October / December 2023

OZDIVER

AUSTRALIA'S PREMIER DIVE MAGAZINE

TASMANIA

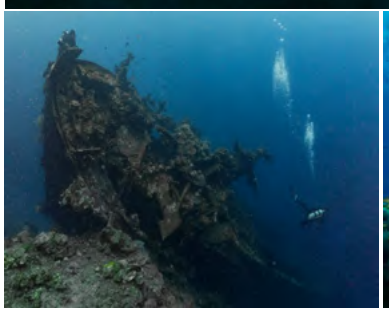
THE BANDA SEA

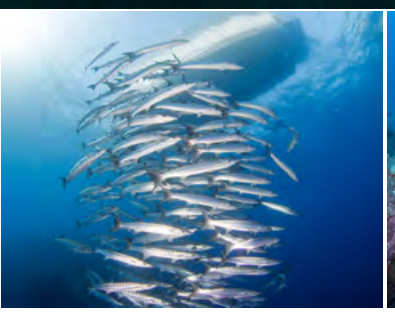
OXYGEN RISK

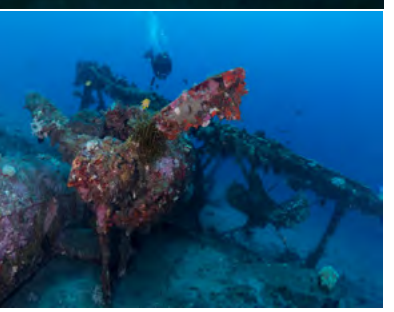
DIVING IN THE ANTARCTIC

DIVE THE SOLOMON'S

LEMBEH STRAITS







Dray van Beeck

October / December 2023 Edition

Editor's Deco

What happened to last year? It flashed passed our life's and as a runaway train and it was difficult to stop it.

We just got time to jump of the train a couple of times to dive and then before we know we were back on the train again chasing life.

Great, summer is back. But that does not mean that I will only start diving again now, because I do not stop diving over the winter months.

All it means is that now I will not freeze to death when I get out of the water.

Remember to visit OZDiver's website and make sure that you download your free copy for some of my dive books that I have published, as all the hardcopies are sold out;

I decided to give a free digital version for my readers to download.

If you want to publish your articles or photos in OZDiver magazine do not hesitate to contact me.

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Johan Boshoff

But seek first the kingdom of God and His righteousness and...

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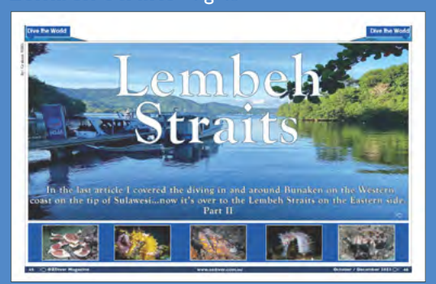

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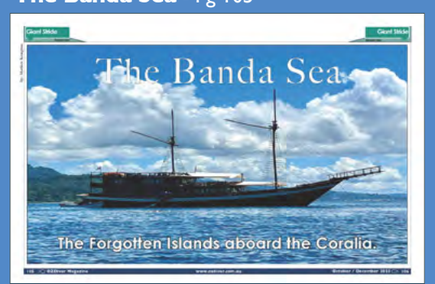


By: Jürgen Buchelt

A close encounter with a big Fish

It looked like one of these particularly uneventful winter days. Nothing pointed towards the fact that it would turn into a day I would never forget. A day that bore a story to be told to children and grandchildren…

I made my way into town through the early morning traffic and met my client and diving buddy.
After kitting up we left the harbour heading for the dive spot. The Northwester was driving a rough surface chop dotted with small breaks towards the beach and we had agreed to dive a site close to the harbour to keep the boat trip reasonably short. After circling for about a minute the anchor went down on the reef.

The first two buddy pairs got ready and entered the water. Robert and I buddied up with Kevin, a local diver who was on his own and the three of us back rolled off the boat. We had agreed to descend immediately to some 5m of depth and meet at the anchor line to make sure we didn't get carried away by the surface current. The visibility was around 10m horizontally and probably close to 20m vertically and we could clearly make out the reef below us just after entering the water.

From here I will continue with an account of the next seconds as the three of us combined our observations of what will probably remain the most impressive experience in our life:

Kevin had reached a depth of some five to six metres, while I was descending down towards him. Robert was on the anchor line about a metre above me. I was facing both Kevin and Robert and exchanging 'okay' signals when Kevin spotted a huge silhouette appearing out of the greenish gloom. Both the sheer size and the characteristic and unmistakable colour scheme of dark grey on top and white underneath did not leave any doubt: a great white shark was paying a visit to three awkward intruders in his realm.

Usually the sharks don't show a big deal of interest in scuba divers. Some local divers have reported sightings of great whites cruising past at the verge of visibility. This time the scenario evolved differently...

