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diving in our own backyards, for reasons that will surprise nobody. For all those of us based in the UK we're now well past the point at which diving through winter separates the keen from the cautious.

Let's face it, it was one thing indulging in the joys of backyard-diving in summer after the first lockdown when Covid looked to be retreating (though we all knew it wasn't). Diving in January is that bit more challenging, and does call for decent drysuits and underwear, and a spirit of adventure.

Having said that, plenty of divers swear by the experience, and if that's the only way to get under water while overseas exit routes are largely blocked, it's worth making the effort.

That's why we've rounded up major inland sites in this issue, because in the here and now they could represent your best chance of submersion.

We asked the divers who run these sites to tell us what makes them special, and if you're not that familiar with their offerings you might be surprised by the sheer range of purpose-sunk attractions, wildlife and often impressive topside facilities. Imaginative underwater photographers shouldn't under-rate their potential either.

We put this guide together during nationwide lockdown. It wasn't easy to get hold of everyone and, understandably, many were unsure exactly what they would be allowed or able to offer in the short-term.

But whether you test the waters in January (less chance of queing for the car park!) or wait until later in the year, we think our inland sites will have a more important role than ever to play in our diving this year. Check out the possibilities near you.

THE OTHER SIDE OF THE COIN is that vaccines are arriving, scientists (never mind the politicians) are predicting a return to some sort of normality by summer, and these greenish signals mean that we can start to think positively about booking overseas trips.

The travel industry has bent over backwards to provide safeguards in the form of deposit-return or voucher schemes, and pointed out that this could be your chance to secure a place on the sort of trip for which you might in normal times have had to join the queue.

So as long as you take the usual precautions of sticking with reputable, properly bonded travel operators, it's worth considering booking your next diving holiday now and having something to look forward to. We reckon the offers will start tumbling out as January unfolds.

Much of the virtual discussion at recent international forum the World Travel Market centred on seizing the opportunity to rebuild the travel industry *better* in the wake of coronavirus. We know that travelling divers are acutely conscious of the need to protect environmentally fragile destinations and also to limit air-miles.

So I'll just drop in this idea, inspired by Malta's invitation to divers now working from home to transfer to an island apartment from which they can spend their spare time under water. If your office is wherever you park your computer, why not? The same goes for retirees. So will the trend be for fewer but longer dive holidays in future?





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JANUARY 2021

the magazine that's straight down the line...

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FEATURES

16 **Diving the Night Shift.**

Blackwater diving – it's sweeping the ocean!

Jurassic Survivor 24 It lurks in US lakes - meet the paddlefish

28 Down to the Rivets..... North Sea divers help to build a model U-boat

38 Inland Sites Diver's Guide.....

48 **Ever Snapped a Seadragon?** Images of a diver favourite are in demand

50 Longimanus Feeling the Heat... Shark surprises on Red Sea liveaboard trip

56 Whale Milk & Jellies Winning images from a European photo contest

60 Scottish Star Turns.... Ross McLaren revisits some favourite wreck sites

> COVER IMAGE: . Paper nautilus on blackwater dive, Philippines















REGULARS

First In Editor's view

6 Taking DCI too lightly - and a great weight find

15 Beachcomber..... Bond-style underwater chase – or is it?

33 **Trewavas** If you doubt the science, don't be a diver!

34 Be the Champ! Alex Mustard on how divers enhance wreck photos

59 **Booking Now..** Get away from it all in 2021!

64 Review New books on sharks & shipwrecks

66 **Diver Tests** Mares Dragon BC plus a weightbelt & a dive-mask

70 Just Surfaced... New but untested products

78 **Deep Breath** 'Teaching a diver with a disability changed my life'

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PLUS

73 **Dive Holiday Directory**

74 **Classified Ads**

76 **Dive Centre Directory**

Advertisers' Index 76

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Divers are too ready to dismiss DCI symptoms

involving decompression illness are falling, but where DCI does occur the increasingly common factors appear to be diving below 30m and repeat diving – and too often apparent symptoms are shrugged off by divers.

That's one of the findings in the British Sub Aqua Club's *Diving Incident Report* for 2019, published this month.

UK diving's national governing body moved to reporting by calendar year for the first time last year.

The report analysed a total of 271 incidents throughout the UK along with others overseas, and includes

comprehensive synopses as case studies from which it's hoped divers can learn lessons.

The number of incidents reported in 2019 was slightly up on the previous year, reflecting what BSAC believes was an increase in diving activity including an early start to the season, as well as inclusion of incident reports from Ireland, provided by the Irish Underwater Council.

There were 13 UK fatalities, down by four from the previous year but still in line with the annual average for the past decade of 14.1.

One of the divers was over 70 and the average age was 58.3 (in 2018

three divers had been over 70 and the average age was 56).

BSAC says that age and potential related health and fitness issues could still be critical factors among fatalities, and that there were "strong indications" that pre-existing medical causes or immersion pulmonary oedema (IPO) remained factors in a number of diving deaths.

The number of fast ascents increased, it says, with indications that the increase was related either to failed deployment of delayed surface marker buoys or equipment malfunctions.

In a number of incidents, evident symptoms of DCI had been dismissed as allergic reactions or explained by tiredness or physical trauma, with treatment sought only when symptoms persisted over an extended period.

BSAC Incidents Advisors
Prof Clare Peddie and Jim Watson,
who compiled the report, caution
divers that DCI symptoms should not
be dismissed even where missed
stops or a fast ascent are not factor,s
because of the risks involved with
repeat diving and diving below 30m.

The British Sub-Aqua Club

They also stress the importance of ensuring that equipment is regularly serviced and replaced once past its

recommended life-span.

Diving Incident Report

"As has been stated for over 50 years in our annual report, most of the incidents reported within this document could have been avoided had those involved followed a few basic principles of safe diving practice," they write.

Most of the incidents in the report are derived from BSAC's incident reporting forms, which are supported by all diving agencies in the UK and Eire, with additional data supplied by the Coastguard, RNLI, Ministry of Defence, PADI EMEA and ROSPA.

The report can be downloaded at bsac.com/document/bsac-diving-incident-report-2019/



SCUBA-DIVERS' weight in relation to their health is the latest topic to be researched by DDRC Healthcare as part of its long-term Health of Divers project. The Plymouth-based divingmedicine organisation is asking for as many divers as possible to participate by completing a questionnaire and encouraging others to do so.

"Weight is currently a hot topic with regard to good health, and never more so than since the outbreak of Covid-19," says DDRC, which holds data on weight trends among divers dating back as far as 1990.

Its first anonymous study in 1999 revealed that just over a third of participating divers were either overweight or obese.

By 2019 that figure had soared from 34 to 69% – an alarming finding, although in line with national trends.

DDRC Healthcare says that apart from collecting data for its research it hopes the survey will get divers talking and thinking about watching their weight and health.

The organisation specialises in diving medicine, hyperbaric oxygen therapy and medical training, and delivers a hyperbaric medical emergency service alongside its charitable diver-health research and education activities.

Its previous Health of Divers surveys have covered diving in relation to alcohol; asthma; cardiac, dental, mental and women's health; decompression illness; illicit, prescription and over-the-counter drugs; ears; and flying.

More information on the findings, leaflets and Powerpoint presentations created for divers and clubs can be downloaded from ddrc.org

DDRC Healthcare assures divers that all information shared in its 30-point Weight & Health questionnaire, which can be found at surveymonkey.co.uk/r/DDRCweight, is anonymous and "will be totally untraceable to you".

Aim for Underwater Photographer

THE UNDERWATER Photographer of the Year 2021 contest (UPY 2021) is open for entries – but only until 5 January.

Originating in 1965 and today regarded as one of the world's leading underwater photo competitions, the annual event attracts thousands of entries.

The last one included work from some 500 photographers – but the coronavirus pandemic has resulted in some changes for the latest.

"We're well aware that international travel has been restricted, but many photographers have been shooting more locally, or had time to dive into their archives and find some hidden gems," says chair of the judges Alex Mustard.

"We've introduced a new My Backyard award to celebrate images taken close to home, wherever that may be."

The 13 categories, with themes such as Macro, Wide Angle, Behaviour, Conservation and Wreck, are aimed at new photographers and those with more basic camera equipment, and four are dedicated to photos taken in British waters.

UPY 2021 will not, however, involve a prize-giving. "We know that winning prizes is a major motivation for entering photographic competitions and we're really proud that UPY has given out so many in the past – and surely will in the future," says Mustard. "However, the diving industry has been severely impacted by the events of 2020, and in support of these companies we feel it's not an appropriate time

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Lifeboats out as Skye dive-boat fails with divers down...

A GROUP OF NINE scuba-divers had to be picked up by the Kyle RNLI lifeboat in Loch Alsh on Scotland's north-west coast after their new dive-boat broke down on its first day in action.

The Spirit of Fred. Olsen lifeboat was called out just before mid-day on 21 November. The first divers to surface following their dive on the 20m-deep HMS Port Napier WW2 minelayer had found that their boat had drifted away from the dive area and was unable to retrieve them.

The cox'n had called for assistance after the vessel suffered engine failure. Loch Alsh lies between the Isle of Skye and the Wester Ross mainland, from where it took the lifeboat only two minutes to reach the scene.

Three divers had already surfaced and were trying to board a passing supply tender, the SD Raasay but were having difficulty because of its large size. The lifeboat crew picked them up and helped them to board the tender before helping another diver who had just ascended.

Fishing vessel the Helen Bruce picked up another three divers and transferred them onto the SD Raasay while the lifeboat waited to pick up the last two divers when they surfaced.

The tender carried the group back to Kyle, while the lifeboat went to take the disabled dive-boat under tow and return it to Kyleakin on the Skye side of the loch. The whole operation took 110 minutes.

"The diving party had just purchased their new dive boat and were extremely wellequipped," said a Kyle RNLI spokesperson.

"However, unfortunately they were extremely unlucky and the boat suffered a severe mechanical failure, which left it completely disabled in the water.

"Due to the swift action of the divemaster calling for assistance early, the entire group were all recovered quickly and safely."

The call-out was the 20th of the year for the Kyle lifeboat volunteers. ■



...and lucky buddy-pair found in dark in Wales

TWO DIVERS who went missing off the Pembrokeshire coast late in the afternoon on 14 November were found drifting in the dark off Skomer Island by an RNLI lifeboat crew following a two-hour search.

According to the Maritime & Coastguard Agency the divers, a man and a woman, had been due back in Martins Haven with the rest of their group, but when it was reported that they had gone missing a search operation was mounted at 4.45pm.

Involved in the search for the buddy-pair were the Coastguard

helicopter; three lifeboats from Angle, St Davids and Little Haven; the Dale and Broad Haven Coastguard rescue teams, police and two tankers that had been in the vicinity.

"The two divers were in a dire situation when the lifeboat found them," reported the Coastguard, but a later examination by paramedics showed them to be unharmed.

They said they had been caught in a current and swept away from the rest of their group.

Lockdown restrictions had just been relaxed in Wales at the time.

"Our volunteer lifeboat crews have continued to operate throughout the pandemic and remain on call 24/7 to respond to emergencies," said RNLI Head of Water Safety Gareth Morrison.

"But anyone going on or in the water must understand the risks and take the necessary steps to keep themselves as safe as possible.

"During the pandemic, we must all take reasonable precautions to reduce the demands on RNLI and independent lifeboat crews, HM Coastguard, and other emergency services."



of the Year — but hurry!





for photographers to be asking them for prizes."

Underwater photographers Peter Rowlands, Martin Edge again join Mustard on the judging panel, and the competition incorporates a bespoke results system, providing feedback to every entrant on how far through the contest each of their images progressed.

Enter UPY 2021 at underwater photographeroftheyear.com

Six-day dive in Dahab

EGYPTIAN SCUBA-DIVER Saddam Killany, 29, has claimed a new world record for longest saltwater dive, after staying under water for almost six days in Dahab in the northern Red Sea. The claim awaits verification from Guinness World Records (GWR).

Killany was said to have spent five years preparing for his record attempt. Submerging on 5 November, he was attended by a medical team supervised by Adel Taher, well-known to divers as director of South Sinai's Hyperbaric Medical Centre.

Killany was monitored on camera throughout his dive, and GWR will have to scrutinise some 143 hours' worth of video footage to ensure that all its conditions were met. The diver passed the time by exercising, praying, eating and drawing – one of his favourite pastimes is said to be underwater painting.

In September he and his Spanish

fiancée, fellowdiver Pia Legora, had made headlines

headlines in Egypt by holding their engagement ceremony under water.

Current world record-holder and the man Killany's dive was designed to beat is Turkish diver Cem Karabay. Killany had been aiming high at 150hr but in the end his medical team had become concerned about his health.

Karabay had recorded a time of 142hr 42min 42sec in northern Cyprus in 2016.

That was the fourth of his GWR underwater endurance records, which include longest dive in a controlled environment (192hr, 19min, 19sec in 2011) and longest coldwater sea dive (30hr 20min in 2018).

Cornish diver lifts unique weights

merchant's weights have been recovered from the *Schiedam*, a 17th-century Dutch-built shipwreck near Gunwalloe on the west side of Cornwall's Lizard Peninsula.

Local maritime archaeologist and author David Gibbins excavated and raised the octagonal weights over the course of five dives in September, but has only now announced the significant find after preparing a detailed report on their origins.

The remains of the ship, also known as the *Schiedam Prize*, were discovered in 1971 at depths of 4-7m. Designated as a protected wreck, since 2016 the site has been investigated by Gibbins and local dive operator Mark Milburn as Cornwall Maritime Archaeology, under licence from Historic England.

Coat of arms.

In 2018 Milburn wrote for **DIVER** about diving and exploring the wrecksite as shifting sands allowed. On her final voyage from the Netherlands, the *Schiedam* was captured by Barbary pirates off Spain – and then captured again 10 days later by the English captain Cloudesley Shovell.

As a sixth-rate ship of the line, she was subsequently used to carry guns and other equipment, labourers with their families and horses during the English withdrawal from the North

African trading post of Tangier.

The convoy was dispersed in stormy weather and the Schiedam ran aground off Cornwall on 4 April, 1684. No lives were lost, and some salvage was carried out at the time.

The weights were spotted as Gibbins and Milburn dived the wreck in 2017.

"It's a difficult place to dive because of the heavy seas that batter this coast for much of the year," said Gibbins.

"After a storm in 2017 we were amazed to see the wreck completely exposed, with cannon and other artefacts visible on the seabed.

"We began to explore a gully and Mark saw three metal objects sticking out of concretion. We knew that these were very significant finds and that they were at threat of damage from the rocks that roll up and down the seabed during storms.

"We contacted Historic England and received permission to recover them, but by the time we were able to return they were deeply buried in sand and impossible to excavate.

"In September 2020 I snorkelled over the site and saw that we were finally in luck – the artefacts were exposed again. Over five dives I was able to free them from concretion and bring them ashore."

Used by traders in Tangier, the 19 x 33cm artefacts are thought to be far older than the ship. Portugal occupied Tangier from 1471 to 1661 and they bear the Portuguese royal coat of arms in relief on their sides, along with









AVID GIBBIN



small symbols of a ship. Gibbins believes they were probably cast in a gun foundry – and destined to be recycled for their bronze in England.

"They are unique among surviving Portuguese weights for their age, size and decoration, and are among the oldest and most unusual artefacts to be recovered from a shipwreck off Cornwall," he said.

"It's fascinating to think of these objects having a two-fold history: the

first representing the English adventure in Tangier under King Charles II in the late 17th century, and the second the Portuguese Age of Discovery over a century and half earlier.

"It was thrilling to make this discovery and we look forward to more revelations as our investigation of the wreck continues."

Gibbins' detailed report can be found at davidgibbins.com ■

Diver couldn't save husband from shark

AN INQUEST HAS been held into the death of an experienced diver following a great white shark attack in Western Australia early in 2020.

DIVER reported the incident at the time, pointing out that such fatalities involving scuba-divers were unusual.

Gary Johnson, 57, was president of Esperance Dive Club, and he and his wife Karen Milligan dived together

from their boat most weekends. On 5 January they were out at a favourite site called Devils Rocks near Cull Island, about four miles out from their home town of Esperance, south of Perth.

According to a report on proceedings at the Coroner's Court of Western Australia by WA Today, the

couple entered the water at midday to set a supplementary anchor-line by tieing onto a rock at a depth of around 15m.

Although Johnson habitually deployed a "Shark Shield", a device based on a trailing 2m cord that creates an electrical field designed to repel sharks, he tended to turn it off while attaching the line because on a previous occasion the two lines had tangled and he had received a shock.

Milligan told police investigators that he would always turn the shield back on once the line was attached.

She saw her husband swim away carrying the line, but lost sight of him behind a mound.

When he reappeared she also saw "a large shark-tail flapping up and down," according to Senior Constable Craig Robertson, and described the

unable to lift him. "Ms Milligan had formed the belief that her husband was no longer alive and her attempts to get him on the boat were futile," said the police officer.

"She released him from her grip and he sank beneath the waves."

Milligan issued a Mayday call from the boat, and was later treated in hospital for shock.

> Johnson's body was never found, though subsequent searches turned up the remains of his wetsuit, fins, BC and tank.

The presence of a great white shark was detected through DNA-testing of the items.

Coroner Sarah Linton said she was satisfied that Johnson had died and

would no longer be officially categorised as a missing person.

"From the moment of the attack, there was nothing that you could have done – it was a sudden, fatal attack," she told Milligan.

Since the incident occurred the state government has installed three shark-warning towers at popular beaches around Esperance, and there are plans to build an in-water memorial to Gary Johnson.



water as filling with blood and sand.

She swam forward to try to ward off the shark with her camera, but in the stirred-up conditions lost sight of both the shark and her husband.

But heading back to the boat she found Johnson with his eyes open but unresponsive, his right arm badly mauled and his mask and tank gone.

She tried to get him back aboard the boat, attaching her own BC to him to help keep him afloat, but it proved



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Poland trumps Italy with 'diver kindergarten'



THE WORLD'S DEEPEST artificial diving pool is now Deepspot, which opened in the Polish town of Mszczonow, 25 miles from Warsaw, on 21 November.

At 45.5m the pool beats the former record-holder, which is also in Europe – Deep JoyY-40 in Montegrotto Terme in Italy is 42.5m deep.

Providing another confined-water environment for advanced scuba and freediver training, Deepspot includes five layers of artificial caves and a Mayan chamber for overhead-environment work, as well as a small boat. The main pool section descends to 20m.

The pool holds 8000cu m of water – more than 20 times as much as most 25m swimming pools. Construction took two years and cost around £8 million.

There are plans to put up visiting divers in an adjacent

hotel from which they can watch the underwater activities through viewing windows 5m deep.

The Deepspot complex was able to open to the public during the coronavirus pandemic because it is classed as a diver-training centre. A dozen divers used it on the first day, including eight on an instructor course, one of whom described the facility as a "kindergarten for divers".

A one-hour slot costs from £67 for one and £105 for two divers with an instructor, £75 for two divers and £146 for two instructors, deepspot.com/en

Questions remain after UK diver's death in Mexico

NEWLY GRADUATED British doctor died on Mexico's Yucatan peninsula during an open-water course dive – and her instructor called for her mobile phone to seek advice rather than trying to rescue her.

That was the claim made at an inquest held in Bristol on 24 November into the death of Dr Olivia Byrom on 8 June, 2018.

Shortly after the fatal incident, a friend of Byrom's contacted **DIVER** to say that her family had been left in the dark about the circumstances of her death.

DIVER subsequently contacted the main dive-centres in the Tulum area for information but there appeared to have been a news black-out.

PADI told **DIVER** at the time that a report had been filed and was under review, and that "there will be Quality Management action taken as a result of an incident occurring while the victim was in training".

Byrom, 29, had gone travelling in Mexico with friend and fellow-doctor

Olivia Bird soon after completing her six-year medical degree at Bristol University.

Bird was a qualified PADI diver. though it is unclear to what level. She had enrolled on a refresher course and Byrom had signed up for a five-day entry-level course in the resort town of Tulum, though the name of the dive-centre was not given in reports on the inquest by the Bristol Post and Daily Mirror.

Coroner Jason Pegg heard that Byrom had dived on 5 and 6 June without issues, but had taken the following day off after showing signs of heatstroke. Feeling better on the day of the incident, she had gone for an 18m dive with her friend and an instructor named only as Peggy.

It was not clear from the reports at which point if any on the dive the instructor had left the other two divers

Bird told the coroner that Byrom "was ahead of me all the time, and I was conscious that when diving you need to be close to each other". They

had ascended a buoyline and carried out their 5m safety stop, during which she said Byrom had "seemed fine".

They had stopped again 1.5m below the surface, and Bird said that she had given the OK signal to Byrom before completing the ascent, but that she had shaken her head.

"I was quite confused; I didn't really know what was wrong," Bird told the coroner. "She then turned away from me as if she was fiddling with something."

Surfacing, she realised that Byrom was no longer with her, and looking down could see her descending "almost horizontal - on reflection, I wonder if she was unconscious".

At the surface Bird had alerted the instructor, who she described as "confused". She said that instead of diving in to look for her friend she had asked someone to fetch her mobile phone from her car so that she could call a superior for advice.

Byrom's body was later found by another diver on the seabed at a depth of 25m. A post mortem showed



that she had died from drowning, and that there were no other medical conditions.

No problems were found with her BC or other diving equipment.

The coroner commented that, although he would normally have the power to make a report to avoid the risk of future deaths of this sort, his iurisdiction did not extend to Mexico.

"There was a delay in seeking assistance for Liv, the instructor didn't go down to seek to rescue Liv and the safety system in place was inadequate," he said, concluding that Byrom died of drowning caused by a scuba-diving accident." I find the procedures in place, the safety mechanisms, were inadequate, and that did play a part in Liv's death."



A WW2 ANTI-SUBMARINE depthcharge found by recreational scuba divers off the Channel Island of Guernsey was detonated five days later by a Royal Navy explosive ordnance-disposal (EOD) dive-team.

A 200m exclusion zone had been imposed on marine traffic following the discovery near the entrance to the Oueen Elizabeth II Marina in St Peter

Port. The dive-team inspected the overgrown 1m-long cylindrical device, which lay isolated in the sand at a depth of around 7m.

The controlled explosion was carried out on 15 November at mid-day, timed for low tide to minimise the risk of a shockwave affecting a nearby breakwater.

Guernsey was occupied by German forces during the war and the bomb had at first been thought to be German or British, but the EOD team believed it to be a US-made lightweight torpedo depth-charge containing about 100kg of explosives.

An RN representative expressed surprise that the bomb, probably set to explode at a depth greater than 7m, had remained undetected and intact for at least 75 years.

DIVERS FIND BONES, BOOTS & WEAPONS

THE REMAINS of a young 16thcentury soldier have been found by archaeological divers in Lake Asveja in eastern Lithuania.

They found the bones beneath a layer of mud and sand at a depth of 9m while excavating the remains of Dubingiai Bridge, which spans the northern part of the lake.

The discovery was described as the first of its kind in Lithuania by **Elena Pranckenaite from Vilnius** University's archaeology department. She said that the location was not a burial site, and

that the soldier had been identified as such because he was found with his sword, two knives and wellpreserved leather boots.

