KY11 9JF. Training Club, Crossovers welcome. (72380)

Flintshire Sub Aqua Club based in Holywell, Flintshire, welcomes new and experienced divers from all agencies. Full dive programme. Meet Wednesdays. See us at www.flintscac.co.uk or call 01352 731425. (64293)

Guildford BSAC 53. Welcomes new and qualified divers. Friendly, active club with 2 RIBs, compressor, Nitrox, meets Tuesday at clubhouse with bar. www.guildfordbsac.com or call 07787 141857.

Hartford Scuba BSAC 0522, based in Northwich, Cheshire. A friendly, active diving club. Compressor for air and Nitrox fills. RIB stored in Anglesey. www.hartfordscuba.co.uk (67287)

Hereford Sub Aqua Club, is looking for new members. Regular diving off the Pembrokeshire coast on own RIBs. Training and social nights. Contact: rusaqua@googlemail.com (69146)

HGSAC, South Manchester based friendly, non-political club welcomes newcomers and qualified divers. Lots of diving and social events. Family. Three RIBs and compressor. www.hgsac.com (68501)

High Wycombe SAC. Come and dive with us - all welcome. Active club with RIB on South coast. Contact Len: 07867 544 738. www.wycombesubaqua.com (69131)

HUGSAC - BSAC 380. Experienced club, based around Hertfordshire, with RIB on the South coast. Members dive with passion for all underwater exploration. All agencies welcome. www.hugsac.co.uk (63275)

Ifield Divers. Crawley-based club. Twin engine dive boat with stern lift in Brighton Marina. Training for novices, diving for the experienced - all qualifications welcome. www.ifield-divers.org.uk Email: info@ifield-divers.org.uk or tel: 01883 731532. (64514)

Ilkeston & Kimberley SAA 945, between Nottingham and Derby, welcomes beginners and experienced divers. We meet every Friday night at Kimberley Leisure Centre at 8.30pm. Contact through www.iksac.co.uk (68559)

K2 Divers, covering West Sussex/Surrey. A friendly BSAC club, but all qualifications welcome. Training in Crawley, boat at Littlehampton. Email: k2divers@yahoo.co.uk or tel: (01293) 612989. (68335)

Kingston BSAC, Surrey. Two RIBs, clubhouse and bar, active dive programme, two compressors, Nitrox, Trimix, full training offered at all levels. All very welcome. www.kingstonsac.org or tel: 07842 622193. (69176)

Lincoln - Imp Divers. Small, friendly, non-political diving club with our own RIB are looking to welcome new and experienced divers. Contact Richard: 07931 170205. (69383)

Lincoln and District BSAC. Active club with own RIB, compressor and other facilities. Regular trips and training. www.lincolndivingclub.co.uk (69336)

Lincs Divers BSAC 1940. Friendly, active dive club offering dive trips and training for new/experienced divers. Lincoln based. www.lincsdivers.co.uk

Llantrisant SAC, two RIBs, towing vehicle, welcomes new and experienced divers. Meet at Llantrisant Leisure Centre 8pm Mondays. Contact Phil: (01443) 227667. www.llantrisantdivers.com (68519)

Lutterworth Dive Club, active, social, friendly. Own RIB, regular trips. Welcomes qualified divers, any agency. Training at all levels. Most Tuesdays, Lutterworth Sports Centre, www.lsaac.co.uk (70043)

Leeds based Rothwell & Stanley SAC welcomes new and experienced divers, full SAA training given. Purpose built clubhouse with bar, RIB, compressor. Meet Tuesday evenings: 07738 060567 kevin.odd@talktalk.net

Mansfield and District Scuba Diving Club. www.scubamad.co.uk. Sub Aqua Association - club 942. 8 Beech Avenue, Mansfield, Notts. NG18 1EY. (71643)

Manta Divers, Norfolk wreck & reef diving. Small, friendly, experienced club. All agencies welcome. SAA training. www.mantadivers.org (64088)

Mercian Divers (BSAC 2463) Active & Friendly club. New, experienced & junior divers welcome. Own RIB. Based in Bromsgrove, West Midlands. Tel: 01905 773406 www.mercian-divers.org.uk (65391)

Merseydivers (BSAC 5) Friendly & active club with 2 RIBs & Compressor/Nitrox/Trimix. Meeting every Thursday 7pm till late. All divers welcome. www.merseydivers.com or call Steve on 07570 015685.

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Regular UK divers might take it for granted, but for those more accustomed to warmwater ways the prospect of exploring home seas can seem daunting. The solution? A relaxed entry at the shallow end, says **PENELOPE GRANYCOME**, who has been enjoying a weekend at Portland

Easing into UK drysuit diving for a relationship built to last

A LOCKDOWN SURE IS a wake-up call to take nothing for granted. As the UK blinked open and dive-centres returned to life with stringent regulations and new booking systems, avid coldwater divers flung themselves back into the water at the first opportunity.

Meanwhile many holiday-divers, thwarted by the challenges of international travel and quarantines, might have felt at a loss for a diving fix and disappointment from postponed trips.

However, as we see so often in this magazine, our UK waters abound with history, marine life and thrilling discoveries to be made.

Even when drysuit-trained, the rigour and increased task-loading of actually using one in the sea can be intimidating.

Fears of bad weather, long drives to sites, lugging of gear, dreadful vis and shots of big blokes wearing a whole dive-shop and twin-set out at sea can make the whole thing seem a stretch too far.