The shark kept on swimming directly towards Kevin when Robert also spotted the shark and responded to my 'okay' with pointing towards me. With my back pointing towards the shark closing in on us I was completely unaware of it and suspected that one of a seals had joined us for the dive. I was still descending slightly towards Kevin's depth and directly into the path of the shark. To Kevin it looked as if the shark would swim through between my legs and ram into him.

The shark finally changed his course very slightly. The very moment when I turned expecting a big seal eyeballing me I was confronted with a dark grey dorsal fin the size of a small coffee table moving past at eye level and nothing but shark underneath and close enough to touch. All I could make out was that this was a big shark. The shark was so close that I could not make out how big. I simply realised that this was a big one. The shark also passed Kevin at less than an arm's length away and disappeared in the distance.

Kevin, who saw the sharks' size in relation to me, and Robert, who saw the shark almost touching the two of us, later agreed that the shark was a good 4m in length.

As the shark disappeared from sight I assessed our situation: The boat's safety was dancing on the choppy swell only 5m above us. Unfortunately it was at the surface, the place where you definitely don't want to be with a great white shark in the immediate vicinity. Kevin and Robert did not seem to be in or about to fall into a state of panic. We had full tanks.
I signalled 'down' and got two 'okays' immediately. The three of us dropped into a sandy gully like bricks.

Sitting on the sand at 22m I assessed our situation and monitored the water above us. By the reactions of my buddies I could be sure that they had seen the shark and had recognised it for what it was. We agreed by hand signal to wait for five minutes and monitor the situation. Eventually I started to point out some features like strawberry anemones and fan coral to Robert. As we did not make out any sign of the shark again I regarded every minute spent at the bottom as an extra safety margin that would let the shark lose its interest and take it further away from us.

Kevin was also happy to continue the dive until he signalled a tank pressure of 110bar and that he wanted to finish the dive after a dive time of 15 minutes.

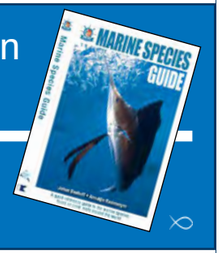
We grouped together closely around the anchor line and ascended monitoring each others back. We mutually agreed to have the safety stop on the boat. After telling Grant of the shark our weight belts and BCD's were handed up quickly while we tried to resemble limpets on the rib's hull. Finally Robert and Kevin went on board, closely followed by me.

The other buddy pairs signalled their ascent to the surface by launching their SMB and we lifted anchor and got prepared to get them on board as quickly as possible. We got all four divers out of the water safely to find them completely unaware of our encounter with the shark.

After our return and after talking about what each of us had seen and felt, we were torn between enthusiasm and a deep humbleness.
We were privileged to experience a magnificent creature, yet at the same time, the ocean showed us that we only count amongst the small fish by having a close encounter with a big fish.

WIN

Send your letter to us and win a Marine Life Species Guide



Here is a chance to be heard! If you have anything that you would like to share with OZDiver Magazine and other divers, send an email to Log Book at info@ozdiver.com.au. Remember that letters have more impact when they are short and sweet. We have the right to edit and shorten letters. In every issue, the winning letter will receive a Marine Life Species Guide.

OZ NEWS

OZTek | OZDive '24 Dates

With COVID becoming a distant memory, postponed events are now being held - which means space is extremely tight.

We've been given two dates for 2024, not my original choices ... and so, I'm asking you, the exhibitors, for feedback to see if we can find the best possible options.

Your Feedback:
It's important you give me honest feedback. Please fill in this form:
https://oztek.com.au/2024-Conference-Show-Dates

The chosen 2024 venue is the John Niland Scientia Building at the University of NSW, Randwick, Sydney.

Pros:
- Conference and Show will take up the entire building complex, ensuring a captured audience whilst creating a unique diving space.
- Free parking all weekend & plenty of it
- 8km from Sydney Centre with City light rail running every 4-8 minutes from Circular Quay & Moore Park, both lines running regularly in two directions
- More cost effective for exhibitors and attendees
- Close to one main university pub, with restaurants in Randwick
- Bump in Friday. Bump out Sunday night

OZTek ADVANCED DIVE CONFERENCE | OZDive Show

Dive the Continent
OZ News

Cons:
- Not in the city centre. Whilst within walking distance to pubs & eating places, it is not like staying at Darling Harbour.
- Smaller venue all round but a complete complex offering a more inclusive & interesting atmosphere
- Light rail / bus or car required to reach the venue / shows.

Available 2024 Dates
1. August 2nd Bump In
Show dates: Saturday 3rd - Sunday 4th August 2024

2. September 13th Bump In
Show Dates: Saturday 14th - Sunday 15th September 2024

3. Move the show to 2025 - if you choose this option, please provide your optimal month & reasoning.

Important note about the dates:
The Sydney Boat Show is at Darling Harbour from August 1st - 5th, 2024 inclusive.

This may be seen as a positive or a negative.
Shows would be on in different locations however, those wishing to attend both, can do so without missing out because the Boat show overlaps OZTek.