Whether or not he met a violent end could not be determined but the bones have been sent for forensic investigation at the university's medical faculty. The possessions were being conserved at Lithuania's National Museum.

Lake Asveja lies in the east of Lithuania, north of the capital Vilnius, and is the country's longest lake at nearly 14 miles.





Two weird squid species caught on camera

which can be seen at schmidtocean. org, a scientist exclaims: "What on Earth...?" as the rare squid appears

"Any cephalopod experts out there know who this squid friend is?" the team later asked on Twitter. After facetious suggestions involving Minions, it was soon confirmed that a spirula had been captured on video for the first time.

The ram's horn is regarded as one of the most unusual squid species. Cuttlefish carry in their tail an internal shell containing gas chambers that they use to control their buoyancy, but the ram's horn squid is the only other known mollusc to have developed such an arrangement.

The squid's skeleton is tightly coiled, unlike that of a cuttlefish, and its design resembles that of nautiluses, which have external shells.

Experts studying the new footage were particularly surprised to see the ram's horn squid floating head up, fins down. Because of its buoyant shell

> and relatively heavy head, they would have expected it to be the other way round.

This also means that its tailmounted light-generating "photophore", used by deep-sea creatures to spot prey, faces

This would normally be considered an unhelpful

arrangement because it leaves the creature exposed to predators below.

Meanwhile it was announced that elusive bigfin squid (Magnapinna) had been seen and filmed in Australian waters for the first time.

They were spotted by researchers in the Great Australian Bight on two separate scientific voyages.

Bigfin squid can be as long as 7m because of their trailing arms and tentacles, and live in the deep ocean, so there have been relatively few sightings worldwide.

The two voyages were carried out by Australia's national science research agency, the Commonwealth Scientific & Industrial Research Organisation (CSIRO). The sightings took place in 2015 and 2017, but the scientists' report was only recently published, in Plos One.

On the first voyage, underwater cameras were towed at depths between 946 and 3258m, resulting in two sightings. ROV-mounted cameras were used two years later, capturing images of three more squid.

The five squid were seen in one small part of a wide search area, though the scientists were able to confirm them as distinct individuals by their markings and colour.

Precise dimensions were obtained for the first time by projecting laser beams onto the squid. One was 1.8m long, with its body making up only about 15cm of its overall length.■

Fire puts focus on li-ion battery-charging

US COAST GUARD inspections of diving liveaboards and other small commercial vessels are normally carried out when there are no passengers aboard – but now inspectors have been instructed to scrutinise how lithium-ion batteries are used, charged and stored.

The directive comes in the wake of the US National Transportation Safety Board (NTSB) report into the fire that killed 34 people on Californian liveaboard the Conception last year.

No definite cause of the blaze has been established, but investigators have pointed to the lithium-ion battery-charging area as one of three possible ignition sources, besides smoking and the main electrical system. The NTSB report established that the fire originated at the back of the mid-deck saloon where the charging area was located.

Witnesses described a "spider-web

of charging, with divers connecting a variety of li-ion batteries using a series of extension blocks. And a crewmember had reported seeing sparks on plugging in his mobile phone the previous night – the fire occurred in the early hours of the morning.

It also emerged that a 2018 fire aboard another Truth Aquatics fleet vessel had been caused by an overheating li-ion battery.

According to the Los Angeles Times, the Coast Guard policy letter issued at the end of October directs inspectors to look out for batteries not stored in cool, dry places away from combustible materials, or in spaces not continuously monitored



visually or by smoke detectors.

They should also look out for batteries being charged using "daisychain" multiple extensions, and verify that crew are trained to extinguish li-ion battery fires. Dry chemical extinguishers or a smothering agent should be readily available to them.

The Coast Guard has been accused of being slow to tackle the issue, but with boat inspections usually carried out without guests aboard, charging areas are not seen in typical use.

It now wants to ensure that operators take responsibility for the issue in safety briefings and through monitoring of battery storage and charging areas. Whether they can check that divers use only undamaged batteries authorised for the device they power is another matter, although the NTSB has noted that many batteries involved in fires are "substandard knock-offs"

A MALE scuba-diver died in an incident in Scapa Flow on 28 October. The man went missing at 10.47 at a location south-east of Houton Head, in the south of the Orkney mainland.

He was reported by the Press & Journal to have been diving on the German battleship SMS Markgraf, one of the deepestlying of the scuttled WW1 Scapa shipwrecks at 45m.

The Coastquard responded to a call at around mid-day by sending its Stromness rescue team and a helicopter from Stornoway in the Hebrides with the Stromness and Longhope lifeboats and a diveboat in the vicinity.

The diver's body was quickly found, police told the Orcadian, but the diver's name was not disclosed. An investigation was under way.

Freda's Diver Dishes

Veganuary (= Vegan + January) is a concept created by Jane Land and Matthew Glover in 2014 and it has been a feature of many people's calendars every year since then. Why not try it yourself in 2021?



I have learnt that people who try to embark on a vegan or plant-based diet often struggle with lunch options and never know what to put in a sandwich. So, to make this easier for you, here is my favourite sandwich filler, wrapped up in a beeswax sustainable wrap to keep it fresher for longer.

Butter Bean & Rose Harissa Roasted Red Pepper Sandwich



Ingredients

1 x 400g tin butter beans, drained & rinsed;1 large red pointed pepper, sliced; 2 tsp Rose Harissa paste; 4 sundried tomatoes, sliced; 2-3 tbsp rapeseed oil; sea salt & pepper; 2 fresh rosemary sprigs

Method

Drizzle a little oil into an ovenproof dish, toss the red pepper & rosemary sprigs into the oil and season well. Bake for 25 minutes at 180°C until soft and crispy at the edges. Set aside.

Place your butter beans, rapeseed oil and Rose Harissa paste into a mixing bowl and roughly mash, using a potato-masher.

Discard the rosemary from your cooked red peppers and gently mix the peppers with the butter bean mash along with the sundried tomatoes. Season to taste.

Your filler is now ready to turn into a sandwich using your favourite bread. Just add fresh spinach leaves and keep it in a beeswax wrap ready for your next dive adventure.

Top Tips

Keep the sandwich filler in a jam-jar and it will last 3-4 days. It is also delicious served in a jacket potato as a super-quick supper option.

When buying tinned butter beans make sure they are in water with a little salt added only — no other ingredients. Beans are a superfood, packed with protein, fibre and other nutrients. Lima or butter beans are an especially good source of iron — one cup contains roughly 25% of your daily recommended iron. To make this sandwich filler a complete protein containing all nine essential amino acids, add a spoonful of dried pea protein to the mix.

** 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

Mono masterphotographer Ernie Brooks dies

MERICAN UNDERWATER
photographer Ernie Brooks II,
who described himself as
"ambassador to the marine
environment, photographer,
adventurer, diver and educator",
has died aged 85.

Brooks came from a line of photographers. His father Ernest H Brooks had set up the Brooks Institute of Photography in Santa Barbara, California in 1945 and his grandmother had been a professional portrait photographer.

He was still living in Santa Barbara when he died on 17 November.

He began scuba-diving in 1949 aged 14 and built his first underwater housing for a Leica camera at 19.

He would prefer mono photography throughout his long career: "I don't think that blue, an inherent colour of the ocean, really adds to many photographs, especially of mammals – and I like the quality of black and white," he said.

"Also, I get the personal satisfaction of working with black and white in being able to control the development and printing."

He graduated from the Brooks Institute, of which he would later become president from 1971 until it was sold in 2000, and went on to study underwater film-making with scuba pioneer Hans Hass.

In 1956, while serving as a USAF pilot in Africa, he met Jacques Cousteau and went on to train many of his photographers over 17 years.



Brooks participated as a leader or principal member in many international photo-investigation projects including Arctic research stations in 1977, the Shroud of Turin in 1978, Focus on New Zealand in 1985, and the Sea of Cortez the following year, an example of expeditions he led on the institute's research vessel *Just Love*. He reckoned to have carried out some 15,000 dives.

He won numerous accolades and awards for underwater image-making achievements, and described photography as a "vehicle to new lands, a medium for self-expression and a gateway to adventure... The ocean and underwater photography are among my main interests and, in pursuit of dramatic marine images, I have dived beneath the polar ice-caps and in almost every ocean on Earth.

"I have grown to love the craft, its art, and the very private and personal time that it takes to pursue perfection," said Brooks.

"Photography affords us the tools to sculpt with light, to paint with textures and shapes and to write volumes into a single image."

DOLPHINS SLOW HEART TO BEAT DCI

DOLPHINS REDUCE their heart rates just before they dive to avoid decompression illness, according to a new scientific study.

Researchers at the Oceanographic Foundation in Valencia, Spain led by comparative physiologist Andreas Fahlman trained captive bottlenose dolphins to undertake short or long dives on command, and used electrocardiography to measure the heart-rate adjustments they made.

To prepare for a long dive the dolphins reduced the rate further and

faster than for a shorter dive. By deflating part of their lungs they allowed blood or air to flow to areas under pressure, conserving more oxygen and limiting nitrogen intake.

Fahlman believes the action is not a reflex but conscious."They can basically step on and off the gas pedal when they want to," he said.

The worry is that this mechanism could be adversely affected by stress caused by sonar signals or industrial underwater noise. The study is published in *Frontiers in Physiology*.

FOUR UNDERWATER IMAGES UP FOR PEOPLE'S CHOICE



FOUR UNDERWATER photographs are among the 25 images put forward for this year's Wildlife Photographer of the Year People's Choice Award.
Online voting in this side contest of the Natural History Museum's annual competition opened in December and continues until 2 February.

The images were shortlisted from more than 49,000 competition entries from across the world.

Images to look out for on the NHM voting site nhm.ac.uk/wpy/peoples include *Turtle Time Machine (above)* by Thomas Peschak. At Little Farmer's Cay in the Bahamas endangered green turtles can be easily observed thanks to an ecotourism project run by fishermen, some of whom once hunted turtles, says Peschak, who reckons that it offers a glimpse to the days when mariners could claim to



run aground on massed green turtles.

Andrey Shpatak's Eye to Eye (above) depicts a Japanese warbonnet, a bold fish that will confront divers.

Drawn and Quartered" by Laurent Ballesta (below left) shows a nocturnal hunting scene centred on two grey reef sharks tearing a grouper apart at Fakarava Atoll in French Polynesia; while Sam Sloss' coconut octopus in Shut the Front Door will be a familiar sight to many divers who have experienced Lembeh Strait.

The Natural History Museum in London reopened on 3 December, and the People's Choice Award winner will join the existing 100 images in its Wildlife Photographer of the Year exhibition, which continues until 4 July next year.

The top five People's Choice images will also be displayed online.





Bite-Back launches 2021 calendar

IT'S THAT TIME of year when a British marine-life charity popular with divers reminds us of its work by launching a pictorial calendar.

Once again well-known underwater photographers have chipped in with hand-picked images and commentary to help Bite-Back Shark & Marine Conservation raise funds for its campaigns to make Britain's retailers shark-free.

The line-up in the 2021 Bite-Back Calendar is Alex Mustard, Amanda Cotton, Christian Vizl, David Doubilet, Doug Perrine, Ellen Cuylaerts, George Probst, Greg Lecouer, Jason Isley, Laura Storm, Shawn Heinrichs and Tanya Houppermans.

"This edition is packed with spectacular images to celebrate the marine environment in all its glory," says the charity's campaign director Graham Buckingham. "Significantly, every purchase of this calendar will directly fund our campaigns to end the trade and consumption of shark products in the UK."

Bite-Back has made significant progress nationwide in limiting sales of shark-fin soup, shark-meat and items such as supplements containing shark, says Buckingham.

Printed on recycled paper by a climate-neutral printer using



vegetable-based inks, the A4 calendar is sold at bite-back.com/shop for £12

with free UK delivery, and can also be shipped worldwide.

Dive centre gets behind military

CEAN TURTLE DIVING (OTD) of Basingstoke, Hampshire has become the first PADI dive-centre in the UK to sign the Armed Forces Covenant.

The move is described as a commitment to provide practical support for existing and former military personnel in recognition of their value to the nation.

OTD, one of the UK's three PADI 5* Career Development Centres, has pledged to offer personnel and their families a range of support and services, including discounted scubadiving courses.

It will also be working with local Combined Cadet Force schools to arrange dive-trips and training.

The centre specialises in training divers who might otherwise feel deterred by physical or mental barriers from taking up scuba as a recreational activity.

Owner Kerrie Eade, a PADI Platinum Course Director and Flite Instructor. is an instructor-trainer in adaptive techniques. She and her OTD team offer bespoke training programmes to meet the individual needs of divers



including amputees and those with mental-health issues.

"Being under water is a well-known healer; the benefits of being in nature and slow, deep breathing are welldocumented, and those with physical disabilities are able to be free and independent," says Eade, describing the opportunity to work with veterans and service-leavers as "an absolute privilege for the entire team".

"Over the years I have been lucky enough to see many serving and exservice men and women learn to dive, go on to great things and become instructors themselves," she said.

"Learning to scuba dive has been life-changing for so many people who have benefited both physically and mentally."

Former Royal Green Jackets veteran Paul Ungi, now a support manager

Recruitment Centre in Wiltshire, recently completed a PADI Reactivate course with OTD.

Much of his previous diving had been undertaken while serving in Northern Ireland, but he had left the military in 1998 facing mental-health challenges.

"For me to take that step to introduce myself to Ocean Turtle took a giant leap of faith and confidence, but without doing so I would not have been able to complete my Reactivate Course and regain my confidence," he says.

"The water helps with my mentalhealth issues and I know that when I'm in the water, whether under it, on top of it or by it, the stresses of life ease and I feel so much more positive."

Ungi is saving for a drysuit to continue his UK diving, although he says he is also keen to experience warmwater wreck-diving: "Although I do still suffer with issues, completing the PADI Reactive Course has been just the tonic to get me back where I want to be – under the sea!"



Ocean Witness Greenpeace's online video mag has featured here before but season two is out and it's interesting. The first of four parts is devoted to "paper parks", and we can't knock their dropping of those trawler-snagging boulders in North Sea MPAs! greenpeace.org.uk

Aqaba Baptism Jordan's Tourism Minister Nayef Al-Fayez has told DIVER that an unexpected benefit of coronavirus for him was spare time to enjoy his first Red Sea dives. "I was amazed!" he said. We need more politicians under water – it certainly might have done Trump good!

Blue Wave Whalers killed 42,000 blue whales in South Georgia waters from 1904 to 1971. Hardly any had been seen for decades but now, 50 years after whaling stopped and an MPA was set up, they've got over the slaughter and are back in big numbers. All is not lost yet.

Heart of the Coral Triangle Stand by for an excellent new marine-life book from Alan Powderham, a writer-photographer who really gets results from using a rebreather. Extract next month.

Most fish ever seen in abyss

A SCIENTIFIC TEAM has managed to count the densest swarm of fish ever recorded in the abyssal [3-6km deep] ocean. Exploring one of three seamounts beyond 3km deep, they lured 115 cut-throat eels (*Ilyophis arx*) into their ROV lights, used a small amount of mackerel as bait.

The researchers from the University of Hawaii Manoa made their discovery in part of the Clarion-Clipperton Zone, which runs south from Hawaii almost as far as Mexico.

Sections of the CCZ are now being mined for rare metals and elements. amid warnings from scientists and

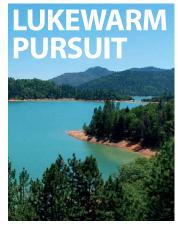
environmentalists of a deep-sea "gold rush" that could imperil barely understood ecosystems.

The scientists were surprised that large swarms of eels should come to feed on all three seamounts, where they would have expected food to be in short supply. Before the discovery, even a 29kg shark carcass dropped at 4.4km had attracted no more than 68 hungry fish.

"The number of eels observed... is truly unprecedented for both abyssal and bathyal [1-4km] depths," say the scientists, whose study is published in ScienceDirect.



DIVERNET.COM



It was the headline that grabbed me: "Ponzi Scheme Suspect Flees FBI Agents, Dives Into Shasta Lake In Submersible". I had visions of a Mr Big con-artist outrunning the Feds as hatchet-faced henchmen warmed up his cuttingedge escape vessel, all ready to go.

I imagined the fugitive disappearing through the hatch with one last triumphal sneer at his pursuers, before making for the depths at high speed.

The reality turned out to be a little different. The perp, one Matthew Piercey, had been charged with fraud, money-laundering and witnesstampering, having parted investors with \$35 million (allegedly).

He led law-enforcement officers a merry chase through California's highways, but when he abandoned his pick-up and took to the state's biggest reservoir it was not to climb aboard his personal submarine but to hang onto a DPV he'd brought with him.

Whether he had time to change into scuba gear or used a snorkel was unclear, though the FBI did report that he spent some time under water, the officers patiently tracing his bubbles.

Far from making good his escape, our anti-hero meekly "came out of the water 25 minutes later".

A Yamaha 350Li scooter should be good for 75min, but perhaps Matt forgot to charge his battery.



Time for magic

The strange state of the world seems to have led many to devote the spare time on their hands to extreme solitary pastimes.

Divers have been thumbing through **Guinness World Records to find openings** that might enable them to achieve niche celebrity. That includes the Egyptian Saddam Killany, who just spent nearly six days under water at Dahab (and must have emerged in prune-like condition).

That really is stretching your bottomtime, and let's hope he gets his reward of GWR recognition. Back in the UK, Martin Rees sensibly limited his scuba submersion to a mere three minutes, but he kept busy in that time, managing to perform an impressive 20 magic tricks - seven more than the previous record-holder.

I say impressive, though I wasn't there and can't say if the tricks were any good. It can't be easy with neoprene sleeves and no covering patter: "Take a card, any card"...

Mind you, his last multi-trick record was achieved on a sky-dive, so dealing cards in a Pinewood Studios tank must have seemed a doddle by comparison.



Good for Paolo

We missed this one somehow – an "underwater museum" with real heft, and it's in the Med.

Paolo "the Fisherman" Fanciulli from Talamone in Tuscany is now 60, and over a long career grew sick of illegal trawlers ripping up the posidonia beds where fish and lobsters lay their eggs, comparing it to "hunters burning a forest to catch a hare".

He has blocked a port, used barbed wire to tear trawl-nets, impersonated cops and became a local celebrity, but eventually his activism drew the attention of mafiosi with their fingers in the fish pie. They stopped him taking his catches to market.

He turned to taking anglers out on his boat and running a fish restaurant, but his activism continued. After some success dropping 80 trawler-snagging concrete blocks at sea, he asked a nearby quarry to donate two blocks of marble to his campaign - and got 100.

So he began persuading wellknown sculptors to transform the blocks into works of art, sank them along the Argentario coast and word spread (eventually even to us).

Thirteen years on, he's still at it. The seagrass is growing back and the fish, turtles and dolphins are moving back in, say local environmentalists. If you want to enjoy a Tuscan holiday and dive the site, it's free. Art power!

Ronnie Fitzgibbon of Waterworld Diving Centre, one of the first to make contact with the dolphin in the '80s, believes his old friend was driven into deeper, calmer waters by relentless autumn storms but is OK.

Male dolphins have been known to live for more than 40 years (females survive a lot longer) but the people of Dingle, while hoping for the best, always knew the day of reckoning would come eventually.

They say the idea of Fungie slipping away quietly and mysteriously at the end of one last summer is far preferable to the obvious alternative.

Just a fluke?

Talking of useful sculpture, did you see the whale's tail that stopped a runaway Dutch train from plunging 10m into water below?

Maarten Struijs's sculpture of two diving whales emerges from water to loom above the elevated end of the metro tracks in Spiikenisse, and the midnight train came to rest balancing on one set of flukes.

There had been no passengers aboard as it hurtled through the buffers at De Akkers station, and the driver avoided becoming a diver and escaped unhurt.

Struijs, who had presciently called his work Saved by the Whale's Tail, expressed astonishment that polyester left out in the elements for 18 years could take the strain of a train."I could never have imagined it that way," he commented.

Plastics and whales tend to give us sleepless nights, so



Shell scheme

With tourists staying away from Thailand because of coronavirus travel restrictions, hermit crabs in its southern waters have come out of their shells to enjoy untrammelled sexual relations, we're told. As a result the population has exploded.

I'm not clear how tourists had been causing the crabs to restrain their passions previously, but perhaps they just didn't like making a spectacle of themselves.

The new generation of crustaceans, as you'll know, upscale to bigger shells discarded by other animals as they outgrow their old ones, but it seems that with the population boom there is now a serious housing shortage.

Homeless youngsters have had to seek shelter as and where they can find it - and it's been tough.

Apparently it's become common to see rubbish - cans, bottles and so on scuttling around on legs in Mu Koh Lanta National Park, but this misshapes the crab's body and limits its next move. So the authorities have appealed to the public to donate proper cone-shaped shells.

The response has been overwhelming, and volunteers have been helping to hand out shells to the needy in December.

Forever Fungie



Fungie the bottlenose dolphin decided while young to make Dingle Bay in the west of Ireland his home, back in 1983. He was named by a local fisherman.

The touchy-feely cetacean seems to have enjoyed interacting with divers and swimmers. A million people are reckoned to have travelled to Dingle to see him, supporting quite the local industry.

Fungie was a solitary but always very friendly dolphin, unlike less stable specimens such as Dusty of Doolin, who would ram and injure swimmers.

Fungie would never normally be out of the sight of humans for more than a day or two, but now he has gone missing.

Either way, fingers crossed for Fungie.



Photo competitions are being won by unique blackwater subjects, and now specific blackwater categories are being introduced to cater for this growing trend. If you haven't done a blackwater dive yet, why the heck not?

Originating from Japan, but brought into the mainstream by the Pelagic Magic dive in Kona, Hawaii, blackwater has now spread across the globe, infecting thrill-seeking divers.

With sunset cocktails forfeited, they are now doing what many would consider crazy dropping into pitch-black open water with the bottom many hundreds of metres below, in search of new and fascinating subjects.

The hunt is then on for marine life that is



Prepare yourself for blackwater - it's the hottest game around, says ALEX TYRRELL

rarely encountered on a standard dive deepwater creatures migrating vertically to the shallows for feeding, as well as larval and postlarval stages of more familiar subjects that will eventually live on the reef after completing this pelagic phase of their life-cycle.

- you drift in deep, open water at night.