Nothing, apart from comfort, is gained by staying in a comfort zone, however.

Having dived only in the UK's inland lakes and quarries (and once at sea in a wetsuit) the notion of suddenly going deep in my newish drysuit in an uncontrolled, unfamiliar environment alongside experienced divers had always made me nervous.

So it was a blessing to join an "Intro to UK Diving" weekend with Dive Beyond of Portland along with a small group and instructor James from Aquanaut Scuba, giving us the chance to develop our UK sea-diving skills on shallow dives without feeling intimidated.

WE WERE BASED at the Aqua Hotel next to Dive Beyond, where a pontoon allowed easy boarding of the RIB. No onboard kitting-up was required – that was all done first along with buddy-checks.

The plan was to do two dives a day with a nice long surface interval allowing time to debrief and unwind.

As we might expect, dive and boat-safety briefings are mandatory, both before boarding and onboard, and are provided by the skipper, whose word is god. Best of

all here, our RIB had a ladder!

One of skipper Dev's protocols, beside his instruction to hang on for the exhilarating speed across the harbour, was to hand up weights after a dive but to leave our BC and tank in the water attached by a D-ring to a line from the RIB. Much easier to climb back on unaided, retrieve the unit once on board and stow. Less work for the skipper, and less potential for awkward Covid contact from being hauled in!

First dive was on the Dredger, just outside the harbour wall in Balaclava Bay. At only 10m, protected by the breakwater so with little current and beneath a glassy surface that day, it was a perfect site for novices to check weighting and acclimatise to a cool green sea world.

There was plenty to see, with a cuttlefish putting in an appearance between metal fragments jutting up from this wreck lying in two parts. The slight swim-throughs

upright just inside the breakwater. We kept as a group down the shotline, following James in poor vis, but as the dive progressed the vista opened up, with a striking view of the bow and down through decayed areas of deck into the holds. A penetration dive would not be recommended at this stage because of silting. Squat lobsters and lumpsuckers could be seen on the wreck.

AFTER A DELICIOUS evening meal and jollity at marina restaurant The Boat That Rocks, we were ready for Sunday and a drift outside the harbour walls. No guide or mollycoddling here. Each buddy-pair would decide who would deploy a DSMB, with the other ready in case of separation or issues.

My buddy and I enjoyed a calming 40-minute drift at around 15m with no problems other than putting too little air into the DSMB.

Dev highlighted this back on the RIB with his phone shot of a not-quite-upright sausage.

He explained how the wrong colour, lack of proper inflation or type of DSMB could mean going unseen by him or other boat traffic. This life-saving skill should be prioritised in training.

Last up was the Landing Craft, lying at 7-15m and testimony to the rich WW2 history of the area. Castletown was



a major D-Day embarkation point for US troops and the Portland Harbour breakwaters, completed in 1905, provided the Royal Navy with one of the world's biggest man-made harbours.

The need for divers to carry their own DSMBs and be proficient at deploying them was reiterated by Martin of Dive Beyond, Dev and James from the start. Even on "easy" dives situations can change rapidly and separation can occur.

No relying on a guide or regular buddy here, if that's what you're used to!

A whirlwind of a RIB journey back blessed us with dolphins playing in the harbour and exclamations of delight from us all in the warm September sunshine.

Next up was the *Countess of Erne*, perfect for going a little deeper and a great introduction to UK wreck-diving. A former paddle-steamer that came to rest as a coal hulk in 1935, it lies intact and

required awareness of sharp metal as well as the note not to stray away from the plan and risk being caught in tidal flow.

The history extends to the spectacular Portland Mulberry Harbour Phoenix units (now replete with human statues) and Portland Castle nearby.

With our new confidence we all want to go back to explore the harbour area and further along the Dorset coast, perhaps at greater depth and in more challenging conditions. "It whet my appetite for more exploration," said Paula, one of the divers. "So different from tropical waters!"

* Intro to UK Diving Portland weekends can be booked at divebeyond.co.uk, or through aquanautscuba.co.uk

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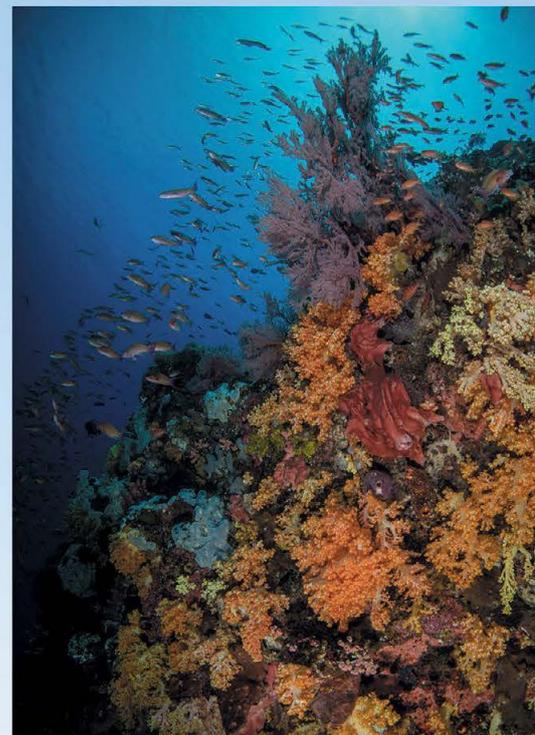


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