Also note, there is now no diving component at the Boat Show (AIDE). This makes OZTek \ OZDive Show Australia's only dive show.

DAN Welcomes 2023 Interns

Divers Alert Network® is excited to introduce three new interns who are working with the organization this summer to expand their knowledge of dive safety, dive research, and public outreach while supporting DAN's operations and mission.

The DAN Internship Program was created 24 years ago to give qualified students valuable experience in dive safety research.

The scope of the program aligns with DAN's goals of helping divers in need, promoting dive safety through education, and expanding outreach and communication initiatives.

The interns will spend time this summer at DAN's headquarters in Durham, North Carolina, to work on various projects and research efforts.

Matthew Argame is a medical student who has recently completed the basic science portion of his medical education at St. George's University and plans to begin clinical rotations later this year. Argame earned his Master of Science in Narrative Medicine from Columbia University and holds scuba certifications including TDI Full Cave Diver, PADI Rescue Diver, and PADI Divemaster.

Argame is honored to be this year's Diver's Health and Safety Intern (a collaboration between DAN and the Our World-Underwater Scholarship Society). He believes the internship at DAN welds together his interests and will provide him with the community, knowledge, and skill set needed to make the underwater world more sustainable, more accessible, and safer for all.

Liana van Woesik is a rising senior at the Florida Institute of Technology majoring in Marine Biology with a double minor in Communication and Sustainability. She is a PADI Divemaster and AAUS Scientific Diver who possesses a love of nature and the environment with a particular affinity for the world's oceans.

van Woesik hopes to combine her passion for diving with her plans for continuing postgraduate education to make a positive impact on the marine environment and help humanity care for and preserve Earth's biodiversity. She is excited to be part of the DAN team as a communications and marketing intern to learn from and contribute to DAN's vision and mission.

Madeline Coombs is a senior at Texas Tech pursuing a degree in Biology with plans to further her education in medicine or medical research. She has been scuba diving since age 14 and obtained various diving certifications before becoming an instructor.

She also has experience as a public safety and rescue diver and enjoys volunteering in this capacity. Coombs is excited to pair her love of diving with the sciences as a research intern this summer working at DAN.

About DAN: The world's most recognized and respected dive safety organization, Divers Alert Network (DAN), has remained committed to the health and well-being of divers for more than 40 years.

The organization's research, medical services, and global-response programs create an extensive network that supports divers with vital services such as injury prevention, educational programs, and lifesaving evacuations.

Every year, hundreds of thousands of divers around the world look to DAN as their dive safety organization.

Join the DAN community or learn more at DAN.org.

DAN®
DIVERS ALERT NETWORK

Dive Schools / Operators / Organisers / Instructors

Do you have any interesting, newsworthy info to share with the dive industry? If so, we would like to invite you to send us your OZ News section for possible inclusion in the magazine (please note that inclusion is FREE of charge).

Here's what we need:
- Newsworthy stories (promotional material will not be accepted)
- Word limit: 100 words
- Text prepared in a Word document
- Accompanying high-resolution image(s) are welcome (please supply caption and image credit)

Please send to info@ozdiver.com.au

Solomon Is. Diving

Photo: Gerald Rambert

With so many islands, liveaboard is one of the beat ways to access those hard to reach dive sites.

visitsolomons.com.sb

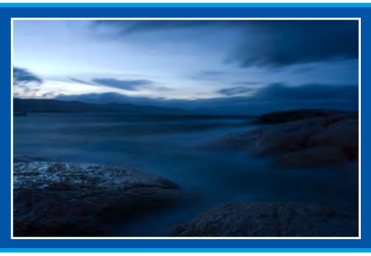
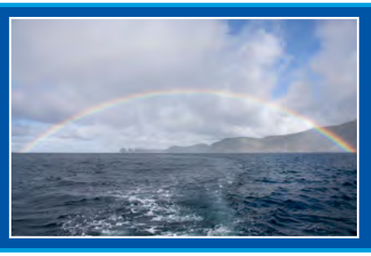
Dive the Continent
Dive OZ

By: Andre Crone

Tasmania

It's our first evening in the south of Tasmania and we are surprised by all the different kinds of animals around our bungalow. We just cannot believe how many animals we see around here. Our bungalow is not located in the middle of in the bush, but nevertheless so many wallabies (small kangaroos) and wombats gather around our house. We have become one with nature immediately.




By: Andre Crone

Besides the airport and our little bungalow we have not yet seen anything of Tasmania. If it already surprises us on the top side after such a short time, how will it be underwater? We cannot wait until tomorrow morning when we will start diving.