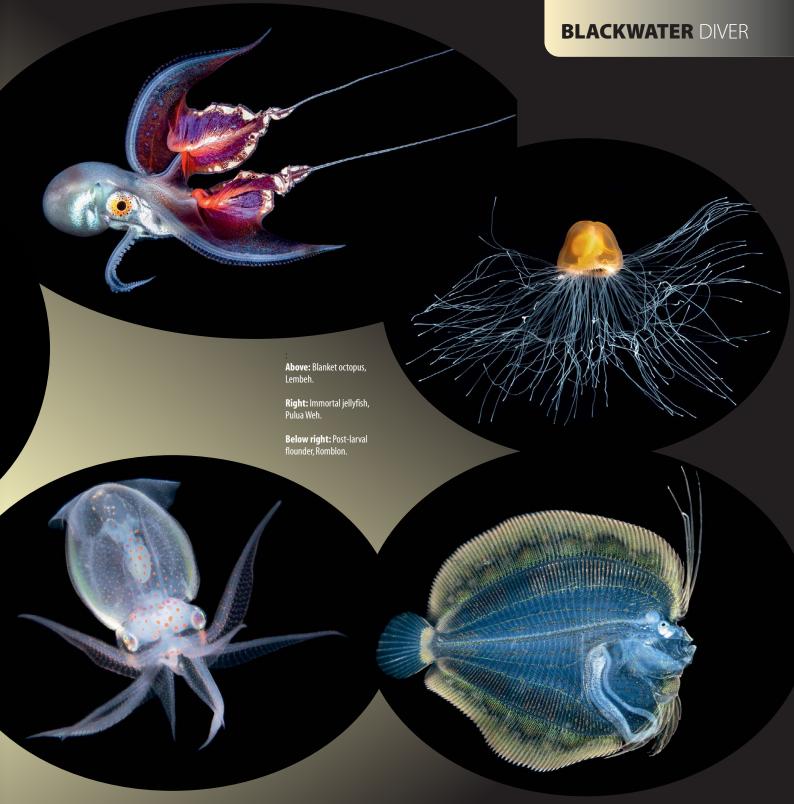
However, dropping divers into such a situation raises obvious safety concerns, so some dedicated equipment is required to keep everyone in the same vicinity for the duration

Some operations tether the divers to lines attached to the boat to ensure that nobody drifts away. But this imposes some restrictions, especially for photographers.

of the dive.

If the subject swims or drifts further out than the length of the tether, you'll end up being held back, like a dog on a leash!

Also, in windy conditions the boat will be blown across the surface, dragging divers along



with it, even if it's using a drogue (an underwater parachute) to slow the drift.

So to allow the divers to move at the same speed as the current, as well as providing the freedom to roam around and follow subjects, most operators prefer to use a downline.

This is an illuminated buoy that has lights strung at intervals down to around 15-20m. It is not affected by wind, so it drifts with the current at the same speed as the divers.

The boat-crew then follow the buoy while also keeping watch in case any divers lose track of the downline and surface, at which point they will signal for a pick-up.

This formula has proven effective for diver safety without compromising the dive experience and photographic productivity.

Powerful lights fixed to the downline have

multiple benefits. Primarily, they allow divers to maintain visual contact as they search out subjects, but secondary benefits include acting as depth-markers, because the divers are informed of the depth intervals at which the lights are attached before the dive.

They also play an important role luring in the marine life, much as insects are attracted to lights at night.

Where to go
I have completed most of my blackwater dives in Asia, mainly with Mike Bartick at Crystal Blue Resort in Anilao (Philippines) and in Lembeh (Sulawesi) with NAD Resort. Both Mike and Simon Buxton at NAD have spent hundreds of hours researching the best tide and moon

phases, as well as suitable locations for optimal results in their respective locations.

I have also completed a few blackwater dives in Romblon (Philippines), Pulau Weh (Sumatra), Bali and the Burma Banks.

I also run regular dives around Koh Tao (Thailand) where I live, although not having deep water in the Gulf of Thailand I class these as "greywater" – we do drift in open water, but with the seafloor only 40-50m below.

Earlier this year, pre-Covid, I managed a couple of dives off West Palm Beach in Florida with Walkers Charters. Here the Gulf Stream provides a constant supply of fascinating subjects, and I would recommend checking out the work of Steven Kovacs, Michael Patrick O'Neill and Linda lanniello to see what this superb location has to offer.

Places I have seen to offer blackwater but that I have yet to dive include Kona (Hawaii); Palau (Micronesia); Moalboal (Cebu, Philippines – covered by Jesper Kjoller in DIVER last December, while Henley Spiers & Jade Hoksbergen also looked at Anilao that June); Kuramathi (Maldives); Bunaken (Sulawesi, Indonesia); and, closer to home, even Basking Sharks Scotland (Oban) offers some blackwater dives in the autumn each year.

I'm sure more places offering this style of diving will emerge as the craze expands.

Training & equipment

These are not dives for inexperienced divers, but

you don't really need any specialised training to participate in a blackwater dives – you need only previous night-diving experience and to be comfortable diving in the dark.

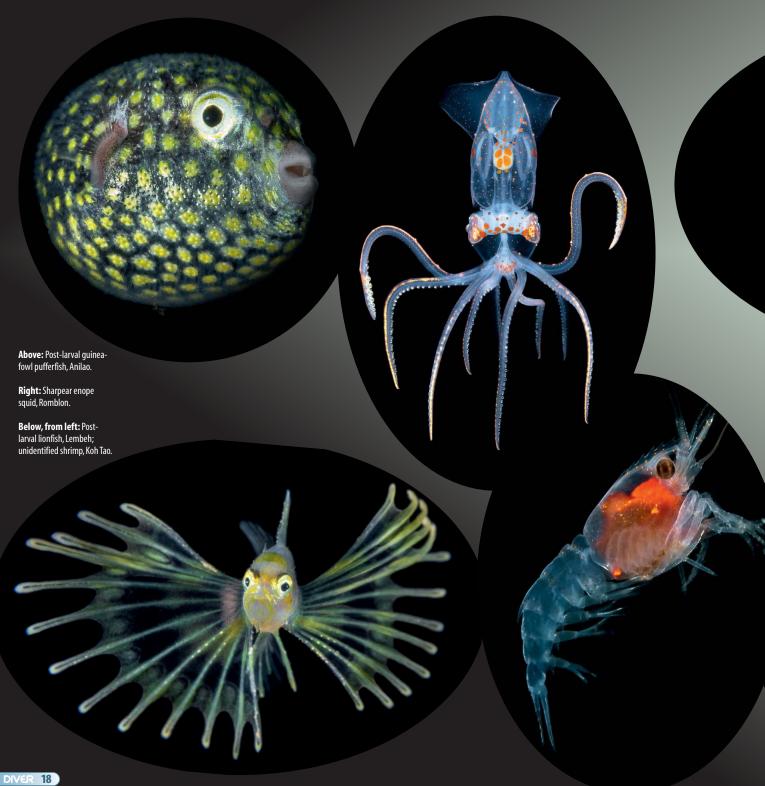
The only extra equipment needed is a divelight and a back-up, just as you would carry on a standard night-dive. Saying that, I do find the following equipment useful:

- * A narrow-beamed torch for spotting. I love my Inon LF-800N with the 5 beam that cuts though haze, letting me seek out subjects from further away.
- * A dive-computer with an illuminated screen and air-integration. My Shearwater Perdix and Teric are great because they are easily read in the dark, showing depth, NDLs, air

- supply and more, without the need to depress a button to activate the backlight. The vibrating haptic alerts of the Teric are particularly good in the dark.
- * Nautilus Lifeline Marine Rescue GPS provides peace of mind if drifting offshore at night. In the unlikely event of you becoming lost, you can activate a distress signal to all boats, ships and rescue craft in the area that is accurate to within 1.5m of your location.

Camera gear & techniques

It's widely accepted by experienced blackwater shooters that the best lens is a 60mm macro, and Nikon has the edge here with the 60mm ED,



which works well on both full-frame and cropped sensor bodies, with the D850 and D500 being the most popular as they have superior AF systems.

A longer macro lens is much harder to use, and the extra working distance will introduce more backscatter. Those with Canon and Sony systems might want to consider the Sigma 70mm DG Art.

Mirrorless M43 shooters have 30mm macro options from both Olympus and Panasonic that will work, and compact-users can still participate, although the slower auto-focus can make the task more challenging.

External "wet" macro lenses are not normally used, because they dramatically reduce depth of

field and make shooting much trickier, but if you do use one, go for a weaker model.

You won't need high-powered strobes, although models with a faster recycle-time are preferable to allow burst-shooting, because sometimes you don't get too long with a subject before it disappears into the darkness.

Tracking your subject in the viewfinder/LCD can be much harder than you would expect in comparison to the sedentary macro subjects that we more commonly shoot.

Working as a buddy-team, with one diver shooting while the other keeps track of the subject, is a good tactic.

Unlike all my other shooting, I find that TTL mode works well here, because I can concentrate

more on tracking the subject and have to check exposures less frequently. But many other photographers I know stick to the standard manual exposures, with great results.

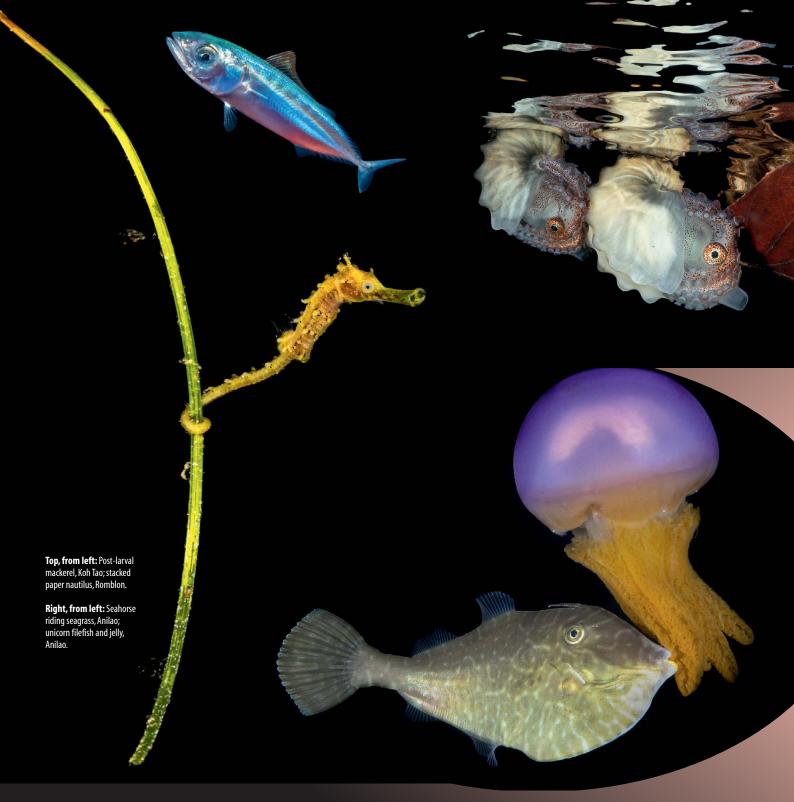
The techniques photographers use for searching out the subjects are varied.

Some opt for multiple lights mounted on their camera system, swimming around with them at high power while hunting, then dialling them down or switching to red mode when they are on subjects.

Others – and this is my preference – use a single hand-held spotting light attached to their BC by a lanyard, and a lower-powered focus light mounted on the camera.

You use the hand-held light to hunt down





your subjects and then, when close enough for the focus light to take over, simply drop the spotting light, letting it dangle below you on the lanyard while shooting.

What to see

With all this blackwater hype, what exactly can you expect to see on a dive?

This will depend a bit on your location, because as with all marine life there are hotspots and seasons for different species.

Also the dive operations' knowledge plays a big part and, as always with wild animals, a large element of luck is involved.

Unlike with normal macro diving, where creatures live in certain environments and can potentially be relocated after initially being

discovered, in the currents of the open ocean there is no going back for a second attempt!

Some of the following I have shot, but there are many that I haven't, because in truth I'm a fairly novice blackwater shooter compared to some, with only around 100 of these dives under my weightbelt.

Gelatinous drifters

At times the sea is thick with a variety of jellies, whereas at other times you can come upon swarms of one particular species.

These include larval anemones, salps, comb jellies, siphonophores and a variety of jellyfish species. Pelagic opisthobranchs, nudibranchs, sea butterflies and sea angels can also be seen.

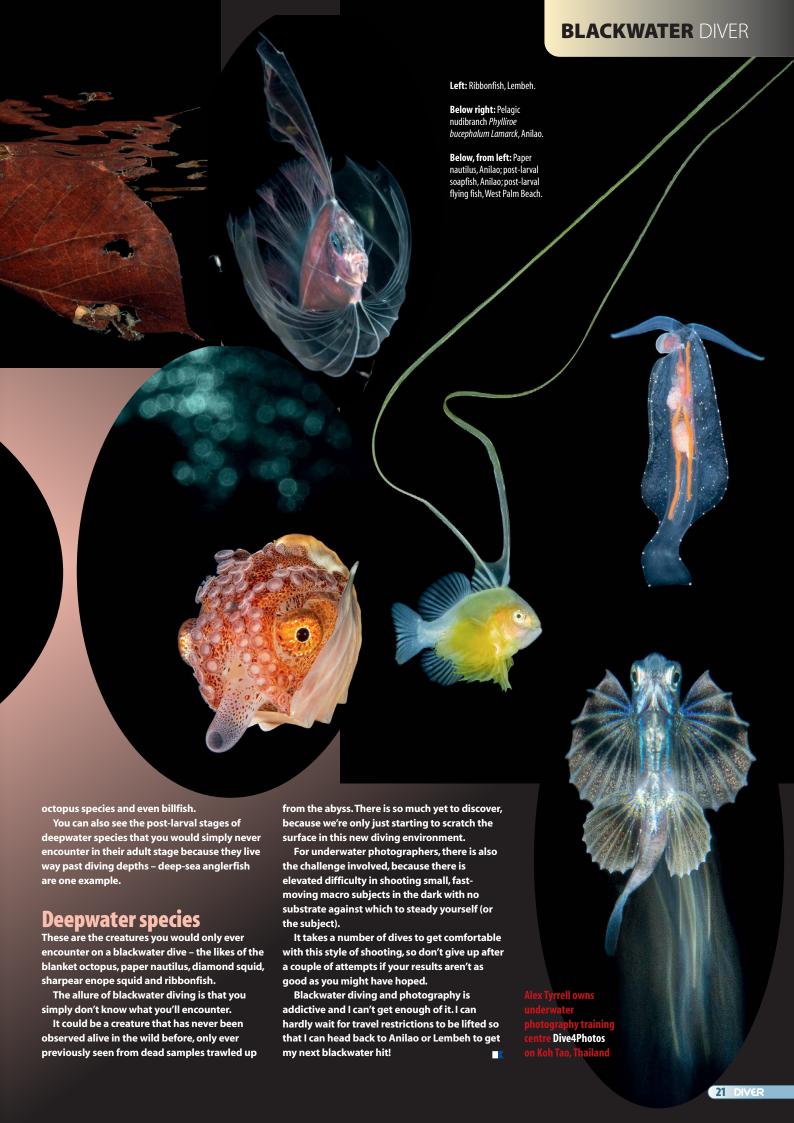
Larval & postlarval critters

Lots of marine animals have a pelagic stage to their life-cycle, normally at the larval and postlarval stages, and drift around in the ocean currents feeding on phytoplankton and then zooplankton as they grow larger.

These can be fish, crustaceans and other invertebrates and often look nothing like the creatures into which they will grow, leaving us baffled as to what we're viewing.

The post-larval stage is when we can start to recognise some of them, although they can still look remarkably different to the juvenile and adult forms we see on the reefs.

This includes lionfish and scorpionfish, flatfish, crabs and mantis shrimps, various







JURASSIC SURVIVOR



The bizarre paddlefish is hanging in there in a US lake, reports

JAMIE WATTS – and MALCOLM NOBBS was in the right place at the right time with his camera

NTHE END, JENNIFER FOUND the strange animal pretty easily. She knew that encounters were possible in this flooded Tennessee quarry.

Now, just up ahead, out of the gloom and heading towards us, came a very odd shape almost as long as Jennifer.

Loch Low-Minn, near Athens, Tennessee, USA, is one of the last safe havens for the American paddlefish.

The introduction of these fish to this

10-acre former quarry in 2006 made it a magnet for underwater photographers.

Introduced as 30cm-long juveniles, the paddlefish have already grown to their full adult size of about 2m and weighing more than 30kg.

They require current to breed, so they are not expected to reproduce. However, they can live out their 30-year lives in

the lake in safety, and hopefully suitable breeding sites will become available.

Jennifer Idol was our leader on a Big Fish Expeditions trip to this site. She's a phenomenal photographer, and perhaps an even greater enthusiast: "The stranger the fish, the more I love it, which is how I came upon seeking encounters with paddlefish during my journey diving all 50 US states," she told Malcolm.

They found the paddlefish a little skittish at first, but in the end they







settled down.

It's a Jurassic fish, and it's bizarre. Everything about it feels ancient, and it's the last of its line. Its only close relative, on the other side of the world, was finally declared extinct last year.

Sadly this is not a surprise; it's remarkable that the last oddities from obscure early branches of fishes have held out for so long against the human takeover of the world's fresh waterways.

It looks rather like a tiny basking shark

with an enormous paddle sticking out of its snout, hence the name. The paddle makes up a quarter of the length of the animal, and brings to mind the massive snout of the sawfishes – although they are not even vaguely related.

Like MANY ANCIENT lineages of fishes, and like sharks, the paddlefish has the same arrangement of limbs as we do – a pectoral girdle at the front of the body and a similar pelvic girdle further

Left and above: Paddlefish in Loch Low-Minn, a good reason to go diving in Tennessee.

Below: Divers step out into the lake with one quarry in mind, especially if they have a camera.

back. Most modern fish have a rather different body plan.

The paddlefish is not a shark, however, but one of the last remaining chondrosteans – an ancient group of fishes that were rather diverse at the same time as the dinosaurs were rather diverse.

The resemblance to the basking shark has to do with the wide-gaped plankton-straining of water over the gill-rakers that the paddlefish, like the basking shark, uses to find food. The paddle, or rostrum,



MARINE-LIFE DIVER

has electro-receptor hair cells and sensory pores to detect their tiny prey – another rather shark-like attribute.

Its last close cousin, the pointy-snouted Chinese paddlefish, was officially declared extinct last year after not being sighted for 15 years. It apparently grew much larger than the American version, with a report of a 7m monster that weighed more than a tonne.





The next-closest (and only remaining) surviving relatives of this odd fish are the handful of species of sturgeon, themselves struggling to hang on in the modern world.

The ancestors of the paddlefishes diverged from the even older sturgeon lineage more than 150 million years ago, long before T rex and triceratops walked along the shores of the rivers and lakes where these fish lived.

Which all goes to make the recent hybridisation between an American paddlefish and a sturgeon in an aquarium, documented in a 2020 scientific paper, mind-blowing.

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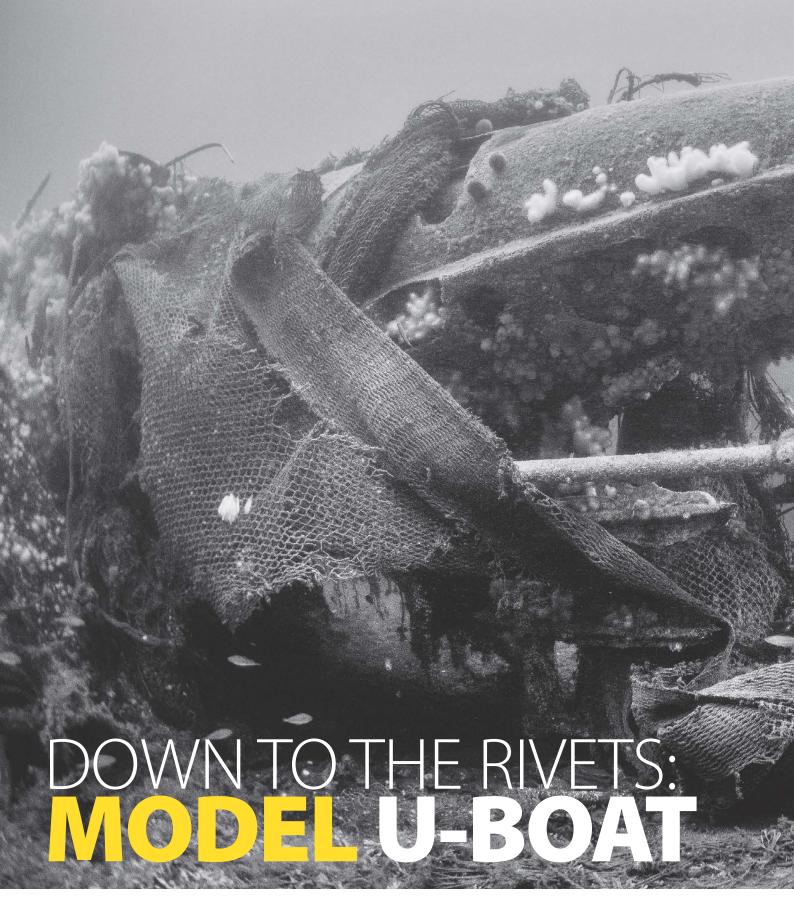
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It's diving with a purpose - the mission to reduce a submarine to a perfect 72ndth of normal size. **Text & survey photos**

by JAMES HARTLEY and NEIL RICHMOND (above), model design by PETE HAMMAN and lead photo by PAUL WEBSTER

UST OVER A CENTURY AGO, a new age of global warfare was about to be ignited. The year was 1914. World War One had been raging for only a couple of months, but shocking human losses had already been suffered.

Britain had lost its first ship to a German U-boat torpedo – HMS Pathfinder, off the Firth of Forth on 5 September. Although the loss of 261 sailors was shocking, the sinking was

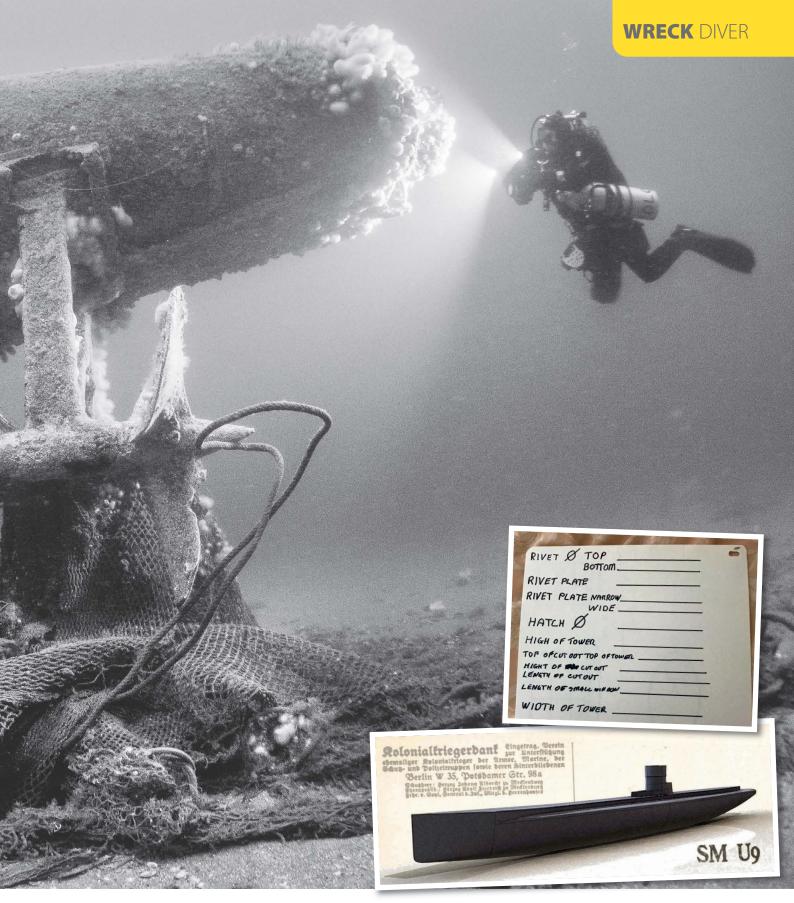
written off in many circles as a lucky shot.