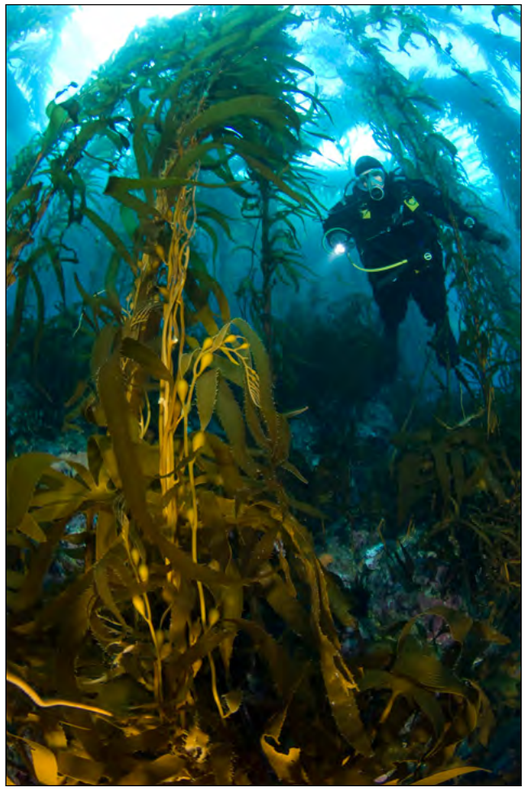
A long time ago, a Dutchman named Abbel Tasman was called to go on a discovery excursion to a distant ocean. By his employer, the United East India Company, he was well known for his sublime navigation techniques. In 1642/1643 the United East India Company was in search of new Eastern sailing routes to southern America. Departing from the former city of Batavia, Tasman was sent away for this reason. For his trip two possible routes had been considered – the first route would take them along the north coast of Australia while the other route would take them a long way to the south of Australia. Since Tasman doubted the possible passage between Australia and new-Guinea with his ship, he chose the southern route. The planned route would take the ship almost along the coast to Antarctica.

Eventually, because of fog and storms, Tasman was not able to follow the planned route. He decided to try and make his way a bit more northerly than planned. During this attempt, on November 24, 1642, an unknown piece of land rose from the horizon. At first Tasman did not name the place after itself. He called the island Van Diemensland after the governor of India who had sent him on this discovery excursion. Later the name was modified at the request of the inhabitants of this island. A country with a special link with the Dutch people was 'born'.

For many people Australia has a considerable attraction. The charm of travelling around the 'mainland' of Australia brings us to this distant country. Because of its size it is impossible to visit the whole country in one trip. For this reason many people make the mistake of skipping Tasmania. We, on the other hand, have chosen to really follow the footsteps of Abel Tasman as Tasmania was the main destination of our trip.

Tasmania lies about 240 kilometres south of Melbourne. Once you have landed at the airport of Hobart it almost seems like you are in Europe. Tassie, as the Tasmanian people call their island, is almost entirely dominated by nature. The island is not bigger than Ireland but has about 500 independently protected nature areas. And this you will notice when traveling around – nature is in the blood of the Tassies. Just like hospitality, not a single day will pass without a Tassie chatting with you.

We began our trip through Tasmania in the south west. The coast in the south is characterised by a rough coastline with several bays and lagoons. We settle in the little village of Eagle



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This holiday season, surprise the ocean lover and adventure seeker in your life with the perfect Xmas gift - a PADI eLearning® Gift Pass!

With PADI's online courses, they can dive into exciting experiences and learn at their own pace. From diving essentials to underwater photography, there's a course for every passion.

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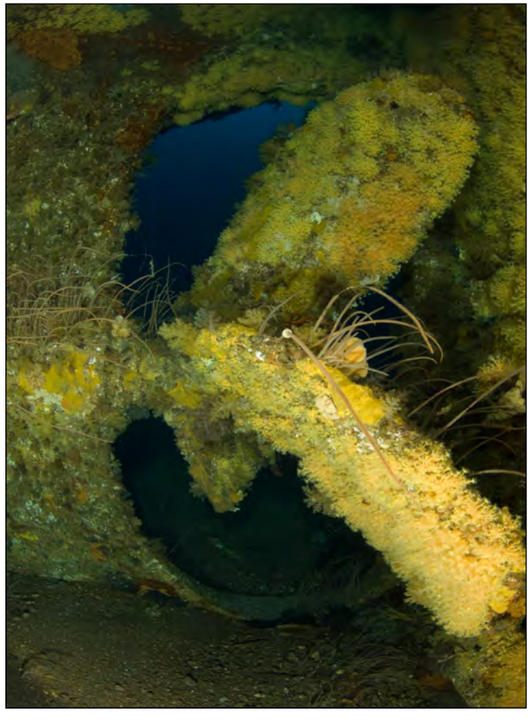
PADI | SEEK ADVENTURE. SAVE THE OCEAN.℠

By: Andre Crone

Hawk Neck. What we find here is no mass tourism. No huge hotels, large ports, boulevards etcetera. No, Eagle Hawk Neck is a small, picturesque fisherman's village that breathes a love for nature and the sea. We spend the night in the lodge of our dive school here and during our first evening we are already surprised by small kangaroo's in our garden. The small wallabies come up to our veranda and we enjoyed these sightings for the rest of the evening.