Britain had yet to take U-boats seriously, but this would soon change.

A few weeks later, on 22 September, U-9 captained by Otto Weddigen was patrolling the southern North Sea.

Within an hour of spotting three British armoured cruisers all had been lost to the U-boat's torpedoes, with the terrible loss of 1459 British sailors.

This engagement sent shockwaves



around the British Empire – the age of the submarine had begun.

Two months earlier, *U-9* had been the first submarine to reload her torpedotubes while submerged.

Including her first engagement she sank 18 ships, and was one of only two vessels awarded the Iron Cross by Kaiser Wilhelm II.

Her sister-sub, *U-12* was the first U-boat to launch a seaplane while at sea.

The two Type *U-9* submarines, along with *U-10* and *U-11*, made up I Flotilla.

T'S 11 AT NIGHT ON 10 JULY, 2019.

Sitting in my van in Eyemouth Harbour about to retire to *Wavedancer II* (a diveboat on which I work through summer), I remember a post I'd seen on the North Sea Divers Facebook page.

It was requesting divers' help in obtaining some key measurements of

Above: Diver on the stern of the *U-12*.

Insets above from top:

Required specifications to be marked on a slate; blank canvas – predesign and survey image sent to the divers. *U-12*, a wreck dived from Eyemouth, where most of my diving happens.

I have dived 10 submarines around the UK and, although it's time for bed, decide to message Pete Hamman to find out about this project he's working on.

Messages are exchanged thick and fast, and by the time I climb into my bunk at around midnight I'm extremely excited about the upcoming task.

Pete's client, Das Werk Models, wants















to produce a high-end 1/72 model of the infamous U-9. All plans and recorded measurements of this legendary vessel had been lost during WW2, and now the wreck of U-12 is the only remaining Type-U-9 submarine.

Pete has been working on the project for more than a year, using low-quality period photos, questionable side- and top-view drawings, and some Internet videos of *U-12* wreck shot by divers.

He has hit a wall at the design stage and needs to resolve the discrepancies. For this he needs direct measurements of key features of the hull, and some of the finer detail of the conning-tower. Photos and video are no good, because they distort too much to allow for scaling.

Pete, who is based in Spain, has been helped by a particular set of photographs of *U-12*, and I am both surprised and pleased to find out that these are a set taken by my buddy Paul Webster the year before, featuring me posing in amazing vis.

Pete can't believe his luck and my task is set – survey a U-boat 48m deep, 25 nautical miles from Eyemouth.

ROM MID-JULY to mid-August we have two hardboat trips prepped to survey *U-12*, but unfortunately both are blown out.

We're sent a survey sheet for the conning-tower, which we turn into wet notes (thanks to Graeme McColl). It contains 12 key measurements, including hatch and rivet sizes.

Pete has given us a preferred time-scale of around four weeks. For a Continental model-making company this might be reasonable, but for those who know UK diving, it's a tall order.

I feel that the project might be slipping

Above: James Hartley measures the fore access hatch, raised above the inner pressure hull. The top of the hatch would have been flush with the outer hull before it peeled away.

Left, from top: Propeller; starboard aft torpedo-tube, empty from a previous engagement; vertical aft hatch, with behind it the angled torpedo-loading hatch; exposed pressurevessel bulkhead (bow) torpedo-tube with muzzle door.

Above right, from top: Neil lights the aft hatch; a lion's mane jellyfish makes its way past an exposed winch drive casing. away so, in typical North Sea diving spirit, I decide that a new strategy is needed.

A RIB and a smaller team might have more chance of getting out when the weather breaks. I call Neil Richmond, a new friend with whom I've dived a couple of times. He lives in Berwick and runs the RIB *Equinox*. And by complete chance it turns out that he has been working on a 3D model of *U-12*'s conning-tower!

Pete and Des Werk Models can hardly believe it – what are the chances?

Our first planned trip on *Equinox* on 16 August is blown out, but Neil does reach the wreck-site 11 days later on an impromptu trip while the weather is good but with no dive-gear aboard, testing the RIB and checking his marks.

The only other activity at the site is that of three minke whales.

Meanwhile Pete is making progress on his design model with the help of Neil's photogrammetry 3D model, which has already caused the conning-tower to be revised.

Our next planned trip out is set for 7 September, which might be our last chance of the season, but this





too is blown out by miserable weather and heavy swell. Aquamarine Charters has a trip planned for the following day, but customers have been told that it's doubtful.

AM TESTING cylinders at 10am that Sunday when Neil calls to say that Aquamarine's boat Oceanic is setting off in an hour. He is willing to follow it out on Equinox, so I should get myself to the harbour!

I am mid-test, my dive-gear is not prepped and U-12 on a swelly day is not a dive to rush into, so with heavy heart I decline the invitation. We had planned to try to dive the sub the next day and Neil reassured me that remains the plan.

trip and not in a particularly

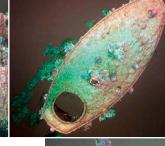
I work on, waiting to hear about the good mood.

> At around 4, Neil calls to say that he managed to dive U-12 with some of the divers he knew on board and

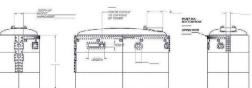
has obtained a few of the measurements needed.

We can return tomorrow - ropes-off will be at 6am, which I'm glad to hear.





Pictured: Three views of Neil's 3D conning tower model, Hamman Studios' survey sheet with the 12 key measurements needed





I have waited too long already.

Above, from top: Port aft

and showing intact contact

torpedo-tube still loaded

pistol; anchor.

It's a miserable start to the day, gloomy and with slight drizzle, but the sea state is fine. Local skipper Jack Robinson has joined Neil and me on the RIB to pick us up after the dive.

We reach the site just after 7am. The plan is to work close

> of ambient light at 48m is fine. The wreck sits almost upright on a sand and broken-shell seabed. Neil has done a great job of shotting near the conning-tower,

amount

a perfect spot from which to begin.

Dropping to the seabed from the shotline on the port side, the first elements visible are the main ballast tanks. Most of the external hull-plates have rotted away in the 105 years since U-12 was scuttled, allowing the workings to be seen in detail.

I make my way up the side to the conning-tower, scaring a few large pollack patrolling above. I begin to work my way through the measurements, chuckling while measuring the diameter of the rivets - they really are trying to make this model as accurate as possible!

I signal Neil to let him know that the first half of the survey is finished, and we move towards the bow. A heavy old trawl-net can be seen wrapped tightly around the diving planes, suspended in the water by its remaining floats.

to each other but independently for the first 15 minutes – I will work

Matergreetian

through the conning-tower measurements with pencil, a long nylon tape and a GoPro for backup, while Neil checks hatch measurements and some other details such as the gun-mount.

We'll then team up to survey the distance between the conning-tower, hatches and the fore davit-mount.

As we descend the shotline I can finally relax; the job we set out to do months ago is finally at hand.

It's a bit darker than on my previous two visits but we're there to take measurements, not sight-see, so the small

This acts as a refuge for hundreds of small fish but can be confusing for divers on their first visit to the wreck, because large vertical objects are not common on the bow of a submarine.

The streamlined bow fairing is missing, possibly as a result of the collision with HMS Ariel. This provides a clear view of the main forward bulkhead with its two outer torpedo-doors firmly closed.

An anchor lies on the seabed close to the wreck. Moving up onto the deck, and heading back towards the conning-tower, lots of pipework and cables can be seen.

These would originally have been under the timber decking, which has long since rotted away.

From bow to stern we now start to survey between key landmarks with a long nylon tape, including from the fore davit to the fore hatch, to the conning tower and to the rear hatch.

LL THREE HATCH diameters turn Out to be 600mm internal, which surprises me because I know how common a measurement this is in modern construction. They had probably been constructed to 2ft external in Imperial measurements.

Staying level with the deck allows a good overview of the wreck's layout, the gun-mount, access- and torpedo-loading hatches all clearly visible.

At the conning-tower, several viewports are visible. The two on the forward side of the tower are housed in cut-outs that give the appearance of eyes looking at you. The rear two are flush-mounted.

Looking down into the top of the conning-tower hatch, the remains of communication and navigation equipment can still be seen.

Dropping onto the rear deck, the remains of the snorkel mast are visible in the stowed position, along with another access-hatch housing. These housings have two hatches: a vertical one used for crew and stores access, and an inclined hatch used to load torpedoes into the body of the submarine.

These hatch housings would normally be under the deck-plates, with only the vertical access-hatch cover visible, which gives an idea of the difference in size between the pressure hull and the actual outer skin of the submarine - see panel.

Towards the stern another net is visible, snagged around the wreck and the twin propellers, which are a couple of metres clear of the seabed, the stern torpedotubes a metre or so above them. One stern tube still contains a live torpedo, and it's

clearly visible because there are no outer doors visible on these tubes.

Neil drops down to my last measurement of the tube diameter, thankful that the large edible crab I'd seen on my





to make the long journey back up.

The journey back is spent in silent reflection of a task well done - silent in part due to the RIB's roaring engine.

bottom time is 27 minutes, and it's time

I have done a few "working dives" before but in my mind at least this had been about restoring a little bit of history.

Communications with Pete have left us assured that he is determined to make the

Above, clockwise from top: U-9 model – the railing shrouds are optional, as are open or closed hatches and torpedo-doors, and there are markings for all four Type *U-9* subs; conning-tower section: James' U-12 version: all-important rivet detail!

Below: Model pack design.

most accurate model of a Type-U-9 sub ever. It's been a pleasure to work with someone so passionate about a project.

The 1/72 U-9 model is to be released in early 2021 by Das Werk, delayed because of Covid. In September we are sent images of the model in U-12 livery, which will be supplied with the model.

I know which version I'll be building!

AWI German U-Boat SM **U-12**

U-12 was sunk on 10 March, 2015, having herself sunk the ss Aberdon the previous day.

She was spotted from a trawler, and HMS Attack, Ariel and Acheron were dispatched to hunt her down.

Attack spotted her first and opened fire. U-12 tried to dive but was rammed by Ariel just as her periscope was submerging.

U-12 resurfaced badly damaged and the captain was killed in a short small-arms gunfight. Ten crew were rescued before the U-boat sank with the loss of the remaining 19 crew. *U-12* had been the first U-boat to carry a seaplane which, along with its sister-sub *U-9* (the only U-boat to receive the Iron Cross) gives Type *U-9* its historical significance.

TECHNICAL DATA

DISPLACEMENT: 493 tons (surfaced), 611 tons (submerged) SPEED: 14.2 knots (surfaced), 8.1 knots (submerged) RANGE: 3300 miles @ 9 knots (surfaced), 80 miles @ 5 knots

(submerged) POWER: 1000hp (surfaced), 1160hp (submerged) MAX DEPTH: 50m LENGTH: 57.38m overall, 48m pressure hull BEAM: 6m overall, 3.65m pressure hull DRAUGHT: 3.15m

HEIGHT: 7.05m **TORPEDOES: 6** MINES: 0

DECK GUN: 105mm, 300 rounds

CREW: 35



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Conspiracy!

RE YOU WILLING TO BE VACCINATED?" asked a friend. My jaw dropped. Is the rational world dissolving before my eyes? It's as if we're entering an "Age of Dis-Enlightenment". Truth is meaningless. Evidence is optional. Science has the same status as gossip.

It could be mildly entertaining for about 24 hours. Until I remind myself that I'm likely to get burned at the stake for heresy if we go down that path. And the small matter that every single thing on which divers rely is 100% based on science.

Safely breathing compressed gas under water through a regulator that delivers it at ambient pressure – is that magic or is it engineering?

Adding helium into air so that we can breathe at depth without being narked into unconsciousness - science or witchcraft?

Then there's that computer that continuously calculates depths and times to help you minimise the risk of decompression illness.

If science is rubbish, let's just throw a dice! Or rely on our bladders to tell us when we need to surface. Need a wee? Time to go up.

To be fair, I've met some warmwater divers who behave exactly that way and are still here to tell the tale. Maybe our bladders are smarter than we imagined. Seriously, if you don't trust in science, please stay away from scuba-diving.

IF YOU'RE CERTAIN that what others believe is "science" is just a made-up way of controlling your life and limiting your freedom, then everything I disclose to you below will make TOTAL SENSE.

Jacques Cousteau might have sounded like a charming Frenchman but he came from the MILITARY! Everyone will deny that he was trained by Mossad agents. Because they are TERRIFIED of being accused of anti-semitism. Which, as you know, has NEVER existed.

Decompression illness is a MYTH to control us. Prince Charles, Mark Zuckerberg and the Pope are all complicit in perpetuating this FAKE NEWS. Dive-computers are actually tracking devices. The rollout of 5G will enable yours to SPY on you and CONTROL your life.

All dive-boat skippers are part of the conspiracy. They want to LIMIT your dive by perpetuating fear of "the bends". Skippers get a SECRET £500 payment every time a diver is airlifted. The illness is just seasickness. Some skippers randomly poison a diver with a micro-dose of undetectable TOXIN in tea for the extra money.

This is PROVED to be true because technical divers will only drink cans of lager after dives and they never get "bent". FACT.

The head of PADI initially ADMITTED that nitrox was "the work of the Devil". He was quickly silenced by the Global Elite of satanic paedophiles, and nitrox was rebranded as "Safe Air" by... THE MEDIA (boo!)

It's hard to find this information unless you Google VERY CAREFULLY. It's all being COVERED UP. Divers are being controlled and tricked into paying extra for expensive gases and wearing evil tracking devices. FACT!

Do not let on that I've shared these awful truths with you. But for your own sake, STAY AWAY from scuba-diving.

Meanwhile, happy days, I genuinely look forward to someone sticking a needle into my arm and injecting me with a mysterious goop brewed up in a lab. Because YES! I trust the science.



BETHE CHAMP!

Just because wrecks don't move about much, nobody ever said it would be easy to photograph them! But where there are problems there are solutions, and as usual ALEX MUSTARD has no shortage of those to share

'The most **common problem** when photographing **people on wrecks** is being able to **see them properly**'

RECKS ARE, for many divers, our favourite place underwater. They can be atmospheric, packed with marine life, loaded with history and offer a complex three-dimensional environment to explore. They are also a fantastic place for photography.

It's a mistake to think that just because they don't move they are one of the easier underwater subjects to shoot – they are not.

Far more good photos are taken of those infuriatingly tiny macro critters each year than are taken of wrecks.

That's something I've always thought was a pity and definitely a failing of underwater photographers, because wrecks are so beloved by the wider diving community.

It's one of the reasons that I'm so proud that we have a dedicated wreck photography category each year in the Underwater Photographer of the Year contest. Yes, it's that time again to put your best pictures forward (see page 6)!

The good news is that wrecks offer us many different images, from large vistas of recognisable features such as the bow or the stern, to detailed close-ups of the life living on them.

But the shots I want to focus on this month are wreck pictures featuring people, because these are the images to which our fellow-divers can best relate.

The most common problem encountered when photographing people on wrecks is being able to see them properly. Wrecks are usually dark hulks of metal and most of us cover ourselves in black neoprene, black BCs and black fins when we dive – hardly ideal for standing out.

This means that even when lit with flash many images fail because the diver is mostly visible as little more than floating face and hands, connected with a trail of glistening D-rings.

I am exaggerating, but the important point is that if we want pictures that capture the experience of exploring a wreck, we need the viewer to instantly connect with the person in the picture.

The human element is lost when the audience is busy playing "Where's Wally?", trying to figure out where the person's arms and legs are in the dark.

THE SIMPLE SOLUTION comes from carefully positioning our buddy to that they are framed against a bright background rather than dark metal.

When shooting big scenics outside the wreck we must ensure that they are swimming far enough away from the wreck to leave some clear space between their silhouette and the structure. **Right:** Position divers against open water where possible, so that they stand out in compositions.

Taken with a Nikon D5 and 13mm fisheye. Subal housing. Seacam strobes. 1/125th @ f/14. ISO 640.

buddy to swim parallel to

Left: When posing alongside a wreck, ask your

the main lines

Taken with a Nikon D4 and 15mm fisheye. Subal housing. No flash. 1/100th @ f/11. ISO 400.

STARTER TIP

Giving a diver a torch will always help them to stand out in a wide-angle composition. On a bright, shallow tropical reef this can feel contrived, but on a wreck divers are expected to carry torches.

If the conditions are bright, torches can be aimed directly into the camera, but in darker conditions they should be aimed at the wreck.

Encourage them to swim parallel to the main lines of the wreck for a more elegant composition and discourage them from swimming directly towards or away from the camera, which will reduce them to an unflattering blob in the picture!

The challenge is sterner inside the wreck, because now there are walls on all sides of the frame – blackness ready to swallow up our diver.

A good trick is to leave your buddy outside and frame them as a silhouette through a gap in the wreck, whether it's a crack in the metal, a doorway or porthole. Because our lenses have such a wide angle of coverage, people need to be only a couple of metres away to fit, full length, in the smallest window.

Remember that we can frame divers through openings that are far smaller than they could swim through.

Larger openings allow us to encourage our buddy closer, lighting them up fully as they enter the picture.

We want them close enough to fully illuminate them with strobes, but not so close that they loom over the scene.



MID_WATED TID

Asking someone to give up even part of their dive to pose for our pictures is something that we should always be incredibly grateful for. Posing is often as hard as photography and we should have limitless patience with models

Always get fully ready before asking them to pose and remember it is easier for someone to swim through a scene than look elegant hovering in place.

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The wreck is the main story; the diver completes the picture. Also, if they get too large we won't be able to frame them against the blue. Encourage them to pose at the point of entering a room.

When done well this is one of the most compelling wreck images.

Sometimes, however, there are really important and interesting internal features of the wreck that just don't have any helpful openings in which to frame a diver. The vehicles in the *Thistlegorm* wreck are a classic example, as is just about any engine-room.

Off-camera lighting is really valuable at this point as a way to help a diver stand out in the dark.

The easiest solution is to attach an extra strobe to our buddy pre-dive – we want this on their far side, aimed at the walls behind them. This is a common technique on deeper wrecks and in cold water, where there is naturally much less photographic fiddling time.

In more benign conditions we can

Above: Incorporating marine life in wreck pictures can really lift an image.

Taken with a Nikon D4 and 16mm fisheye. Subal housing. 2 x Seacam strobes. 1/4th @ f/18. ISO 400.

work with a remote strobe on a small tripod – I like to use a plastic Gorillapod.

This is more work to set up, but gives us more creative freedom.

For example, we can have the offcamera light either aimed at the wall or back towards the camera to create a backlighting effect on the diver.

The key aspect in setting this up is to ensure that the off-camera light source is hidden from the camera, usually behind the diver.

WE CAN ALSO greatly help divers to stand out on dark wrecks through their clothes and accessories.

The oldest trick in the book is to give our model a bright, eye-catching torch, which most divers would carry on deeper or darker wreck-dives.

I chose warmwater pictures to illustrate this month's column – mainly because it's deepest winter and I am missing that bright tropical light.

But warmwater divers don't have the monopoly on colourful gear. We all know people with challenging tastes – I have friends with solid blue, yellow, pink, red and orange drysuits, and there are even more colourful masks, fins and hood about the place.

While this coloured garb might be a distraction in a natural history scenic, it can really help a diver to stand out on a dark wreck photo. The final piece of the puzzle is to remember that our aim with these pictures is aspiration. We want them to remind divers why they love wreck-dives and make them want to dive the wrecks in our pictures. There are many reasons why wreck diving is so popular, so there are many different ways in which we can shoot an appealing wreck image.

A photo shot in just ambient light, filled with shadow and atmospheric beams, will capture the feeling of a wreck-dive for some.

For others, an ultra-wide vista of a huge bow, stern, propellor or gun will chime. Some divers will react to shots in which the wreck is almost overgrown with encrusting marine life, such as corals, sponges and anemones, or where the wreck is home to schools of fish.

These are all very different types of wreck photos, but they can all be enhanced by including a person for that "this could be me" feeling.

Much of the time as underwater photographers we take images for ourselves, or to impress other underwater photographers with our skills. Wreck photography, particularly when we include people in the pictures, is a chance to make pictures that the wider diving community will really appreciate, too.

And, for that reason, including people gives our pictures added value.

ADVANCED TIP

Shooting inside wrecks often means working in restricted space. Remember that we can extend our view by shooting panoramic images. Processing software like Adobe Lightroom can stitch multiple frames together with one-click simplicity, to open up vistas in tight corners.

Shoot 3-6 frames with at least a 30% overlap between them and let the software do the wizardry.

DIVER 36) DIVERNET.COM



INLAND SITES DIVER'S GUIDE-



The year of coronavirus caused many divers who would normally slip away to warmer waters to consider options closer to home. Inland sites offer something different and, lockdowns aside, they can be dived all year round...



the UK has a wealth of still waters. In fact it has some 40,000 of them, mostly wild and very few ever dived. But a handful of these bodies of water scattered around England and Wales are supervised and visited regularly by divers, and if you've never sampled coldwater diving at these inland sites, you could be in for a treat.

Divers who trained at any of these locations might have lost the habit after moving onto coastal or warmwater diving, yet can grow nostalgic about the experience – even if they weren't quite sure what they were getting into at the time.

The early starts, the smell of neoprene in the morning, the car-park changing, the trek to the entry-point, the fragrance of bacon butties, the first shock of cold water soon forgotten with the pleasure of exploring some sunken cockpit or structure, the sociable wanderings during surface intervals warmed (sometimes) by the sun, the logbook-filling and recovery phase in the bar – put together, those elements make for memorable experiences.

And for the many who continue to enjoy such experiences at their favourite site, or use if for training or trying out new equipment, there is another pleasure – that of getting to know at least one dive-site intimately, through the changing seasons, and perhaps as the place itself changes, acquiring new diver attractions or enhanced facilities.

A number of sites have grown quite sophisticated in their offerings over the years, while others stick to the basics and are celebrated for that. It's down to what's accessible and what you want from an inland site.

2020 was not a good year for many of these places, any more than it was for the rest of us. Staff knew they had plenty to offer divers denied overseas travel – but many were frustrated to experience high demand but have to ration access to stay Covid-secure.

Then, once they had got into the summer groove and were able to welcome trainees and first-time UK divers along with the regulars, lockdowns were reimposed. Just as seadivers were about to reset their sights inland, it all went sour again.

Depending on how the coronavirus recovery goes, 2021 could be a significant year for the inland sites.

For divers with a more cautious attitude to overseas travel and a new regard for UK diving, we asked the divers who manage these great sites to tell us what makes them special. Who knew they hosted so many sturgeon?

DIVER 38 DIVERNET.COM





ANDARK LAKE

Michael Ambrose, Manager, Andark Dive Centre

"Andark Lake is unique, because it's purpose-built for diving, meaning that the whole set-up is designed with divers in mind.