The next day we wake up with sheer blue sky and a bright shining sun. This promises much for our travel through the Tasman Sea. During our first dive mysterious kelp forests welcome us. Our dive guide has already told us much about the kelp. In the Tasman Sea a special kind of kelp lives – the giant kelp.
Kelp with a height of over 10m long stand in quiet bays along the coast. This giant kelp is only known to live in California and Tasmania. Although



the kelp is genus of brown algae, they resemble a big plant or tree. With organs that look like the roots of a plant the kelp gets a hold on the sea bed. Swimming between the kelp is just like you have entered a fairytale. The enormously long leaves of the kelp are kept floating thanks to the air cushions. As you venture into deeper water you really stand in the shade of the kelp.

Between the kelp all kinds of animals come in search of protection. Between the rocks on the bottom you can regularly find rays, draught board sharks and various kinds of bottom fish. On the leaves of the kelp, innumerable small snails live. Nearly under every leaf dozens of these snails appear. Swimming through the kelp forest is a real discovery trip where you can meet peculiar animals.

During one of our dives we saw something strange. On one of the kelp leafs we found a strange thing, just like an orange ball. We could not figure out what it was – perhaps it was the eggs of some animal? Back on board we discussed this 'thing' with our dive guide - we had to solve this mystery! According to our dive guide we had seen a 'wandering anemone' (Phlyctenactis tuberculosa). This wandering anemone generally establishes itself on the kelp leafs but he can move around. During the day the polyps of the anemone are completely closed so it doesn't look like an anemone at all. But at night this anemone reveals its true form by unfolding itself.

Something you just have to do each dive is search for sea horses. Particularly, the weedy sea dragon (Phyllopteryx taeniolatus) is unique in Tasmania. The first few dives we had to look really hard for this animal as it is an expert at hiding in the kelp. But almost every dive you will get the chance to encounter a sea dragon. The splendid colors of the animal are more than impressive. Bright orange is varied with clear blue lines. With its long, pointed nose and a body

Dive the Continent
Dive OZ

By: Andre Crone

varying from clear white to dotted, it pigheadedly looks into the blue. It really has a funny face. The weedy seadragon is endemic to the southern Australian area and has been seen from Sydney on the east coast to Perth on the west coast. But the Tasmanian sea dragon seems to be a little larger than its family members in the south of Australia. For us one thing is clear: it is really a splendid animal. Perhaps less spectacular than the weedy sea dragon are the other seahorses you can find in the kelp, but nevertheless, these other seahorses are also great to see.

Besides diving the kelp, Tasmania has many more surprises. The rough coastline holds a large number of caves. At some places you can spot the caves from the boat, but at others you really cannot imagine that there is a cave system below. Under the guidance of the dive guide you can take your

By: Andre Crone

time to examine the cave systems. In a lot of the caves, and sometimes also between the stones outside the caves, you find large shells. The Australians call the shells Abalones – these large shells have a spiral structure internally and on the outside they have a number of holes which look like small craters. For the Tasmanians the meat of these shell animals is a real delicacy.

Beside these shells the caves are home to a multiplicity to life. The inner surface of the caves are fully covered with anemones and sponges in bright yellow, orange or pink – colours you really do not expect to find in these cold waters. Between the yellow anemones some jewel anemones hide. This small anemone is called the jewel anemone because of the small white, almost silver, bulbs at the end of its tentacles which almost seem to give off light. The atmosphere of the caves in general is fantastic. One of the most famous caves here is called the Cathedral or Devil's Eye. From inside the cave it really seems like two angry eyes are looking at you. With a bit of luck you might encounter a beautiful sepia during one of your dives.

For the lovers of wreck diving, the wreck of MS Nord lies on the south coast of Tasmania. It is the wreck of a 7m long steam ship. In the beginning of November 1900 this ship was on its way from Melbourne to Hobart when it hit very bad weather at the Tasmanian peninsula. The captain of the ship tried to get to a safe place in one of the bays but this could not prevent its sinking. The ship sunk and now lies at a depth of 35-40m on the floor of the Tasmanian Sea. The propeller and the lining of the ship have been overgrown with sponges, anemones and sea whips. It is a pity that the depth of this dive site will limit your time because it is really a splendid ship to dive. The rough sea which led to the ships sinking can also be an obstacle for diving. Sometimes you must wait a day or two for the wind to calm down and a more favourable current.

In the south of Tasmania, along the rough coastline, you will regularly find seals on the rocks. Between swimming and hunting in the water they lie in the sun to rest. With their brown bodies they don't stand out on the rocks and at times you will only discover them when they move. If the weather is calm you will also have a chance to swim with them.

"Tomorrow I have another surprise for you," our dive guide Blakey mentioned after a couple of days. Of course we wanted to know what it was but Blakey kept it a mystery. "The diving will be a little deeper and I would put the wide angle on your camera," was all that he said. After all the surprises which we had already experienced this week we really could not imagine what more we could expect.