"With a maximum depth of 7m, and platforms at 1.2m and 3.5m, the lake is perfect for recreational diving in a safe environment, diver training (Andark offers everything from PADI Open Water to Instructor and HSE, and external schools are also welcome), kit-testing and brushing up on skills.

"Features in the lake include a jet-ski, mirrored

wall, tunnel swim-through and the bow of a 17thcentury barge. Also look out for the sturgeon and grass carp.

"Combined with the modern facilities including heated changing rooms with showers, classroom, café and Andark's large shop and training pool, we have a lot to offer all in one place!

"Andark Lake is open throughout the year.

LOCATION Oslands Lane, Lower Swanwick, Southampton, Hants SO31 7EG

WEBSITE andarklake.co.uk

CONTACT 01489 885811, lake@andark.co.uk

WAS Purpose-built for diving

OPEN Wed-Sun 10am-5pm, pre-booking required weekdays. **ATTRACTIONS** Jet-ski, barge bow, mirrors, pipes, platforms, pontoon

WILDLIFE Grass carp, sturgeon

FACILITIES Shop, changing-rooms, showers, café, training pool **DAY TICKET** £18, members £15, annual sub £25

We're a friendly bunch who love diving and make great bacon baps (as anyone who has met Jenny will tell you). If you're a new diver or don't have a buddy, our resident diveaholic Paul is often keen to get in the water, so just give us a call."

BLUE LAGOON 'THE BLUEY'

Greg Roach, Diving Officer, Milton Keynes SAC

"It isn't blue, and it isn't a lagoon, but it is home to Milton Keynes Sub-Aqua Club, and we love it to bits.

"At 18m deep, it's a former quarry for the London Brick
Company, and now contains lots of underwater attractions including a bus, a plane, cars and hoats.

"It is also home to many species of fish, including perch, pike, roach, tench and carp. The site is a nature reserve and has limited access,







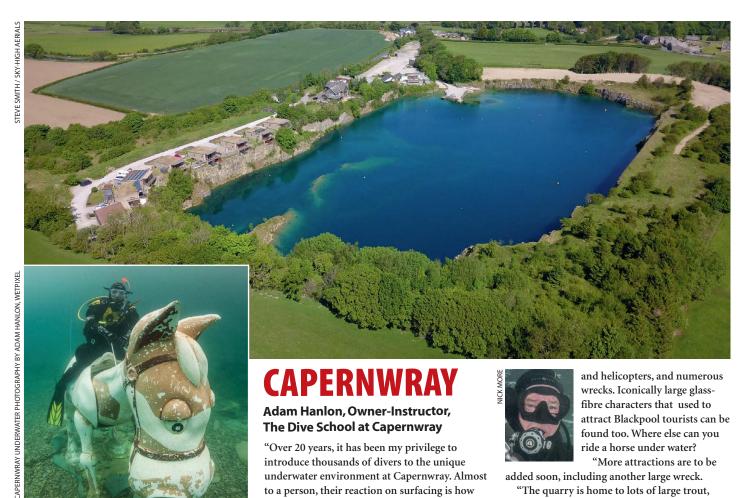
so you'll need to book your visit in advance via diving@mksac.co.uk. Diving is on Sunday mornings all year round, and on Wednesday evenings in the summer.

"Note that there are (at least) two diving lakes called the Blue Lagoon, and ours is the one in Milton Keynes!" LOCATION Bletchley, Milton Keynes, Bucks MK2 3BB
WEBSITE mksac.co.uk

CONTACT email only, diving@mksac.co.uk
WAS Clay pit

OPEN From 10.30am Sun, 6.30pm Wed (summer only) **ATTRACTIONS** 2 cars, bus, small aircraft, 6 boats, concrete

WILDLIFE Carp, crayfish, mussels, perch, pike, roach, tench
DAY TICKET £5, Individuals and clubs can dive on application
with 48 hours' notice



LOCATION Jackdaw Quarry, Capernwray Rd, Carnforth,

Lancs LA6 1AD

WEBSITE dive-site.co.uk

CONTACT 01524 735132, info@dive-site.co.uk

WAS Limestone quarry

OPEN Summer: 10am-5pm (Tue, Thu, Fri), 10am-9pm (Wed). Winter: 10am-5pm (Wed, Thu, Fri). 9am-5pm weekends yearround. Most bank holiday Mondays

ATTRACTIONS Airliner, 2 light aircraft, 9 boats, 2 helicopters, diving bell, cannon, container, sculptures, platforms

WILDLIFE Carp, perch, roach, sturgeon, trout

FACILITIES Air & nitrox/trimix fills, shop, kit-hire, toilets, changing-rooms, showers, conference room, seated indoor restaurant, scuba workshop

DAY TICKET £20, £15 members, lifetime membership £25



CAPERNWRAY

Adam Hanlon, Owner-Instructor, The Dive School at Capernwray

"Over 20 years, it has been my privilege to introduce thousands of divers to the unique underwater environment at Capernwray. Almost to a person, their reaction on surfacing is how much better the experience of diving in its cool, clear waters was than they had anticipated.

"Located in picturesque countryside, a few minutes off the M6, Capernwray offers calm, clear diving conditions year-round.

"The water reaches a balmy 19°C in summer. The temperature dips in winter, but this brings spectacular other-worldly visibility.

"The site is fed by a limestone spring, and surface run-off into the quarry is minimal, so visibility is unaffected by surface weather conditions. It offers various depth options, suitable for both new and experienced divers, and the water is easily accessed.

"The combination of excellent visibility, along with reliable and straightforward diving, makes Capernwray a perfect venue to train, practise, and simply enjoy the underwater experience.

"The team have provided excellent facilities for more than 25 years. Underwater attractions include a minesweeper, an enormous HS-748 passenger aircraft, several smaller planes



and helicopters, and numerous wrecks. Iconically large glassfibre characters that used to attract Blackpool tourists can be found too. Where else can you ride a horse under water?

"More attractions are to be added soon, including another large wreck.

"The quarry is home to lots of large trout, roach, perch, carp, and numerous rare sturgeon. The inhabitants are all diver-friendly, and close encounters are the norm.

"At some times of year, large schools of roach and perch hover in midwater like a living, moving cloud. Two shallow areas with training platforms are frequently surrounded by an audience of curious, friendly fish.

"Topside, top-notch amenities include air and gas fills, gear hire, dive shop and a well-equipped scuba workshop. There are comfortable heated changing facilities and the cafe serves delicious and good-value hot food. The restaurant has lovely outdoor seating areas with quarry views."

"Covid has forced Capernwray to temporarily restrict access to some of these facilities and modify our procedures, so please check out its website and social-media channels for updates.

"Those of us who dive here regularly think it an exceptional place. If you haven't dived here yet, you really should do so soon."





CROMHALL

Nick Sanders, Business Development Manager, **South West Maritime Academy**

"South West Maritime Academy is proud to have been able to re-open Cromhall Quarry as a diving and open-water swimming venue following its closure earlier in 2020.

"Cromhall is a 4-hectare water body with a depth of 17m. The water can be accessed by both a shallow sloping beach and a pontoon, making it ideal for both experienced divers and new trainees. There are several attractions in the water, including a Rockwell Commander light aircraft, Westland Wessex helicopter and a variety of other vessels, alongside several training platforms at varying depths.

"The limited depth makes this an excellent facility for both new and experienced divers to expand on their skill-set, test kit or simply enjoy a safe, relaxing day out.

"As part of our wider business, our Technical Services department is fully equipped and IDEST-certified to test and service cylinders, all makes and models of regulators and BCs and carry out drysuit repairs.

"We can also fill cylinders

with air, oxygen and nitrox or, for technical divers, we can provide mixed gases to their requirements.

"The site is run by divers for divers, and we're keen to expand, both on and under the water, for people to enjoy it for many years to come. So watch this space!"



WEBSITE southwestmaritimeacademy.com

CONTACT 01454 260130, info@southwestmaritimeacademy.com **WAS** Limestone guarry

OPEN 8.30am-4.30pm weekends, dive-schools can use in week ATTRACTIONS Aircraft, helicopter, boat, platforms, pontoon **WILDLIFE** Great-crested newts

FACILITIES Gas fills, equipment repairs **DAY TICKET** £16









WAS Slate quarry **DAY TICKET** Club membership £25



"The main attraction of Dorothea Quarry is clear it drops as deep as 106m, making it an ideal training ground for suitably qualified technical divers.

"A slate quarry 200 years ago, Dotty is set deep in picturesque mountains. It's run by North Wales Technical Divers Club and makes for some fascinating diving.

'It wasn't always this way, but over recent years, with permission from the landowners, we've been able to operate a controlled diving programme at the site. NWTD is non-profitmaking and affiliated to the British Sub-Aqua Club, so our 150 or so members, many of them based in England as well as Wales, all belong to BSAC as well as other training agencies.

"Training isn't provided at Dotty, so you need to be able to carry out mixed-gas decompression dives with a minimum qualification of BSAC Advanced Twin-set Diver, PADI Tec 45, TDI Advanced Nitrox or equivalent.

"We hope you can join us in 2021 for some adventurous diving!"

DOSTHILL 'DOZZY'

lan Forster, Owner-Manager, Dive-In

"You're always welcome at Dosthill Quarry, a popular, family-run national dive-site at Tamworth near Birmingham, close to M42 junction 9. Diving started here in 1958, and it was the BSAC's national site until 1988 when they sold it to me.

"A former granite quarry, fed by a healthy fresh-water spring from below the Earth's crust, the water is so pure that swimmers drink it to stay hydrated. Because the lake doesn't suffer from green algae contamination the visibility is normally excellent, and it holds its temperature late into the year.

"With a maximum depth of 25m and a variety of training platforms

and wrecks, it's great for entry-

level and experienced divers alike.

"The Jetstream 19-seater aircraft and a 12m container have large, safe entry and exit points, and the container has tie-off points for reel penetration and wreck courses.

"There's a wide variety of fish life, too, including large schools of roach and perch, various carp species, pike, sturgeon, sterlet and possibly the UK's biggest remaining sanctuary of native white-clawed crayfish.

"The car park is adjacent to the

lake, and long opening times reduce earlymorning queues." LOCATION Church Road, Dosthill, Tamworth,
Staffs 877 1LU

WEBSITE divedozzi.com

CONTACT 01827 281304, ian@dosthillquarry.com

WAS Granite quarry

OPEN 1-9pm (Thu, Fri), 7am-4pm weekends

ATTRACTIONS Aircraft, container
WILDLIFE Carp, crayfish, eels, perch, roach,

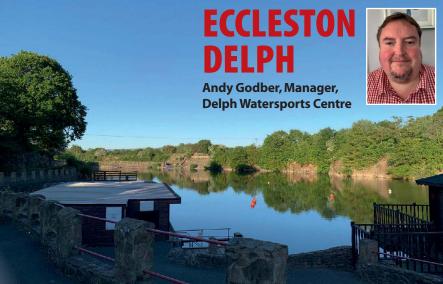
sterlet, sturgeon

FACILITIES Air, shop, kit hire & servicing,

changing rooms, toilets, catering van DAY TICKET £15, £10 members, annual sub £20







"The Delph Watersports Centre is a real jewel in the crown of inland-diving centres in the English countryside. The scenery is stunning, the wildlife is spiritually uplifting and the atmosphere is always positive.

"You're assured a warm welcome from our well-organised and friendly Delph team.

"Divers and open-water swimmers enjoy this magnificent venue side by side – neither is an inconvenience to the other. We're open seven days a week for diving and swimming over the 12 months of the year.

"Divers, swimmers and passing cyclists and walkers enjoy the unbeatable menu and

service at the Delph Cafe, a welcome feature at any time of year. Waterworld, the diveshop, is one of the largest and best-stocked in the North-west, with expert advice always on tap from Barry, who also arranges servicing for regs, cylinders etc.

"You'll have no problems parking because the car park is spacious, free and looks out onto the lake. You'll always see people taking obligatory selfies from this vantage point.

"Finally, the online booking system is easy even for the least technologically orientated diver. You can't go wrong – great diving, great hospitality and a great experience."



LOCATION Halfpenny Lane, Eccleston, nr Chorley, Lancs PR7 5PR **WEBSITE** thedelph.com

CONTACT 01257 450663, delphdi.shaw@btconnect.com WAS Slate quarry

OPEN 10am-4.30pm weekdays, 9am-4.30pm weekends

ATTRACTIONS Aircraft & cockpit, AA guns, armoured personnel carrier, tank, 3 boats, van, mini-cave, gnome garden, containers, playground WILDLIFE Goldfish, perch, roach, sturgeon FACILITIES Air fills, shop, kit hire & servicing, café DAY TICKET £15





EIGHT-ACRE LAKE

Mike Mudryk, Owner/Manager, Scuba Dream

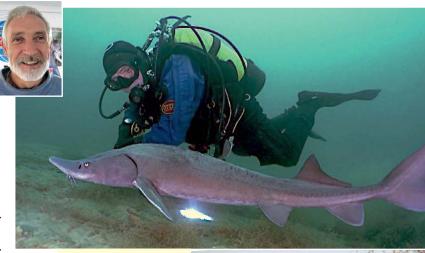
"After a murky start 14 years ago, Eight Acre Lake at North Cave in East Yorkshire has gone through a complete transformation. From protecting the banks from erosion to the use of ultrasonic algae-killers and other natural forms of water management, the expected vis at the beginning of each day is very high - 20-25m is not uncommon.

"Water quality is so good that we even have fresh water sponges. Fish are in great abundance and there are many attractions to interest all divers.

"Subject to Covid-19 restrictions the lake is open to all for diving and swimming. Scuba Dream is our PADI 5* Instructor Development Centre, and we offer training from beginner to instructor levels with two Course Directors and 14 instructors.

"The lake is used for training by local universities, police divers, the fire service, Army engineers and many diving associations. We host instructor examinations by PADI and BSAC. Putting 2020 behind us, we look forward to 2021 and seeing all of our friends new and old."





LOCATION Mires Lane, North Cave, Brough, East Yorks HU15 2QP WEBSITE scubadream.co.uk **CONTACT** 01430 423311, info@scubadream.co.uk WAS Stone quarry **OPEN** 10am-4.30pm (Wed), 10am-8pm (4.30pm winter) (Thu), 9am-4.30pm weekends ATTRACTIONS Helicopter. boats, armoured personnelcarrier, trailer, pipes, platforms

WILDLIFE Carp, golden rudd, perch, sturgeon, trout FACILITIES Air fills, shop, café **DAY TICKET** £15





GILDENBURGH 'GILDY'

Ian Forster, Owner-Manager, Dive-In

"Gildenburgh Water at Whittlesey near Peterborough welcomes divers from all training agencies. In 1985 I bought the 6.5-acre lake as well as the surrounding land, and it has been operated as a full-time diving centre ever since.

"A former brick pit, with varying depths from 1-22m, Gildy is considered by many divers to be one of the best lakes for training.

"Platforms have been set at key depths, and interesting features such as coaches, barges, lorries and planes sunk, with our double-decker bus being the most popular dive for trainees.

"The deeper penetrable wrecks can be enjoyed by more experienced divers, and the abundant fish life, including perch, roach, carp and the famous Gildy pike, provide ample photo opps.

"There is extensive onsite parking close to the lake, which is open every day from 8am to 4pm, with a late Friday evening each week.

"The land-based facilities - air station, cafeteria, dive-shop, repair and rental store are there to make a diver's life a lot easier, if they forget something, need an air-fill, a warm drink or just a friendly chat!"



LOCATION Eastrea Road, Whittlesey, Peterborough, Cambs

WEBSITE gildenburgh.com

CONTACT 01733 351288, ian@gildenburgh.com

WAS Brickworks

OPEN 8am-4pm daily, 8am-8pm (Fri)

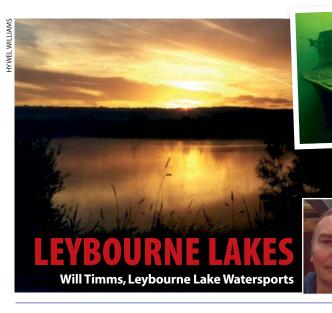
ATTRACTIONS Two aircraft, six boats, three cars, coach, lorry, water tank, platforms

WILDLIFE Carp, crayfish, perch, roach, pike

FACILITIES Air fills, shop, kit hire & servicing, changing rooms, classrooms, toilets, bar

DAY TICKET £18, £13 members, annual sub £20





"We can offer two lakes to dive, one being 9m, which means a safe diving environment ideal for entry-level students to learn the basics.

"There are training platforms, cabin cruisers and garden statues, all with lines. This site is very popular with PADI and BSAC schools and club-divers.

"The second lake is shallow at 5m but it's ideal for a quick bimble and practising buoyancy skills.

"This is an excellent cheeky little dive on a sunny day with the aquatic life that can be seen in abundance ideal for photography.

"With islands to fin around, this can make for an exciting dive when the visibility is good."

LOCATION Lunsford Lane, Larkfield, Aylesford, Kent ME20 6JA WEBSITE leybournelakewatersports.co.uk/scuba-diving CONTACT 01634 246006,

info@leybournelakewatersports.co.uk

WAS Gravel pit

OPEN To be finalised — check website

ATTRACTIONS Cabin cruisers, sculptures, platforms

WILDLIFE Bream, perch, pike

FACILITIES Toilet

DAY TICKET £10

NATIONAL DIVING & ACTIVITY CENTRE 'NDAC'

Unfortunately nobody from NDAC in the Forest of Dean was available to talk about the site during lockdown as the guide was being prepared.

LOCATION Tidenham, Chepstow, Gloucs NP16 7LH **WEBSITE** ndac.co.uk

CONTACT 01291 630046, info@ndac.co.uk

WAS Limestone quarry

OPEN 8am-5pm

ATTRACTIONS 3 aircraft, 2 helicopters, 6 boats, 4 military vehicles, trawler, 2 buses, 2 diving bells, hyperbaric chamber, buoyancy box, gnome garden, pipes, platforms, 75m shotline

FACILITIES Gas fills, shop, courtesy vehicles to pontoon, kit trolleys, classrooms, training tank, kit hire & servicing, changing rooms, toilets, first-aid station, "wooden wigwam" accommodation, cafe/bar

WILDLIFE Sturgeon

DAY TICKET £22, £16 members, annual sub £45/40





"St Andrews Lakes in south-east Kent has beautiful blue waters and depths of more than 30m. It's operated by PADI 5* IDC and TecRec centre Southern Scuba, which was founded in 2012 with me and my husband Tony at the helm.

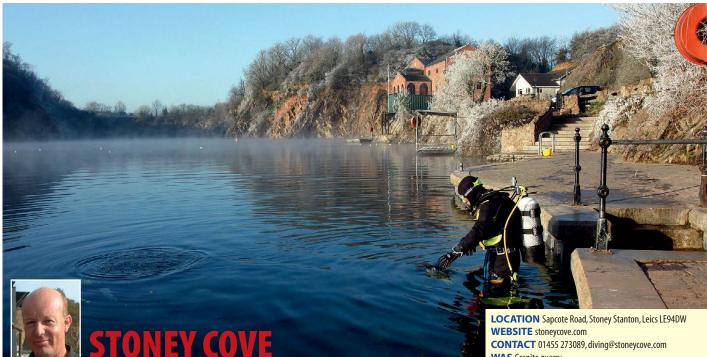
"We took over at the end of September and look forward to continuing the lakes' development for both general



diving and training. We have exciting plans. A new pontoon is being built to accommodate divers with an entry- and exit-point and a set of steps for extra exit and entry. Covid has kept the changing rooms closed as I write but a new undercover area is being sorted out so divers can get changed out of the rain, and extra parking too.

"More training platforms are going to be built, lines rerun, there's an ample kitting-up area and more is being put in – an onsite shop, compressor and a new café too. And we've just brought in yearly membership.

"We have a family-friendly outlook – including the dog, important from day one – and look forward to seeing you all."



"Why is Stoney Cove the UK's favourite divesite? Perhaps because there's nothing quite like it. Just imagine that someone designed the perfect dive-centre, travelled back in time to 1890 and asked the Mountsorrel Granite Company to dig the perfect hole in an extinct volcano, before filling it with spring water. That's Stoney Cove.

Martin Woodward, Managing Director

"All roads lead to Stoney Cove. No matter where you live, it can be easily reached via a motorway. And then there's the dive-site itself. When the quarry-workers dug stone out of the hill, they left four flat levels behind.

"The first is now a waterside car park that catches the sunlight all day long and has room for more than 100 cars. The other three levels are submerged – the perfect aquatic environment for shellfish, perch, pike, crayfish and even soft corals, all naturally colonised.

"These underwater levels are the perfect depths for scuba training – 7, 20 and 35m. We like to think of them as novice, intermediate and expert areas. When the early pioneers of scuba claimed Stoney Cove during the 1950s, they called it their National Diving Centre.

"Fast forward to 2021. Stoney Cove has been carefully crafted into an amazing centre for diving enthusiasts. The lake's awash with underwater features, including three steel shipwrecks.

"Stanegarth is the largest – older than the Titanic, it's so big you can swim through the wheelhouse, engine-room and forward accommodation. Then there's our genuine Elizabethan shipwreck – built circa 1574, she was rescued from the Thames Estuary and brought to Stoney Cove to train underwater archaeologists. You can dive on it too.

"Above the surface, we've added changing areas, a dive megastore, classrooms and a 4m deep-heated training pool. Because Stoney Cove is also a fantastic place to learn to dive. Our diveschool is recognised by the leading qualification agencies. It's an instructor development centre that also provides training for the MoD.

"But a great day's diving becomes even better when underwater adventures are shared with friends and family in our very own pub, Nemo's Bar and Restaurant. Could Stoney Cove have been quarried by divers? We like to think so." CONTACT 01455 273089, diving@stoneycove.com
WAS Granite quarry
OPEN 8.30am-4pm daily
ATTRACTIONS 3 iron & 1 historic shipwreck, aircraft, diving bell, aircraft cockpit, Nautilus sub, helicopter, armoured personnel carrier, bus, hydrobox, archways, 'Nessie', platforms

WILDLIFE Crayfish, perch, pike, roach, sponges, zebra mussels FACILITIES Gas fills, shop, kit hire & servicing, school with classrooms and indoor training pool, changing rooms, toilets, restaurant. bar

DAY TICKET £25, £18 members, annual sub £20









LOCATION Parc Padarn Country Park, Maes Padarn, Gwynedd, LL55 4TY WEBSITE viviandivecentre.com **CONTACT** 07375 113576, viviandivecentre@gmail.com WAS Slate quarry OPEN 10am-4pm Wed, Thu, Fri; 9.30am-4pm weekends (three-hour sessions) **ATTRACTIONS** Mining houses, carts & equipment, submarine, boats, platforms WILDLIFE Carp FACILITIES Gas fills, shop, kit hire & servicing, guided shore & boat dives, all levels

of PADI training DAY TICKET £15,£10 members, annual sub £15



"Vivian Quarry is a picturesque inland dive-site in Llanberis, Snowdonia. It's hidden away inside the mountain, which gives it a very special feel.

"The site is an old 1900s slate-mine, and offers a vast amount of history to explore, both above and below the water.

"The blast and quarry houses still standing, along with the mine-carts and tracks, make it a special place to dive, offering great photoopportunities. The small, enclosed site offers depths of 20m and, with a training area suspended in the water, makes the perfect training environment for new divers.

"Other sunken attractions include ironworks

and purposely introduced boats, a small submarine and two training platforms at 6m and 9m depths. We have an on-site publicly operated car park providing a short 50m walk to the water entry-point.

"At present we are abiding by Welsh government Covid guidelines, and all bookings must be made online."

VOBSTER QUA

Tim Clements, Manager

"We pride ourselves on living up to our tagline 'the UK's friendliest inland diving centre'. From our signature welcome to putting the needs of divers and open-water swimmers front and centre in everything we do,

we like to think that any visit to Vobster will be a pleasant and enjoyable experience.

"We cater for divers from trainees to hardcore tekkies fine-tuning their skills and gear. Much of what we do is geared towards training, with a healthy number of platforms starting at 6m.

"Trainees and instructors alike will love our dedicated dive-school parking zone with a new sheltered kitting-up area offering direct access to the water and a convenient exit ramp. Keeping students all in one place has never been so easy!

"For divers just looking to enjoy a pleasant dive or two, there's plenty to see in our 36-acre



lake. Most recently, we sank an ex-RN Sea King helicopter fuselage, which joins other attractions including a Hawker-Siddeley HS748 airliner cut into three sections, an enormous quarry crushing works and our 18m subterranean tunnel, all conveniently buoyed.

"There's plenty of life too – look out for shoals of perch patrolling the shallows. Vobster also hosts a colony of white-clawed crayfish.

"Topside, facilities including a gas station pumping air, nitrox, trimix and high-pressure

oxygen to a maximum of 232 bar. While waiting for your fill, our onsite catering can serve up a range of tasty hot and cold food and drinks.

"Many of our staff are divers, so we're always on hand to offer advice on anything from the best routes to take under water to training options."



LOCATION Upper Vobster, Radstock, Somerset BA3 5SD WEBSITE vobster.com

CONTACT 01373 814666, info@vobster.com

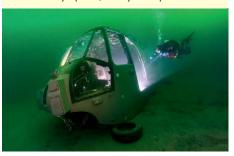
WAS Limestone/sandstone quarry

OPEN 8am-8pm (six-hour sessions); 8am-3pm Nov-March ATTRACTIONS Helicopter, aircraft sections, quarry crushing works, tunnel, 4 boats, cars, caravan, troop-carrier, platforms

WILDLIFE Perch, roach, white-clawed crayfish, zebra mussels FACILITIES Gas fills, shop, kit servicing, training, changing rooms, toilets, shelters

DAY TICKET £17 members, annual sub £45. Open to members only at present, and they need to pre-book.











WRAYSBURY

Yvonne Tatchley, Instructor

"Wraysbury Dive Centre is London and the South-east's premier and only inland divesite solely dedicated to scubadiving. Our 15-acre lake contains attractions including the Bus, the *Elizabeth Austin* Lifeboat, a wreck-site, a cave



system, a dragon boat and our newest attraction – the front section of a Boeing 737 plane.

"We also have lots of platforms at different depths to assist with training and skills practice.

"On-site facilities include a café, (serving our world famous cheesy chips), gas fills, on-site equipment servicing, kit-hire and a dive-shop.

"Our dive school offers PADI, SSI and SDI/TDI courses from beginner to pro and technical Level, taught by our full-time experienced instructors.

"We're open seven days a week from 9am, with no need to pre-book – turn up and go diving. We only ask that, before you come, you read the Covid rules on our website."







LOCATION Station Road, Wraysbury, Middlesex TW19 5ND **WEBSITE** wraysbury.ws

CONTACT 01784 488007, info@wraysbury.ws WAS Gravel pit

OPEN 9am-6pm (3pm in pandemic) daily

ATTRACTIONS 737 fuselage, 27 boats, bus, milk-float, van, taxi, cars, cave system, camper-van, platforms, confined water area

WILDLIFE Carp, crayfish, eels, mussels, perch, pike, sponges, tench

FACILITIES Gas fills, shop, kit hire & servicing, 5* school (PADI, SSI, TDI), classroom, café-bar DAY TICKET £15 (no booking required)







Above: it's called the common seadragon, but they aren't that common.

Below: Far rarer is the ruby seadragon, caught live on video for the first time in 2017 and this remains one of the only images. If you could help with a ruby photo, that would be a coup!

change," says Dr Greg Rouse of Scripps, co-leader of the SeadragonSearch project.

"At the moment, we know little about the life histories of these unique fish. We suspect they don't move far outside of small home ranges, but we need the community's help to gather more information so that we can properly plan for their conservation."

Habitat loss is a concern, because seadragons have limited mobility and low genetic diversity.

"Without more information, we can't accurately estimate how seriously seadragons are threatened by human impacts," says co-leader Dr Nerida Wilson, from the WAM.

"People-power is critical to keep conservation efforts in focus, and we are fortunate that seadragons have such a strong community of support behind them. Seadragons often live in areas of high biodiversity, so helping them helps other marine life, too."

Find out more at seadragonsearch.org

conservation and management actions.

The initiative has been launched by the Perth-based Western Australian Museum (WAM) and Scripps Institution of Oceanography at the University of California San Diego in the USA. They are working with non-profit organisation Wild Me, a US software developer that uses AI tools to collect and analyse data from threatened wildlife populations.

There are three known species of seadragon - the common or weedy, leafy, and the recently discovered ruby seadragon. Found only in Australian seas, they belong

Australia in the near future because of coronavirus restrictions, bear in mind that there is plenty of time - the project is scheduled to last for the next 10 years.

And don't worry if you do have pictures but they were taken a while back. "Old photos will be fantastic - we are superinterested in going back in time," Flora Perrella of the WAM has told DIVER.

"Maybe not so much pre-2000s, unless readers have a lot from one area, but we think it will fit the bill regardless."

"Seadragons live in shallow algal habitats, which are particularly vulnerable to climate



LONGIVANUS BELGGERAL



Everything is out of whack at the moment, and if **EKREM PARMAKSIZ** yearned for a return to normality in the Red Sea it was close, yet different. Covid precautions and daft divers accounted for some of the quirkiness – but then there was the behaviour of the sharks...

a minor or major way as a result of the global pandemic measures. When they were announced in March around the world, they stripped trips to most international dive destinations from divers' itineraries indefinitely.

Country lockdowns, travel limitations, dive bans – all these restrictions kept and are still keeping us from making plans to reach our beloved dive-sites. It's a big challenge.

After a two-month complete home lockdown in Madrid, I had started resigning myself to having no diving for a year or more. Community health is of the utmost importance and yet...

My passion for diving to see marine life kept the dream alive, despite the blurry, chaotic future that faced us. Nearly eight months had passed since I had last dived and I was determined to go as soon as the opportunity presented itself.

My first attempt at a trip, to Rocky Island in the southern Egyptian Red Sea in mid-July, ran onto the rocks itself when the authorities extended diving restrictions.

Things were changing every day in these

tough Covid times, and it was becoming difficult to keep up with what was possible and what wasn't. Another projected boat safari had to be cancelled twice.

But eventually I managed to book a liveaboard trip for the last week of October. Requirements such as PCR tests 72 hours before my flight or the air-travel restrictions imposed by Egypt's Civil Aviation Authority would not deter me from joining my long-awaited "Golden Triangle" BDE (Brothers-Daedalus-Elphinstone) tour.

FLEW FROM MADRID to Istanbul and then on to Egypt on a Turkish Airlines plane loaded mainly with Russian tourists, arriving at Hurghada airport at 3 in the morning.

There had been impressive levels of health screening at Istanbul airport, and this was even more the case at Hurghada. I hadn't been allowed to take my camera housing bag into the cabin from Istanbul because of Covid restrictions, so had removed the 10kg housing and carried it.

We had to fill out two documents during the flight, and quite a queue formed below the plane

at our destination as two officials collected these papers before we went through the stringent PCR test collection protocols.

All in a good cause. I boarded the vessel at 5.30 and there I was at last, back in the Red Sea.

I have been exploring these waters for around 15 years as an underwater photographer and this was my 10th visit, with more than 250 dives clocked up in northern and especially southern Egyptian locations.

With a great year-round climate and visibility to match, the south is a perfect place to witness spectacular marine biodiversity, dramatic coral walls, plenty of large pelagic fish, excellent wrecks and, of course, an insane range of shark action.

Where else can you spot such a wide variety of shark species – hammerhead, oceanic whitetip, black- and whitetip reef, tiger, thresher, guitar and whale – a stone's throw from Europe?

Of course, the five-month diving and fishing ban during the outbreak had kept these waters clear of divers and dive-boats, and I expected the fauna and flora to have benefitted from that.

I felt excited at the prospect of witnessing an increase in numbers and species.

The BDE destinations might only be small pieces of island but they boast some of the best pelagic diving to be had. A liveaboard and a crossing of at least 10 hours is the only way to explore these remote, uninhabited sites.

CARRIED OUT our check-dives at a site called Aquarium off Hurghada and were moored at Big Brother very early the next morning to embark on the first of four intense diving days – one at the Brothers, where overnight mooring is forbidden, two at Daedalus where it isn't and one at Elphinstone.

At no site did we see more than a few liveaboards – hardly surprising in view of the pandemic that there was so much less diver and boat activity, but I wasn't complaining.

As expected, the marine life appeared to have become livelier since my last visit. It felt good to be back, and especially with the oceanic whitetip (*Carcharhinus longimanus*) sharks, which were present in numbers at the Brothers.





Pictured: Oceanic whitetip shark with pilotfish at Daedalus.

Those huge colourful reefs of hungry filter-feeders were magnificent enough to satisfy us on this occasion.

The dives at the Brothers were excellent, and

Top right: Diver on a coral

Left: Hammerhead shark at Daedalus.

The dives at the Brothers were excellent, and with so much marine life present it would be churlish to say otherwise, but I couldn't help leaving disappointed that the oceanic whitetips had kept their distance.

After that, I wasn't particularly hopeful about

NFORTUNATELY WHAT should have been a great photo-opportunity was spoilt for me because each time I tried to photograph them, someone from our group would indeed rush towards them and scare them away.

It was a difficult situation, and on one occasion a group of divers from another boat started clapping under water in protest at this shameful repeated behaviour.



Above: Big Brother Island.

Right: Oceanic whitetip sharks had gathered in unaccustomed numbers at Daedalus.

Opposite page, clockwise from top left: Corals at Elphinstone; Napoleon wrasse; barracuda; profile of a longimanus.

Below: Daedalus reef.



However, the most surprising aspect of the whole trip was that there were so many oceanic whitetip shark gatherings at Daedalus. This isn't customarily their favourite spot, but they were the most numerous sharks there on this occasion.

I had never before dived with more than two individuals at a time, yet there at Daedalus we would have five of them cruising around us at a time, usually medium-sized.

I had set out on this trip in search of oceanic whitetips because I had been expecting them to be more abundant than ever following the hiatus in diving caused by the pandemic, and so at Daedalus it proved to be the case.

On one particular dive I spotted more than nine individuals passing at various distances. This time I couldn't complain about the photo-opportunities on offer.

These pelagic wanderers were approaching from everywhere with no hesitation, as if keen to co-operate. I should be careful what I wish for, because on some occasions they were approaching way closer than I wanted, to the extent that I actually found myself trying to push them away with my camera.

REALISED DURING THESE dives that something quite strange was going on. The longimanus were constantly dipping to dive almost vertically, before turning sharply and swimming back up the water column in the same way. I had never observed them moving in this erratic fashion before.

I was convinced that this behaviour was caused neither by curiosity nor quick temper. It was not some sort of warning display or hunting technique either. They were simply behaving in a violently explosive way, and I had never seen them acting like that before.

The whitetips' behaviour was sometimes exceedingly erratic. Fortunately our group had no mishaps as a result but it did leave me wondering.

Two days before our encounters, in Ras Mohammed a group of snorkelling tourists had been attacked by an oceanic whitetip (as reported in **DIVER** *News* in December), leading to site closures pending an investigation.

I found it interesting that Red Sea water temperatures in 2020 had been exceedingly high, at least 2°C warmer than in previous years, and I wondered whether there might be a connection.

I talked to our experienced dive-guide Ahmed, who also owned the liveaboard, and he expressed the same concerns.





He also told me that he didn't plan to allow the following week's group of divers to visit the same spot where the oceanic whitetips had been behaving strangely.

Other Egyptian friends, many diveguides among them, all agreed about the heat when I asked them, confirming that throughout September and October the waters had been particularly warm.

To maximise performance, sharks adopt behavioural strategies to move through their environment in such a way as to maintain optimal body temperatures as far as possible.

Water temperature is arguably the most influential physical driver governing sharks' movements, and being unable to control the situation for extended periods must have been having an impact on them and making their behaviour less predictable.

Both the Aquarium reef off Hurghada and the reefs we dived at Daedalus showed clear signs of coral-bleaching, on a massive scale in parts of the latter.

This had happened in the two years since my last dives there – surprising considering that Red Sea corals are known to be highly resilient compared with those in other parts of the world.

Our TRIP FINISHED at Elphinstone — something of an anti-climax because we simply drifted along the reef on the first dive, rather than descending to the north plateau, and saw little of interest in terms of pelagics or schools of fish on the second dive at the southern end.

If I had been glad to see the Covid-





Below: A school of snapper.

Bottom: Liveaboards at Daedalus.



19 precautions taken on my flight in, I was less impressed by those on the liveaboard. Certainly there were heightened hygiene practices everywhere, including on the dive-platforms and in the restaurant and public areas.

We were also given Covid protocol briefings before our dives.

The problem lay more with the crew. They didn't wear masks at all, posing what could have been quite a risk to all those divers requiring a negative PCR test.

And every time I went to put my equipment together on the dive-platform, wellmeaning crew would approach too close to lend a hand.

I asked Ahmed if they were all PCR-tested each week, and he told me that there was no need for that, because he kept them on the boat at all times. This, he said, meant that they were effectively in quarantine!

How that could be the case when they were interacting with a new group of divers every week, along with the providers of supplies loading the boat, remains a mystery.

Also, the RIB crew would often drive back and forth between various other liveaboards to make pick-ups or drop-offs at spots such as Daedalus or the Brothers.

I mention all this because it's pretty much too late to do anything once you're committed to a much-anticipated diving holiday on a boat.

So if you are planning a liveaboard trip anywhere in the world before the virus is under full control, it's worth asking about specific precautions ahead of time.

Then, if they're not met, at least you can hold the operator to account!



instagram.com/ekrem_parmaksiz

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WHALE MILK & JELLIES



DIVER 56

PHOTOGRAPHER OF THE YEAR open-to-all competition, organised by the long-established German Society for Nature Photography, was intended to be a one-off event in 2001 but it's still with us, emphasising innovation and creativity in terms of techniques and compositions.

The organiser places great importance on adherence to ethical standards and does not allow any form of digital manipulation.

"The GDT demands and supports nature photography that embraces authenticity, true conservation and artistic quality to the same degree," it says.

The winning images were announced in a virtual event on 22 October, and after an initial exhibition in Verden/Aller they go on a tour of Germany and elsewhere in Europe as usual. Here we show six of the standouts in the Underwater category.

WINNER MIKE KOROSTELEV (Russia) WHALE MILK

"It is one of the most exciting experiences of the underwater world to observe the social behaviour of sperm whales (*Physeter macrocephalus*). For animal photographers it is very important not to disturb the animals. I felt very honoured that they allowed me to stay so close to them all this time.

"There were two calves in this group of whales, who were regularly fed by their mothers. Whales do not have lips, and the mothers squirt the milk into the water for their young, as is clearly visible in this picture."

Taken with a Canon EOS 5D Mark IV camera with a 4.0/8-15mm fisheye in a Seacam housing. ISO 1000.

HIGHLY COMMENDED PIETRO FORMIS (Italy) RELATIONS

"A juvenile imperial blackfish (*Schedophilus ovalis*) hides from predators between the stingy tentacles of a jellyfish. This photo originates from a deep-sea dive at night in the waters around Puerto Galera in the Philippines.

"At night, millions of organisms rise from the deep to feed on plankton in upper water layers – a unique opportunity to observe incredible creatures and exciting behaviour such as this."

Taken with a Canon EOS 5D Mark III camera with a 2.8/60mm macro lens in a Nauticam housing and



RUNNER-UP MAGNUS LUNDGREN (Sweden) HITCH-HIKING OCTOPUS

This spectacular animal is called a paper nautilus (Argonauta hians) and belongs to the octopus family. The specimen in this photo is taking a ride on a very small jellyfish.

"I observed this fascinating spectacle during a night-dive in the open sea at Balayan Bay in the Philippines. Only the females have a shell, which serves to protect the eggs and is also used as a buoyancy chamber.

"Every night this exceptional drama of vertical migration recurs as countless creatures of the deep sea rise — a spectacle very few people have ever observed."

Taken with a Nikon D850 camera with a 2.8/60mm lens in a Sea & Sea housing and two Inon strobes. ISO 100.





HIGHLY COMMENDED CRISTOBAL SERRANO (Spain) HULLABALLOO

"The marine iguana (Amblyrhynchus cristatus) is the only lizard in the world that feeds in the sea. Endemic to the Galapagos Islands, it is an excellent swimmer and uses its strong claws to ding to the rocks even in strong currents, grazing on the algae growing there.

"During one of my dives in this marine paradise, I photographed this primeval species among a large school of fish (*Girella freminvillii*) what a hullabaloo!"

Taken with a Canon EOS 5D Mark IV camera with a 4.0/8-15mm fisheye and 1.4x extender in a Seacam housing and Seacam strobe. ISO 800.

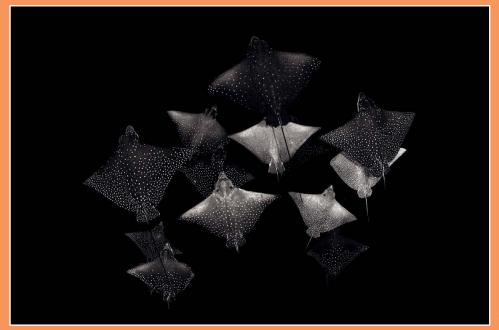
HIGHLY COMMENDED NICHOLAS MORE (GB) FISH EXPLOSION

"As I descended beneath the waves, to approximately 20m at the Four Kings dive-site in Raja Ampat, Indonesia, I discovered tightly schooling swallowtail cardinalfish (*Verulux cypselurus*) bursting back and forth through a cave to evade hunting predators – safety in numbers!

"I wanted to capture the drama of the moment and used a slow shutter-speed to depict the synchronised movement of the school as the fish pulsed over the reef."

Taken with a Nikon D500 camera with 2.8/10.5mm fisheye in a Nauticam housing and two Inon strobes. ISO 100.





HIGHLY COMMENDED HENLEY SPIERS (GB) CONSTELLATION OF EAGLE RAYS

"On an unforgettable dive in the Maldives, a school of spotted eagle rays (*Aetobatus narinari*) passed me by. I could visualise the image I wanted and, while the rays glided effortlessly I swam hard, trying to unlock the desired angle.

"The rays continued forward and deeper, giving me just a moment to capture this frame. Scientists have recently confirmed that the spotting on each ray is a unique identifier, the equivalent of a human fingerprint."

Taken with a Nikon D850 camera with 3.5-4.5/28-70mm lens in a Nauticam housing and two Inon strobes. ISO 800.

See the other Underwater images and those in the other categories at gdtfoto.de

DIVER 58 DIVERNET.COM

BOOKING NOW

Pharaoh Dive Club owners Clare and Steve Rattle have been working and diving around the Egyptian Red Sea for nearly 30 years and run the popular Roots Red Sea centre which, as they fairly say, put the town of El Quseir on the map.

Far from being knocked back in the year of coronavirus, they have been able to launch their own safariboat, the motor yacht Big Blue, after an extended 30-month build.

The couple have extensive experience of operating Red Sea liveaboard trips since the Xanadu in the early 1990s, but had never owned their own vessel before now.

At 38m long and 7m wide, Big Blue puts the emphasis on space for divers with its maximum of 24 berths.

There is space on dives too, say the owners, with divers divided into four groups of up to six sent out at intervals - unless they choose to go down en masse.

And as a principal supporter of the Deptherapy charity, Big Blue was designed to suit wheelchair-users, welcoming divers with disabilities and with accessible cabins to match.



The plan is that Big Blue will kick off the 2021 season on 6 March with two back-to-back trips out of Hurghada featuring a "March Madness" 15% discount special offer.

The "Northern Wrecks" tour costs £665pp (two sharing) and departing on 13 March the "Safaga & Brothers" tour costs £765pp, both ex-flights.

Divers wishing to book are assured that should continuing Covid restrictions cause flight cancellations or the UK government bans travel to Egypt, the trips are 100% refundable or transferable.

mybigblue.com



Blue O Two's **longer view**

Blue O Two has decided that the long view is the safest at the moment, given that many of its customers book years in advance anyway, so it has been busy promoting its 2022 and 2023 Egypt liveaboard schedules.

And if you have foresight its arguments make sense - you can secure the dates, vessel, cabin type and itinerary that best suit you and have more time to save your money to pay the balance!

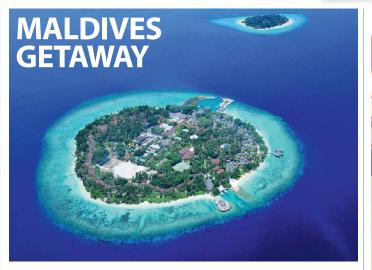
Week-long trips on Blue Adventurer start from £714 in 2022 and 2023 – and time can pass surprisingly quickly.

Also looking to the future, Blue O Two's 2021 calendar featuring winning images from its



photo contest is on sale nowit costs £9.99.

▶ blueotwo.com



Ultimate Diving has, when able, managed to get some clients out to the Maldives since it reopened, including to Bandos Island which, as can be seen above, is encircled by white beaches and blue waters.

It says that the house reef is considered one of the best in North Male Atoll; further out, boat-divers can choose from more than 40 dive-sites.

Whether you go soon or later, you can book seven nights' all-inclusive accommodation on Bandos from £2555pp. This also includes return flights from London, speedboat transfers and 10 shore dives each. A single supplement applies.

>> ultimatediving.co.uk

BIG SNORKEL THRILLS

If you're paying US \$9600 to go snorkelling / freediving you'll be hoping to see something good, and interactions with Dominica's sperm whales in 25-30m vis would certainly be a blast.

Big Animals Global Expeditions

is running - Covid permitting a seven-day expedition led by Amanda Cotton from 28 February. With only four guests allowed each time, social distancing shouldn't be a whale-sized problem.