In the evening we almost crushed our brains trying to figure out what the surprise would be, but we had to trust Blakey on this one. Therefore the wide angle lens was placed on the camera, and full of expectation we went diving the next day.

By: Graham Willis

As with every other morning when we sailed along the coast, we enjoyed the splendid rough coastline. This time Blakey stopped the boat close to a number of large rocks near the coast. He told us what we were going to see here – at a depth of 30-35m we would find a large sponge garden. Of course we had seen sponges at our tropical dives before, but we really could not imagine many sponges in the cold water of Tasmania. Full of expectation we prepared for the dive.

Underwater we quickly noticed that the promised surprise was real. We descended and on the bottom we saw a large quantity of sponges standing there in several forms and colours. Large, almost white, bulbous sponges were varied with enormous orange sponges. And in between the sponges we found dozens of sea whips. We would return several times to this spot to enjoy the scenery.

Later that week we also did a number of dives in the north east of Tasmania. The coastline on the east is less rough, therefore it is possible to do some shore dives. Yet boat diving in this area is more than worthwhile, as with the boat you can reach the sponge gardens which are also abundant. At the harbour of Bicheno we made our shore dives and we saw seahorses, sea dragons and, between the rocks, some crustaceans. On our second dive in the harbour we also found some sea spiders. We had not seen these animals before – small yellow spiders hardly recognisable in their environment. You tend to forget that you are underwater!

But we were still finished discovering Tasmania. Except diving, there are loads of other things to do on this island. Top side, Tasmania appears to be as beautiful as it is underwater. The different protected nature areas all have their own characteristics and Tasmania is known for its moderate climate rain forest. Such rain forests are different from the real tropical rain forest – you will not encounter palms or climbing plants – yet rather what you will find are enormous trees which stand close to each other. The bottom is covered with all kinds of moss, and between the trees it is actually nice and cool.

Our first choice was the nature park of Russel Falls. This park is world-famous for its splendid waterfalls. The most important water fall, the Russel Falls, feels already very mysteriously, but just a bit further down the track the Horse-shoe Waterfall exceeds its 'big brother'. The fabulous green surroundings are bewitching. The park accommodates enormous ferns which, on their high tribe, try to catch some daylight under the big trees.

During the Tahune Forest Air Walk you can enjoy the view from the top of the trees. As the trees in the park are enormous, they decided to make a bridge between the top of the trees. For hikers who want to take long walks, the nature park Craddle Mountain is a real must. At sunset the beauty of Craddle Mountain is breathtaking. In this park you can do multiple-day walks or short walks along the different lakes.

Other than nature parks Tasmania offers a multiplicity of wildlife parks. In fact, in almost every village there is a small wildlife park. During our tour through Tasmania we were also told several times that there are small penguins on the island. During the day the penguins live in the sea, yet they come to shore at night to rest in their nests. We saw the first signs of these penguins a short time after we arrived as there are many traffic signs warning of crossing penguins. We undertook several attempts to spot the animals in the south west but unfortunately we were not lucky in our pursuits. In the north east we went to a special nature park which is only accessible through guided tours protect the penguins. Just after sunset the penguins climbed a tough road along the rocks. As it is dark when they make their way up you will hear the penguins first – with a weak pocket lamp the guide showed us these amazing creatures. The use of strobes or bright lights is not possible because the penguins have no protection against it on their eyes.

Possibly the most peculiar animals you can meet in the Tasmanian wildlife parks are the Tasmanian devils and the platypus. The platypus is found in several creeks and rivers and they are really bizarre animals – it is like several animals have been combined into one. Its mouth resembles a duck, the tail seems to come from a beaver and the legs from an otter. It is the only mammal that doesn't give live birth to its pups. No, the platypus lays eggs in its nests along the banks of rivers. To protect themselves against attackers the platypus has a poison-tooth besides the back legs – enough poison to considerably wound an attacker. For many years the platypus has been hunted for its fleece, but fortunately at this time this animal is protected.

The Tasmanian devil has even less luck. In the wild there are not many Tasmanian devils left. The animal is threatened by a strange disease, a sort of contagious cancer. The moment the animals bite each other they transmit the sickness to one other. The first signs of the disease are wounds on the face, which become continually larger. It is impossible to treat and shortly after infection the animal will die. To prevent the animal from extinction, many initiatives have been developed. In wildlife parks groups of devils are brought together which have not yet been infected. By keeping them separated they hope to preserve the animal for the future. If you decide to visit these animals, be sure that you are there for the feeding time – then you can really see where the animal got its name from – the piece of prey is eaten skin and bones.

Looking back on our tour through Tasmania one word always comes up: enchanting. The splendid life in the sea, the fabulous nature parks and the unique animals ensure that you will always be fascinated with Tasmania.

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Weird and Wonders
Marine Life Facts

Feather Stars

By: Jill Holloway

As you can gather from the names above, this phylum consists of animals with a hedgehog-type skin. These include starfish, brittle stars, sea urchins, sea cucumbers, feather stars and sea lilies, to name a few.

The feather star looks like a fern, with a symmetrical array of fronds growing in a circle, and numerous leaves growing from the stem of each frond. Despite this plant-like appearance, the feather star is an animal similar to the ordinary starfish. Each arm, with its many branches called pinnules, looks like a bird's feather.

The arms are joined to a small body, under which is one set of claws that close and hook onto rocks or marine growth. Unlike that of other starfish, the mouth of this animal is situated on top of the body and not on the underside facing the ground.

Feather stars are filter feeders and eat minute food particles strained from the water. Each pinnule has a hair-lined groove running along its top. These join into a large groove running all the way along the arm into the mouth.
Food particles encountering the pinnules drop into the little grooves. The many hairs move in such a way as to pump the water down these channels. Water and food in these tributaries join the main stream down the arm, and the food is passed on to the mouth.

Some feather stars position their crown of fronds at right angles to the water current so as to entrap as much of the passing food as possible. Where the direction of the water current is not constant, the animal can have the fronds in "disarray" so as to always have some surface at maximum efficiency. Those in deep water often face upwards and catch particles as they sink to the bottom.

Because the food particles reaching the mouth are so small, and have already been broken down to such an extent, the animal does not need a big and complex digestive system. After the stomach has absorbed the nutritional pieces, the waste is expelled in little pellets from an opening near the mouth. These roll off the top surface of the body and drop to the ground.

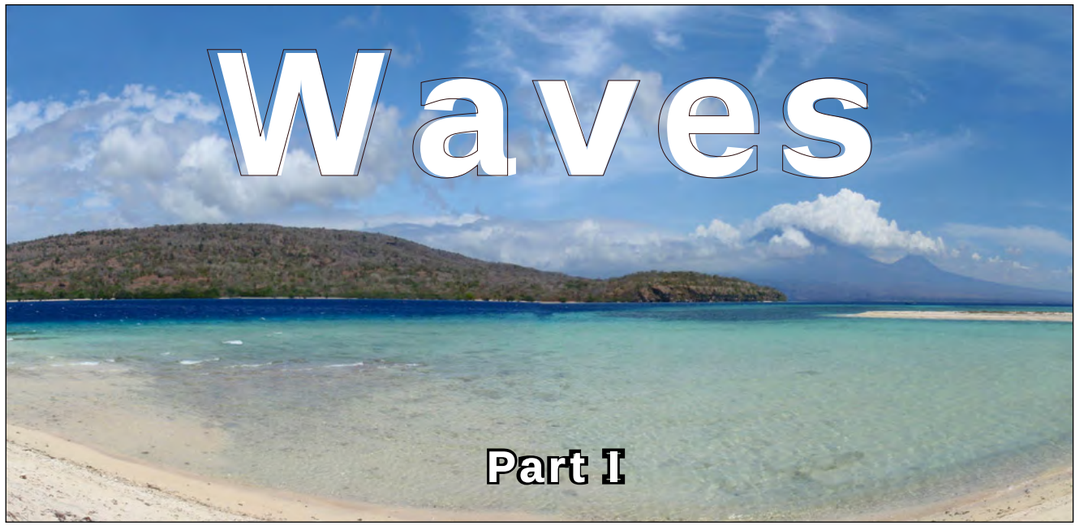
The feather star's skeleton forms a fairly rigid frame and gives the body shape. Numerous little interlocking bones called ossicles are found in the pinnules, arms and claws. The limbs are jointed to allow some movement and elastic ligaments keep the limbs extended. Flexing the muscles expands the ligaments, causing the limbs to close inwards.

Although feather stars can creep about, they seldom do. They spend their time sitting and waiting for their food to be brought to them. When they do move, they walk on their arms. If turned over, these creatures can sense that they are upside down and soon start righting themselves. They can even swim by waving their arms up and down in the water. The arms move in sequence, so they are not all at the same position at the same time.

The sea lily closely resembles the feather star. However, you are unlikely to find one since sea lilies live in water deeper than a hundred meters. As adults they remain permanently in one place. On the underside of the body is a stalk that ends in either a disc or root-like limbs that secure the animal to the sea-bed; the stalk can be as much as a metre in length. Where they grow on the bottom, the stalk and crown of fronds really make them look like lilies of the sea. (Baby feather stars are attached to the seabed by similar stalks, but on reaching a certain size break off and assume a free-living existence.)

There are numerous fossils of many different types of extinct sea lilies. They grew to gigantic sizes. In the days of prehistoric monsters they must have formed forests of great underwater trees reminiscent of palms.

By: Niel Swart



In part 1 of 'Waves', Neil Swart explains where the waves affecting our coastline come from, and how the physical movement of the water in these waves affects us as divers.

The exposed nature of the coastline means that waves usually form an important consideration when attempting a dive. Whether the combination of waves and rocks form a hazard on a shore dive, or the prospect of a bumpy boat ride is unsettling, everyone is affected. A relatively shallow dive done under fair swell normally results in vigorous 'forward and backward' horizontal motions at the bottom, while on any dive large waves overhead at the safety stop can cause a sudden and unwanted vertical motion of several metres.