>> biganimals.com

There is no requirement to quarantine on return from the diving destinations below - provided that you stayed there for at least 14 days and made no transit stops. Only those places shown in bold allow entry to UK visitors without need for quarantine, although a variety of screening requirements do apply. This list makes no account of UK government restrictions on nonessential travel or flight availability. Check the latest information at gov.uk

Australia **Barbados** Bermuda Bonaire / St Eustatius / Saba British Virgin Is **Canary Islands** Cayman Islands Corfu / Crete / Kos / Rhodes, Zakynthos (Gr) Cuba Dominica Finland Gibraltar Grenada

Ireland

Madeira

Malaysia Maldives Mauritius Montserrat New Caledonia New Zealand Norway Pacific Islands Seychelles Sri Lanka St Helena St Kitts & Nevis St Lucia St Vincent & the Grenadines Taiwan Thailand Timor L'Este Turks & Caicos Is

MY FAVOURITE WRECK SITES SCOTTISH STAR

in Scotland, Scapa Flow is undoubtedly one of the biggest draws – you could go so far as to say that it's one of the UK's biggest diving attractions. However, you don't need to travel quite that far north to find some pretty spectacular wrecks.

In the triangle between Greenock, the Mull of Kintyre and the Mull of Galloway at the mouth of the Clyde there are around 250 wrecks, ranging from small personal craft to an aircraft-carrier.

That's right - an aircraft-carrier!

Lying almost in the middle of one of Scotland's most popular ferry routes, the Ardrossan to Brodick Arran ferry, is the wreck of HMS *Dasher*, one of the Archer Escort carriers rushed into service during WW2.

There has been much debate about the cause of her sinking, but the official enquiry pinned the blame on a fuel leak. Of her 528 crew all but 149 were lost to the depths of the Clyde. The *Dasher* is a war grave, and lies at a depth of around

140m, well outside the range of recreational diving, but the west coast of Scotland still has so many wrecks to offer. I want to share with readers three of my personal favourites.

Lying just off the coast of Dunoon is the Clyde's largest diveable, and possibly most intact, shipwreck, that of the Swedish-built cargo ship the Akka.



Pictured: Plumose anemones and sponges on the *Breda* wreck.

Left:The Akka.

Above right: Diver over the deck of the *Breda*.s in



ROSS MCLAREN
presents short videos
on the BBC's The Social extolling
the joys of scuba in Scotland.
We asked him for some examples...





probably one of the least dived in the area, and lay pretty much forgotten for nearly 70 years.

That was until 12 divers from East Cheshire Sub-Aqua Club, along with a team of Royal Navy divers and Dr Ian Murray, successfully explored the site and even recovered two of the approximately 200 artefacts that make up this site.

I refer to Barnes Wallis's Highballs, in Loch Striven. You can certainly be forgiven for never having heard of Mr Wallis's circular objects, but I know most people know about their larger siblings, the famous "bouncing bombs" used by 617, the RAF Dambusters squadron.

The Highballs worked on similar principles to the bouncing bombs, but were designed not to destroy dams but the mighty German battleship the *Tirpitz*,

dubbed by Winston Churchill "the Beast".

From her Norwegian fjord base the *Tirpitz* posed a huge danger to the Arctic convoys on their way to Russia and had to be dealt with. Ultimately the Highballs were never used against the behemoth, but nearly 200 dummy bombs still lie at the bottom of Loch Striven.

They were deployed against the French WW1 battleship the *Courbet* which, for testing purposes, was moored in the loch to play the part of the *Tirpitz*.

ROPPING DOWN the shotline, we were met not by the spherical lumps we had come to see but by a somewhat bowed "sheet" of metal roughly 8m long – definitely not a Highball.

In fact this sheet was a throwback to other trials that took place in Loch

Striven. It was the sidecharge from one of the midget submarines, or X-craft, that had also been designed for use against the *Tirpitz* – the difference being that they were actually used.

Heading away from the side-charge, we came across our first cluster of Highballs. They might lack the

visual impact of a wreck such as the Akka, but they do make you consider their history – it's amazing to think that they were once at the forefront of military technology

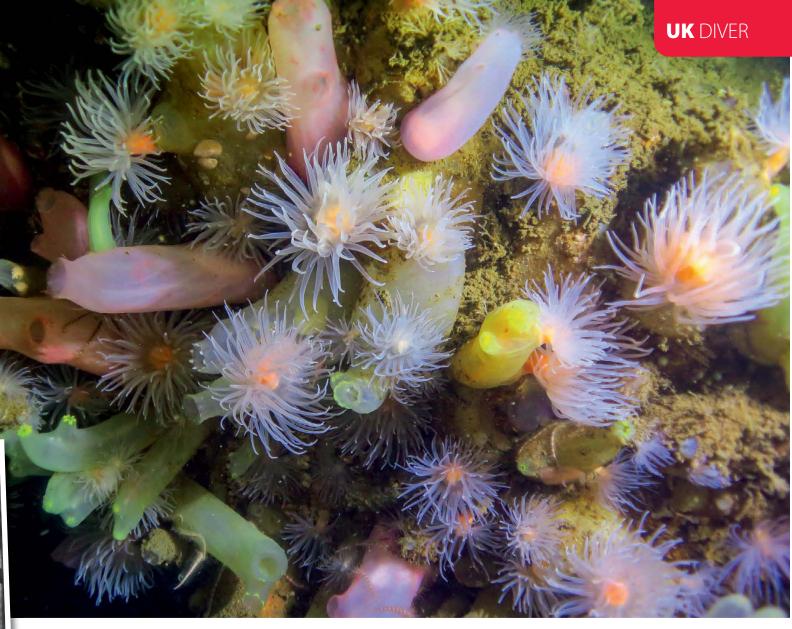
Both the *Akka* and the Highballs are diveable from marinas not all that far

Above, clockwise from left: Highball bombs in Loch Striven; inventor Barnes Wallis; an original Highball.

Below, from left: Dahlia anemone on the *Akka*; the aftcastle of the *Breda*.







Above: Sea loch anemones and yellow-ringed seasquirts.

Below: The Breda.

B OO la coe

from Glasgow, but for my third favourite site we have to go a little further north to Dunstaffnage marina, just north of Oban.

Again a boat is required but this isn't an issue, especially when you have experienced skipper and diver Shane Wasik of Dive Oban & Argyll at the helm.

Lying in Ardmucknish Bay is what is probably one of Scotland's most-dived wrecks (up there with those in Scapa Flow) – the steamship *Breda*.

On the night of 23 December, 1940, the *Breda* was anchored just off the coast at Oban awaiting her departure to India, laden with supplies ranging from bags of cement to Tiger Moth aircraft and vehicle parts. It was here that German Heinkel bombers from Norway descended to

unleash their payloads.

They scored no direct hits, but shock waves from four bombs that struck the water nearby caused devastating damage to the cargo vessel. One of the water-inlet pipes used in the cooling system in her engine-room ruptured, causing her to take on water and quickly lose power.

DESPITE EFFORTS in the poor weather to beach the doomed ship and recover her cargo, a day later she slipped from her shallow shelf into the deeper water in which the wreck now rests.

Saying that, at only around 10m to the deck the *Breda* is within range of all divers and makes for an excellent first

"real" wreck for many.

As with the Akka, the top structures have been removed to prevent other vessels colliding with the wreck in low water, but also like the Akka the Breda is extremely well-preserved, sitting on the seabed almost exactly as she would have done at the surface.

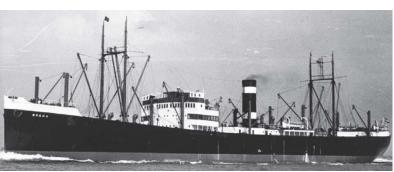
Dropping down the shotline onto her starboard, you're met with a fantastic view of the ship and its deck.

With the relatively shallow deck level it's possible to swim around the whole perimeter on one dive but don't be kidded – you'll need more than one dive to unlock all this wreck's secrets.

My favourite section is the stern, with its fantastic sights of anemones and deadman's fingers clinging onto the remnants of the aftcastle.

All along the deck is a litter of fallen winches, cables, masts and even the axle of a truck. There is also the opportunity to swim through the holds and investigate what's left of the *Breda*'s cargo.

Nany wrecks litter the seabed along the Scottish coastline and everyone has their own favourites, but each one offers us a glimpse into our past as well as an unforgettable experience today.



Find Ross Mclaren

The Social at bbc.c

HOME OR AWAY WITH EUROPEAN SHARKS

Field Guide to Sharks, Rays & Chimaeras

of Europe and the Mediterranean By David A Ebert & Marc Dando

A FIELD GUIDE – a portable illustrated manual for identifying natural objects, flora, or fauna. You take it with you on a trip to identify your sightings without delay.

I struggle to think of trips on which a leisure diver would be lucky enough to see more than one or two of the (incredible) 146 species of sharks, rays and chimaeras that I now realise live in seas

accessible from the UK, and feel the need to identify them instantly.

If I saw a chimaera on a dive I think I'd be excited enough not to worry about whether it was a sicklefin or rabbitfish version until I got home.

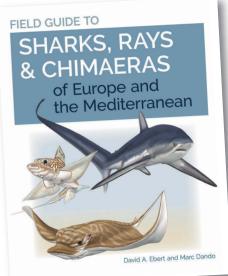
But it doesn't matter if this book never accompanies you on your travels, because it's just a great thing to have on your bookshelf.

As I might just have mentioned before, Wild Nature Press publications tend to be works to drool over (though don't, it wrinkles the pages).

They're designed and produced to a glossy level way beyond the minimum required, far too good to allow to get dog-eared on a boat.

And nobody, it seems, produces better marine-life scientific illustrations than Marc Dando, whose work can be admired here.

Author David Ebert, programme director of the Pacific Shark Research Centre, knows his elasmobranchs and, while this is a reference book, has a clear and authoritative style.



This is one comprehensive guide. Species found from Scandinavia and Iceland to the Canary Islands and Med via the Black Sea are illustrated from different angles, with annotations and separate details of features such as dorsal fins also pictured, plus distribution maps.

There are growth and depth charts, along with a description and notes on habitat, biology and Red List status.

But there is also a bank of icons for each species, its key handily located in the fly-leaf. This enables you to take in at a glance useful facts covering diet, longevity, gestation, reproduction method and temperature range.

There are all sorts of supplementary features too – such as dentition guides, should you feel moved to compare the teeth of bigeye sixgill and sharpnose sevengill sharks. Oh, and there are underwater photos too.

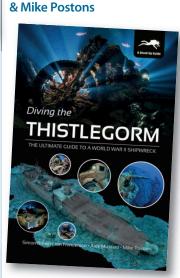
We associate so many species with exotic destinations only because they make their presence known there, but mantas, guitarfish, sandtiger, silky, oceanic whitetip, tiger, hammerhead, bull and many other sharks qualify to be in this book; they get around.

So if you like sharks and rays, even if you can take or leave chimaeras, and even if you never intend to add to your baggage weight with this heavy book, I think you'll enjoy owning it.

Wild Nature Press ISBN 9780691205984 Softback, 384pp, 17x22cm, £28 (also an eBook)

MAKING SENSE OF CHAOS

Diving the Thistlegorm:
The Ultimate Guide to a
World War II Shipwreck
by Simon Brown,
Jon Henderson, Alex Mustard



I'D BE HAPPY TO BET that many more than half of you reading this will have dived Red Sea merchant steamship wreck the *Thistlegorm*.

If you haven't, you probably feel as if you have, because it crops up so often in diving lore.

Once dived, never forgotten, even though, like most shipwrecks, it has altered over time.

With an estimated 175,000 divers visiting every (non-Covid) year for the

past 25, that's hardly surprising.

With and without the help of light-fingered divers and careless mooring of dive-boats, the deterioration continues to this day. But as a magnet for divers the *Thistlegorm* started out from such a superior level that it will always have more going for it than your average wreck-site.

Of course, much of the appeal derives from the fact that it's an Aladdin's cave of grice-worthy cargo, all set not too shallow and not too deep. It can overload the senses and take multiple dives to appreciate, which is where this new hardback guide comes in.

It comes from the reliable Dived Up stable. You might recall, in fact you might own, the iBook equivalent that came out in early 2019 – you might even remember Louise Trewavas's verdict on it in **DIVER**.

She described it as stunning: "the most intelligent, most spectacular and most interactive photographic publication about a wreck" she had ever seen. It made her feel that she'd "dived every lovely inch", and she added that any subsequent dive would be infinitely better informed, and probably more fulfilling.

Reading between the lines I think Louise liked it, and I'm quoting her to save going back over old ground, because having now read it on paper I can only concur.

There have been good books about *Thistlegorm* before, principally John Kean's, but never one illustrated as richly as this.

As we follow each layer of wreck from bow to stern and out into the debris field, its contents are unpacked for us like gifts, each passage of text expanding in fascinating detail on the images alongside it.

And what images! Alex Mustard's terrific wide-angle photography sits alongside the revealing orthophotos, digital elevation models, point cloud renderings and reconstructions that emerged from the combination of Simon Brown's photogrammetry and

TOP 10 BEST-SELLING SCUBA-DIVING BOOKS

as listed by amazon.co.uk (17 November, 2020)

- 1. 100 Dives of a Lifetime: World's Ultimate Underwater Destinations, by Carrie Miller & Brian Skerry
- 2. Fifty Places to Dive Before You Die, by Chris Santella
- 3. Wild and Temperate Seas: 50 Favourite UK Dives, by Will Appleyard
- 4. **Dive Dorset**, by John Hinchcliffe
- 5. The Professional Diver's Handbook, by John Bevan
- 6. Amazing Diving Stories Incredible Tales from Deep Beneath the Sea, by John Bantin
- 7. The Last Dive: A Father and Son's Fatal Descent (audiobook) by Bernie Chowdhury
- 8. Dive South Cornwall, by Richard Larn
- $9. \, \textbf{Scuba Diving Hand Signals: Pocket Companion for Recreational Scuba Divers}, by \, \textbf{Lars Behnke}$
- 10. Winning Images, by Paul Colley

TOP 10 MOST GIFTED SCUBA-DIVING BOOKS

as listed by amazon.co.uk (17 November, 2020)

- 1. 100 Dives of a Lifetime: World's Ultimate Underwater Destinations, by Carrie Miller & Brian Skerry
- 2. Deeper into the Darkness: The Diving Trilogy 3, by Rod Macdonald
- 3. Under Pressure: Diving Deeper with Human Factors, by Gareth Lock
- 4. Reef Life: An Underwater Memoir, by Callum Roberts
- 5. Fishes of the Maldives, Indian Ocean, by Rudie H Kuiter
- 6. Fifty Places to Dive Before You Die, by Chris Santella
- 7. Scuba Diving Hand Signals: Pocket Companion for Recreational Scuba Divers, by Lars Behnke
- 8. Into the Abyss: The Diving Trilogy 1: Diving to Adventure in the Liquid World, by Rod Macdonald
- 9. Underwater Photography: A Step-by-Step Guide, by Maria Munn
- 10. **Underwater Foraging Freediving for Food**, by Ian Donald

Mike Poston's 3D modelling expertise.

I'm still amazed that the hi-res photographs on which all this detail was based were taken in fewer than 14 hours of diving.

In addition, topside photos show preserved or reconstructed vehicles of the types found in the holds.

Everything was brought together as archaeologist Jon Henderson used the comprehensive approach he would normally use to survey ancient shipwrecks to illuminate this modern one (it sank a mere 80 years ago this year).

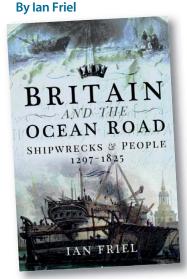
There is a guide to photography on the *Thistlegorm*, and the marine life it attracts gets a look-in too.

This limited-run book is dedicated to making sense of chaos – don't dive the wreck before taking advantage of what it has to offer.

Dived Up ISBN: 9781909455375 Hardback, 240pp, 16x24cm, £35

EIGHT SHIPS, 500 YEARS

Britain and the Ocean Road: Shipwrecks & People 1297-1825



READING ABOUT archaeological excavations of historic wrecks, whether it's the *Rooswijk* or the *London* in the UK, those amazingly preserved wrecks in the Baltic, or anywhere in the world where old cannonballs, anchors or pots constitute a wreck-site, I sometimes wish I understood more about the context in which those ships sailed.

I knew that this book by noted maritime historian Dr Ian Friel wasn't going to be about diving as such, but I'm very pleased to have read it because it addresses that wish and in a really interesting way.

I had expected to skim through it, but ended up reading it avidly from intro to index.

The author's idea was to take the stories of eight ships, many of them obscure, and use them to illustrate significant aspects of sail's development over 500 years in Britain – as the nation progressed, often more by chance than design, towards becoming a major sea power.

So we start with a chapter about something I certainly knew nothing about, the vicious mediaeval rivalry between Yarmouth and the Cinque Ports in Kent centred on their herring fleets. The story of the *St Cross* and other ships is brought vividly to life.

Then we have the definitely obscure *Cog Anne*, an early passenger ship that found its paying customers among pilgrims, and Tudor warship the *Regent*, operating alongside the likes of the *Mary Rose* as the seeds of the Royal Navy were sown.

Naval power enables international trading to take place, so we follow the *Trade's Increase*, an early East India Company armed merchantman, as it battles against the odds to lay the foundations for the British Empire.

And so we continue, exploring the unglamorous side of piracy, the horrific slave traders, the exhausting search for the North-west Passage and the height of naval engagements between ships of the line at Trafalgar.

The concept works, because without trying to provide any sort of comprehensive maritime history the author's educated choices serve to absorb and enlighten us.

And his book is as much about the sailors and other characters as it is about the ships.

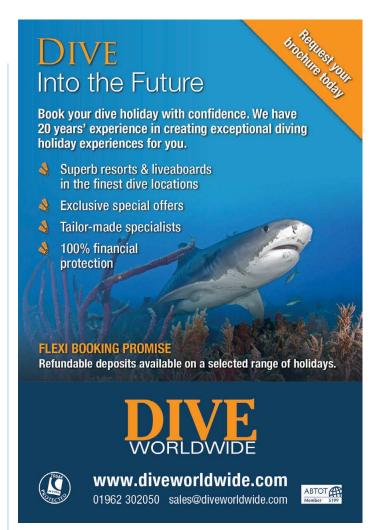
It's based on lan Friel's original scholarship, too, rather than being yet another retelling of often-told historic sea stories.

A follow-up book next year, to be called either *Breaking Seas*, *Broken Ships* or *Black Oil on the Waters*, will continue the story through the age of steam to the present day.

That might seem more directly relatable for divers, but I suspect that any who have even a passing interest in maritime history will find much to enjoy in this first volume too.

Pen & Sword ISBN 9781526738363 Hardback, 204pp, 16x24cm, £25 (also a Kindle edition)

Reviews by Steve Weinman





WELL AND TRULY TESTED



It isn't light, but would the Mares Dragon BC be worth its weight in terms of safety and comfort? STEVE WARREN finds out, and also tests a weight-belt and

a potentially dive-saving optical mask

BC MARES **DRAGON**

ITALIAN MANUFACTURER MARES regularly demonstrates its confidence in its products by submitting them for **DIVER** *Tests*. Established in 1949, the brand has drawn a distinction between its recreational and its extended-range or technical-diving offerings.

The Dragon BC, from the recreational line, is aimed at single-tank divers. It's a high-lift BC, ideally specified for those using coldwater suits and, by extension, perfectly at home in the tropics. Weighing in at around 4.5kg it's no lightweight.

But then, as we go through the Dragon's features and benefits, you'll appreciate why.

The Design

This BC is based around a hybrid air-cell. The classic jacket-style bladder has been combined with a wing or, in this case, a part-wing. I dive jacket- and wing-type BC's with single cylinders interchangeably and have no preference.

Both surface and underwater buoyancy and pitch characteristics seem the same to me, when properly weighted and trimmed.

Wing-aficionados laud the clean waist of most wings, while jacket-users can take advantage of often much-larger pockets.

With a jacket fully inflated at the surface, air-filling the side chambers can cause squeeze if the harness is not set up correctly, while an improperly trimmed wing might pitch you forward at the surface.

So either design can be an excellent choice for recreational diving if used properly.

Still, there must be a reason for hybrids, and in the Dragon, the gain seems to be an increase in lift of a couple of extra kilos compared to a similarly sized stab-jacket.

The single-bag air-cell is made from 420 Cordura, which can be expected to be hard-wearing and long-lasting. The harness is based around a full-length alpine-shaped plastic backpack, which is very substantially cushioned.

At the top of the pack is not so much a pad as a pillow. It protects you from the nape of your neck to the base of your shoulder-blades.

This overlaps a more conventional pad that sits snugly against your lower back and hips.

The shoulder-straps are lightly padded but wide, to spread the load. They have swivelling 50mm squeeze-release buckles. The wide touch-fastener-closed cummerbund can be adjusted for length at the back, keeping it neat in front.

A squeezebuckle-released waist-strap lies over this.

Finally, there's a fixedposition cheststrap, again using a squeezerelease buckle.

The Dragon is weight-integrated, using Mares' patented Slide and Lock (SLS) quick-release pouches for the main weights.

Two fixed trim-weight pockets are fitted to the backplate. Along with the usual Mares Ergo oral inflator/direct feed, a rapid exhaust-dump is built into the oral inflator hose, with an additional shoulder- and bum-dump.

For carrying accessories, a pair of zipped waistpockets with grommets for a Mares knife on the right side and five stainless-steel D-rings are provided. One sits above each shoulder-buckle, and they are pre-bent to make it easier to snap on lights, for example.

Another D-ring hangs below each kidney, where I like to clip off my primary DSMB reel. A small D-ring is provided beside the right shoulder-buckle, ideal for attaching a gauge or octopus.

The cylinder secures with a single conventional camband, and a neck-loop sets its height – especially useful at resorts and on boats where your kit is set up for you.

The built-in carry-handle is really easy to get your hand into. I used a 15-litre steel cylinder – not my favourite tank, because it's wide and heavy and tends to roll me under water.



Weight System

I installed two 1kg weights in the trim-weight pockets. These are fitted out of the way between the outer backpack and air-cell.

The SLS weight system uses zipped pouches, and I put a 3kg hip-weight in each. They then slide into the retaining sleeve.

Jettisoning is straightforward – just tug firmly on the grab-handles and the weights drop clear. Credit goes to Mares for using contrasting colours to make it easy for an assisting diver to identify them.

This type of release is very common among BC manufacturers, as are squeeze-release buckles. What's different about the SLS is the installation.

With conventional pull-handle-release weights, when you slide them into the sleeves you feel for them snapping into place, and listen for a click to confirm that they're locked.

This usually works well enough, though less so when you try to install them after kitting up.
Especially with heavy weights, you often have to juggle them into a tight sleeve against gravity,

DIVER 66 DIVERNET.COM



and it's best not to be hampered by a restricted view of the sleeve.

Often, too, diver chatter or engine noise can make it tricky to hear the click clearly. Sometimes a weight pouch can look as if it's locked when it's just being held in by friction – for now.

As well as the click, the SLS has two well-thought-out safeguards to confirm that the weights are locked.

Firstly, the pouches have a red button that stands proud of the grab-handle until you push it firmly into place. It then retracts and sits flush.

As the mechanism locks, the click should provide an audible confirmation.

Secondly, a padlock symbol appears in a small window in the weight-buckle. It's clear to a diver fitting the weights before donning the Dragon, but if fitted afterwards it should be obvious to a briefed buddy during a check.

It's a good system. I found the weights easy to fit after kitting-up. A useful touch, especially for rental, is that the pouches can be marked to identify them, reducing the risk of inserting someone else's ballast in your BC.

In Use

Weighed down by the 35kg or so of weights, cylinder, regulator and air that the Dragon was supporting, I made the 500m walk to the water. It's a very comfortable BC.

Once in, I measured the distance from my lower lip to the water's surface. It's important that your BC rides high enough to allow you to breathe in a chop if you're out of air and haven't

within the usual ballpark.
With the Dragon fully inflated
I had to work a little to stay
vertical. A BC against
which you have to fin
to prevent a face-plant is
tiring and potentially
unsafe, whereas
floating vertically

Height-adjustable oral inflator hose retainer.

allows you to brief students effortlessly, take compassbearings and signal to your boat.

However, I'll give the Dragon a pass, and here's why.

The BC supplied was small, and I need a medium. The size alters how it fits and affects stability, pushing further back the lobes of the air-cell

that normally mould around your waist. As such, they no longer counteract the tendency of the rest of the air-cell to tip you forward.

Never accept a wrongly sized rental BC, or be unwilling to change your kids' BCs as they grow! Rant over. Based on the shaping of the Dragon and experience of other Mares BCs, I'd expect the Dragon to provide perfect surface support.

The harness allows the air-cell to move independently of the straps as you inflate it, which eliminates any feeling of squeeze if you set your Dragon up properly – I tightened my straps with the BC half-inflated.

Under Water

At 10m I checked the valves. The Mares Ergo inflator has nicely set-out inflate and deflate controls, clearly distinguishable by both shape, texture (if bare-handed) and colour. A simple pipette allows for oral inflation.

Mares has a two-position epaulette that restrains the oral inflator hose, so the inflator is always easy to locate. It's worth experimenting to see whether the high or low position is best for you to ensure that you can easily dump and orally inflate through the mouthpiece.

The progressive direct feed filled the air-cell in four seconds. Either the shoulder-dump or rapid-exhaust valve can vent air faster than the direct feed can supply it.

When I hung onto an anchor at 10m, fully inflated the BC and let go, I could stop the ascent in 1m using the shoulder-dump and 2m using the valve.

Wearing an undersized Dragon could have meant that the dumps were not in the optimum position to vent effectively. My guess, based on previous experience with Mares BCs, is that the stopping distances would have been a little shorter had the sizing been right.

I do these checks to confirm that a runaway ascent, perhaps caused by a frozen or otherwise-stuck direct-feed can quickly be controlled.

The shoulder- and bum-dump toggles are easy to locate and use high-contrast colours, so they stand out and are immediately obvious to a buddy. The pockets are easy to open and reach

into. There's enough space to fit small torches, folding snorkels and slates, though you'll struggle to force a DSMB in.

Stability under water was excellent, with no pitch or roll. But let's return to buoyancy.

A big claim from Mares is for the Dragon's lift capacity. At 18kg for the medium this is the same as some other BCs in its range, but it does pack considerably more lift than many rival models, which tend to range from 10-14kg.

The extra lift is probably not a huge advantage for a properly weighted recreational diver, but dive-pros might find it reassuring to have a little extra buoyancy in reserve in case of emergencies. They sometimes also carry extra weights to hand off to their charges, so might well be diving overweighted themselves.

Deliberate overweighting might also be a tool for underwater photographers and film-makers, or for harbour-divers who might need to set down hard on the seabed.

What is persuasive for ordinary divers is the comfort the Dragon affords, especially if diving in skins or bare flesh from the shore, and its excellent sub-surface and anticipated surface buoyancy qualities. Controls fall easily to hand, and the SLS weighting system is a winner.

Pockets could be a little larger but that's nit-picking, and the D-ring array makes for convenient stowage for most accessories.

Conclusion

Mares BCs consistently impress, and the Dragon is no exception. What we have here is a rugged, comfortable and well-specified BC for the serious recreational diver. Highly recommended.



SPECS

PRICE >> £422
WEIGHT >> 4.5kg
SIZES/BUOYANCY >> XS (13.8kg), S (16kg), M
(18.3kg), L (21kg), XL (23.9kg)
COLOUR >> Black
CONTACT >> mares.com



under, while finning furiously to try to get I dropped the belt.

assessment for a novice sport scuba course run by the Army. One of the exercises was to swim 50m wearing

and it was supposed to be adjusted down for thin people, which I was at the time. I did the swim wearing only my shorts in freezing sea temperatures and, about halfway through, my legs seized up. Again, I ditched the belt.

Around 80% of recreational divers who die are found on the seabed with weights still in place. It seems that we just don't train divers effectively to carry out this simple life-saving skill.

I learnt its importance from reading manuals and magazine articles. I was never taught to do it as a practical skill during my entry-level scuba training with BSAC and PADI, nor taught the skill for real as an instructor for either agency.

The Dilemma

By its nature, the dilemma for a quick-release mechanism designer is to make it easy to deploy deliberately while also making it very difficult to self-release by accident.

There is a range of quick-release systems out there, especially on weight-integrated BCs, and some are quicker and more instinctive to ditch than others. When it comes to weight-belts, however, the standard among scuba-divers for many years has been the simple cam-belt.

Its ubiquitousness means that most divers know how to release it, reducing any delays in emergency jettisoning through unfamiliarity. However, the buckle can be opened by accident.

A friend ended up doing a safety stop upsidedown after his was snagged by the shotline, sending it to the bottom. I once got swept over rocks while snorkelling, which ditched mine.

If not adjusted for length, there can be a lot of webbing that needs to pass through a cambuckle, and I've seen divers hitch this around the belt-strap, defeating the quick-release mechanism. And if your weights aren't fitted with retainers, hold it by the buckle end and off slide your weights as you pass it up to the boat.

The Design

The Imersion Standard Belt quick-release buckle is far from new, yet it still, I think, deserves some attention.

In fact, it isn't even an Imersion design. It was first made by La Spirotechnique, the company founded to manufacture the original Aqualung, by which brand name Spiro is known today. It dates back to at least the 1960s. I guess the patent ran out.

So what's so great about this weightbelt buckle? Well, it's a two-piece stainless-steel design, with one half inserting into the other.

Firstly, the buckle stops your weights sliding off. If you want to hang onto the boat with one hand, reach down and take off your belt with the other, there's no risk of a cascade of lead hitting the divers below you.

Secondly, any extra webbing can be tucked out of the way without interfering with jettisoning, because it doesn't have to pass through the gate, as it would through a cam-buckle.

Thirdly, the length of the belt is easily adjusted simply by pulling on the free end to tighten or pushing up on the buckle to slacken. A cam-buckle must be opened under water to do this.

Fourthly, the buckle is very low-profile. My old friend Jamie Watts saw one of my old Spiro belts and was desperate to acquire the buckle to further his freediving goal of ultimate streamlining.

The buckle's low profile is achieved by having the release lie flat, so it's much harder to snag than the raised lip on most cams.

Fifthly, it is easy to release with either hand,

whether wearing gloves or not.

The hook can be used as a mooring point for a cylinder-harness jock-strap. This means that the harness doesn't need a waist-strap.

It's a brilliant system, and is where the rule "weight-belt on last" originated.

By donning the belt after you had put on your scuba-set, your weights could be jettisoned in an emergency without snagging.

How fast we forget. Recently I saw a diver moving into technical diving place his weightbelt under the jock-strap of his BC, something it seems his buddies didn't pick up on.

As a vintage diver, I can use my Imersion belt in place of a genuine Spiro belt and not worry about ditching a piece of history.

Sometimes it's the safety benefits of simplicity we overlook.

Conclusion

If you prefer a weight-belt, the Standard is well worth considering. You might have to hunt it down. The UK importer is a freediving specialist and doesn't stock it because the webbing is nylon rather than the depth-compensating rubber preferred for breath-hold diving. I got mine in Lanzarote for about 20 euros.

SPECS

PRICE → £15 MATERIALS → Nylon, stainless steel LENGTH → 1.4m WIDTH → 5cm CONTACT → imersion.net

MASK SHERWOOD ORACLE

IT'S ALWAYS TROUBLING WHEN I'm not quite sure what my dive-computer is telling me. The nature of gear-testing is that I can be using several computers at once, my own being used as my reference.

By looking at mine, I can generally figure out what the numbers the others are putting out are telling me. But when my own computer flooded, because I'm an idiot, I was using two others on a real decompression dive, and was a little uncertain as to my exact status.

My confusion was caused by two rows of easily seen, similar numbers on one of the computers. What I couldn't read were the small legends that told me what those numbers meant.

Safely back at the surface (eventually), it turned out that the read-outs indicated total ascent time without including an optional three-minute safety stop, and the other with stop.

When you know your own computer well, reading these tiny "what's it doing?" lines might not be important, but if an unfamiliar display kicks up because, for the first time, you accidentally drifted over your no-stop time or were forced into emergency decompression,

those details become vital.

Besides, even to check your own buddy's dive-status means being able to correctly assimilate vital information such as no-stop or deco time and gas remaining.

Even if your

buddy uses an identical computer model to yours, displays can differ as owners set custom layouts, making things even more confusing.

The problem, of course, has less to do with poorly designed computer displays – most are very good – than humans' own built-in obsolescence. In contrast to other parts of the body that soften with age, the lenses in our eyes harden and lose their near-focusing abilities.

The Sherwood Oracle + mask offers an offthe-shelf solution to the problem of being able to read your gauges or see that pygmy seahorse. It does this by including two 1.75-dioptre magnifying lenses in the lower faceplate.

The Design

The Oracle + is a conventional low-profile, splitlens model. The silicone skirt features a double seal. The skirt is less soft than you'll find on premium-priced models these days but then,



inexpensive mask. It's still very comfortable, and sealed perfectly over a couple of weeks' worth of unkempt facial hair.

The nose-pocket is easy to pinch or block with a gloved hand, so it's straightforward to Valsalva. The Oracle + is quite low-volume, and I could clear it multiple times on a single breath.

It's my best party trick – if you've never seen it done, you're hanging out with killjoys.

It can also be cleared hands-free. I was freediving, so the main advantage of the low volume was for preventing mask-squeeze on

deeper dives.

The standard mask-strap is adjusted by pulling on the end to tighten and pushing up on the edge of the buckle to slacken. This can be done with gloves.

The buckle assembly slots

into a swivel fitting on the skirt and can be removed by pressing a button. If you have a spare strap in your Save A Dive kit with these fittings, you can change it out in seconds.

As mask-straps normally fail only as you're putting your mask on, and it's usually the last piece of kit you fit as you're about to step into the water, this is a useful time- and hassle-saver.

Sherwood offers a ski-mask-type elasticised strap with built-in snorkel-keeper as an option.

The View

The low-profile skirt puts the lens close to your eyes, so your upward and peripheral field of view is expansive. A polycarbonate frame holds it all together. The teardrop design normally provides excellent downward vision, making it easier to see chest-releases, for example.

The selling point for the Oracle + is, of course, its magnifying lenses. These occupy the lower

plate and are bonded in, so if you drop your chin to look at your drysuit disconnect, it'll look a bit fuzzy.

I used the Oracle + over six snorkelling sessions while testing freediving computers and taking pictures under the rollers.

It really made a difference to being able to read small print on the computer screens.

One of my compact cameras has read-outs that are impossible for me to use without reading glasses, now that I'm properly old. For that reason I normally reach for another camera but, testing it with the Oracle +, it suddenly became useable again.

I had wondered if the magnifying lenses would be distracting when looking at distant scenes, but that was never the case – you simply look over them without realising.

For close-up work, it took a few minutes to learn to use them. You have to hold a computer or camera in the right position to line up your sight through the lenses with the device menus. It soon becomes second nature.

For tekkies and photographers the Oracle + can be ordered with a black skirt to minimise distractions and reflections from peripheral sunlight. The glass is clear – there's no green tint to affect flesh tones if you're into selfies, or if your buddy wears one.

Conclusion

The Oracle + is based on one of Sherwood's bestselling masks. There's nothing to fault, and the integrated reading lenses are a neat and effective solution to a problem many share – or will do.

As a former scuba and u/w-photography instructor, I'd have liked to have had a couple of Oracle +'s as loan masks. Highly recommended.

SPECS

PRICE >> £65 including case

WEIGHT → 0.55kg

COLOUR >> Clear skirt with black, blue or yellow frame. Black skirt with black frame CONTACT >> midlanddiving.com

NEW BUT

The latest kit to hit the dive shops



Sealife SportDiver Camera Housing

This housing is designed to enable divers to shoot underwater stills and video with Apple iPhones 7, 7 Plus, 8, 8 Plus, X, Xr, Xs, Xs Max, 11, 11 Pro Max and SE (2nd Gen) models, as deep as 40m. The user can access main controls such as lens angle, focus and white balance, while a dual vacuum and moisture alarm protects and warns against leaks. A colour-correction filter is included and the SportDiver costs £289 or is available as a kit with a 2500 lumen Sea Dragon light for £595.

>> sealife-cameras.com

Akoma Pro Regulator Bag >>>>

With this bag you pay £37 for travel protection for your valuable regulator and gauges. It's heavily padded to absorb impacts and resist crushing. Velcro tie-downs help to manage the hoses and corrosion-proof YKK zippers and a handstrap complete the offering.

→ midlanddiving.com



Typhoon EON Mask

This new mask could hardly be described as expensive at £26, but Typhoon says it's high-spec all the same. The ultra-low volume model has a silicone skirt and "fast-adjustment" strap, with lenses that it claims provide excellent peripheral and downward vision.

>> typhoon-int.co.uk



Carl F Bucherer Patravi ScubaTec Manta Trust **Special Edition Watch**

With contributions going to this watch's illustrious namesake the Manta Trust charity, this new Carl F Bucherer timepiece is meant to be one a diver will feel good about wearing. The 500m-rated stainless-steel case has a helium escape valve and a sapphire lens. It's powered by an automatic chronometer with a 38hr power reserve.

The dial is made up of those iconic manta shapes - look closely. Only 188 units have been made, and you can get one for £4500.

>> carl-f-bucherer.com



is the Dual Adjustable 62X. The balanced diaphragm first stage features its Dynamic Flow Control to reduce pressure drop to the second stage, for improved performance. The second stage incorporates Vortex Assisted Design and is pneumatically balanced, intended to allow easier inhalation. It all adds up, says Mares, to a lightweight regulator that not only meets EN250A 50m standards but has also been

certified by NORSOK to 200m. It costs £377.

>> mares.com



there are only 88. Its unique look is enhanced by a combination of different-toned Super-Luminova markings, with each hue becoming visible in turn as darkness falls. The maker says that the luminous blue is especially easy to see as your night vision kicks in. Using Linde Werdelin's own automatic movement with 40hr power reserve, this titanium watch can be dived to 300m. It will set you back £12,000. ▶ lindewerdelin.com



Originally designed to be taken to sea on stand-up paddleboards, this £100 backpack could also serve as a dive-travel companion. Made from recycled plastic bottles, the 30-litre bag has a waterproof pouch for damp swimwear and towels, while camera kit and dry clothes can be stored inside. Hidden security pockets provide for valuables such as keys and wallet, and a removable laptop case is included.

>> redoriginal.com



Typhoon XCU 200g Undersuit >>>>

If you feel you need a bit more central heating to get you through that winter diving, Typhoon reckons its XCU 200g undergarment will keep you warmer for longer. An inner lining wicks away moisture, the Thinsulate core keeps the heat in and the Rec-Tech outer shell is breathable

>> typhoon-int.co.uk





NEXTISSUE

Key to the LochThe best way to dive Scotland's Loch Long

Heart of the Coral Triangle Marine-life insights amplified by diving a rebreather

First ImpressionsReadjusting to the UK, Henley Spiers dives the Farnes

Attention Span

Getting to know Florida's Blue Heron Bridge



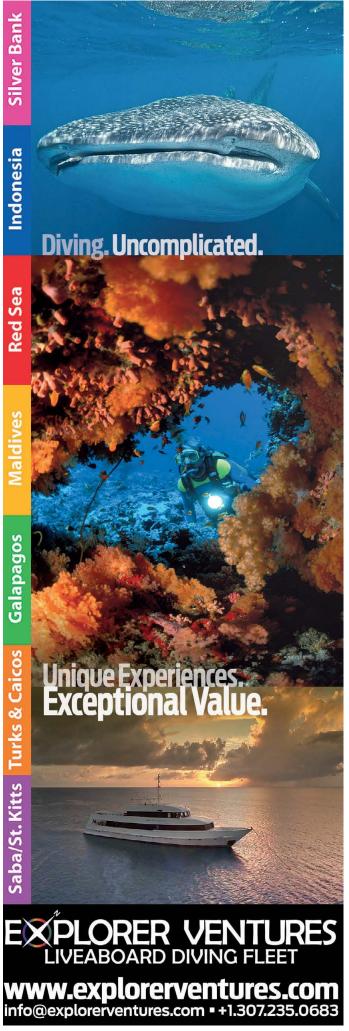


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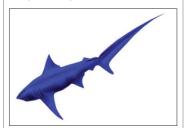


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ADVERTISERS' INDEX

AGGRESSOR ADVENTU	JRES 5	OBLU BY ATMOSPHERE	
BEAVER SPORTS	55	AT HELENGELI	22/23
DIVE MASTER		OCEANIC	33
INSURANCE	26/74	OTTER WATERSPORTS	79
DIVE WORLDWIDE	55	PRODIVERS MALDIVES	5 4
DIVER SUBSCRIPTIONS TORCH	75	REGALIVE	55
WATCH	77	SCUBA TRAVEL	79
EMPEROR DIVERS	55	SEA & SEA	72
EXPLORER VENTURES	72	SHEARWATER	37
FLORIDA KEYS &		SILADEN RESORT	80
KEY WEST	2	SPORTIF DIVE	9
MALTAQUA	73	WESTFIELD SUB AQUA &	
O'THREE	27	MARINE INSURANCE 74/75	

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A chance meeting on a university diveclub night was to shape the career of ROD ABBOTSON, and years later he blesses his good fortune. The other guy did pretty well out of it too!

How teaching a diver with a disability changed my life

OON AFTER I HAD BECOME

a diving instructor back in 1983, I had an experience that ultimately changed my future life. I was helping at a busy university dive-club with its large potential influx at the start of the academic year by administering the old British Sub-Aqua Club swimming test.

I had a student with a paralysed right arm. He managed, and I even made him hold up the paralysed arm with his left arm for the one-minute tread!

The rest of the group failed to complete everything.

This student had been in a motorcycle accident that had caused the injury, and had gone to the university to study while learning to write with his left hand.

He had started swimming to keep fit and on hearing about the dive-club had come along to join.

Elated to have passed the first test, he was looking forward to embarking on his training.

I saw him later that evening and he was looking downcast. I asked him what the problem was and he told me that the club had refused to take him. He had been told that he could never dive because of his arm!

I immediately told him not to worry and promised to train him myself at my club.

We started two days later, I took him through all his courses to a level at which he could look after other divers and lead dives.

Later he went on to climb the instructor ladder, and even received an award for rescuing another diver, including successful in-water resuscitation – an extremely rare event!

THE POINT OF THIS story is that I learnt a lot from teaching this student, by having to demonstrate everything with my left arm only. This included diver-rescue techniques, in which I showed him how to use the paralysed arm to support a victim under the top of the shoulders to provide a good neck extension.

I was so proud of this student and seeing how diving had changed his life in such a positive way led me to a lifelong career in diving.

I resigned from my cushy office job with company car. Strangely enough, some of my work colleagues followed my lead to pursue their own lifelong dreams, much to

the chagrin of our old bosses!

If the test had not been as complicated as it was and had my help not been required, I would have never met this student. What would have happened? My career might have gone in a sadly different direction. So thank you, old swim test!

Over my years of teaching diving, I have found that the main value of any in-water entry-level test prior to commencement of diver training is to assess the student's comfort and confidence in the water.

Knowing each student's comfort level tells the instructor whether any further confidence is required before progressing to the next level of training.

This reduces the possibility of panic attacks in students compromising their and others' safety in the water.

Over the following years I came across many divers with various disabilities. Sometimes I was just guiding them under water and helping them to dive, and at other times I was teaching, from beginners to advanced levels including speciality training in different areas.

This was a major two-way learning experience, benefitting both the students and me. For me this came mainly from learning different ways of doing things under water, and this has stood me in good stead over the years, enabling me to cope with many compromised situations and stop them from developing into emergency situations.

This proved particularly beneficial when juggling with many cylinders during sidemount and technical diving and still needing to have a hand left free to help another diver if needed.

So the basic skills I developed when teaching my original student with the use of only one arm turned out to be very useful, and over the past 20 years as a trainer of many instructors I was able to pass on these skills and the attitude I learnt from teaching that student.

> THERE IS ALSO a great pleasure to be had from seeing the enjoyment of a diver with a disability entering the aquatic environment. This can be summed up by a comment made by one diver who had lost the use of his legs and was wheelchairbound on land.

Once in the water, he told me, he felt free and equal to everyone else. He was enthusiastically swimming off and exploring at such a rate that I was having difficulty keeping up with him, because he had a very strong arm-swimming technique.

It turned out that he competed in wheelchair-racing! When I helped him out of the water, his words: "I feel like a baby again now, because everyone has to look after me" emphasised the freedom and

enjoyment he had felt while under water.

On another occasion, I had the privilege to teach a girl with a cochlear implant after she had been refused training elsewhere on safety grounds - despite having medical clearance to dive.

She used British sign language while under water along with her sisters. Although some of the diving signals were the same, they enjoyed a far wider vocabulary while submerged than the rest of us, putting us all to shame!

She became a good underwater photographer. Who knew that fish understood BSL!

In 2003 I started a boat-diving operation in the Red Sea, and a UK group specialising in scuba training for people with disabilities started to bring a group out regularly every year, all diving with a variety of issues but having a great time.

If asked to teach a person with a disability to dive, just say yes!

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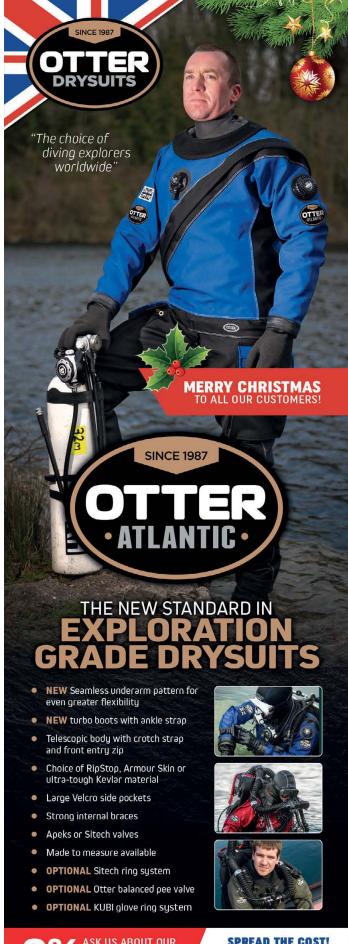


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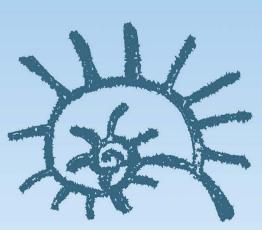


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