Oceanographers categorize waves using several standard measures. Where the crest is the highest point of a wave, and the trough the lowest point, the wave height is the vertical distance from crest to trough. The wave length is the horizontal distance between successive crests or troughs, while the wave period is the time in seconds that it takes a full wave length (from trough to trough) to pass a fixed point. There is a full spectrum of waves in the ocean, from small ripples through to tides. Here however, we are only interested in the waves which we find continuously breaking along our shoreline, which are generated by the wind, and whose periods are between 1 and 16 seconds.

The first questions then are how and where these waves are formed. If we start with a perfectly smooth piece of water, and then introduce a wind, the pressure differences and frictional drag caused by the wind moving across the water creates ripples.

The presence of ripples means that there is then a steep side against which the wind can push, and therefore the small waves grow rapidly in size. However, there is a limit on how large these waves can grow - the wave height cannot be larger than 1/7 of the wavelength.

If our small waves exceed this critical limit they break, forming white water and the resulting sea state is said to be choppy. When these small waves break, they contribute their energy to waves which have longer wave lengths, and which can therefore grow higher (without exceeding the limit).

Therefore under a constant wind there is a continual progression from small, low waves, which hold little energy, to much longer and higher waves which hold far more energy - i.e. from ripples to chop to wind waves.

There are three factors which determine just how large these waves can get.
They are 1) the wind speed,
2) the length of time for which the wind blows and
3) the distance over which the wind blows (called the fetch) - see fig.

Waves occurring around the coast may have one of several origins. The first source is local winds, generated by high pressure systems, which cause waves of a meagre size and a messy, 'choppy' nature. The larger, sometimes massive waves which occur along our coast are the result of large storm systems out in the ocean. The most common of these storms are called mid-latitude cyclones (MCs) although they are more widely known by their infamous 'cold fronts'.

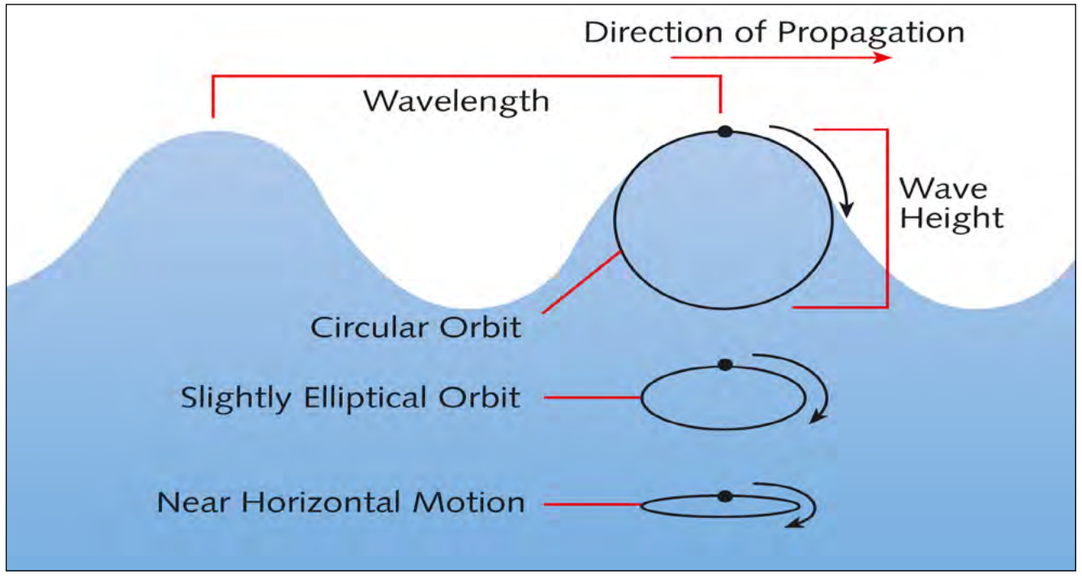
Large MCs over the oceans are associated with strong winds and sizable fetches, which lead to the development of large wind waves. As these wind waves move out and away from the storm, they become organised into groups of similar period and height, as well as becoming more rounded and symmetrical. At this stage they become known as swell.

As this swell moves towards the coast, it interacts with other swell, either from the same storm, or from a completely different storm system. By the time the swell reaches the coastline from the distant reaches of the south Atlantic or Indian oceans, it is a mixed match and combination of several different 'wavetrains' superimposed onto each other.

A crest from one wavetrain may combine with a crest from another wavetrain in order to form a particularly large wave, or visa versa. It is this interaction which leads to 'sets' of waves arriving at the coastline, or the idea that 'every 7th wave is a big one'.

While MCs are the primary source of the swell reaching the coastline, other large storms at sea also generate swell. These include the odd tropical storm or cyclone (Hurricane) in the Indian Ocean, which generates large waves on the east coast.

More about waves in the next publication



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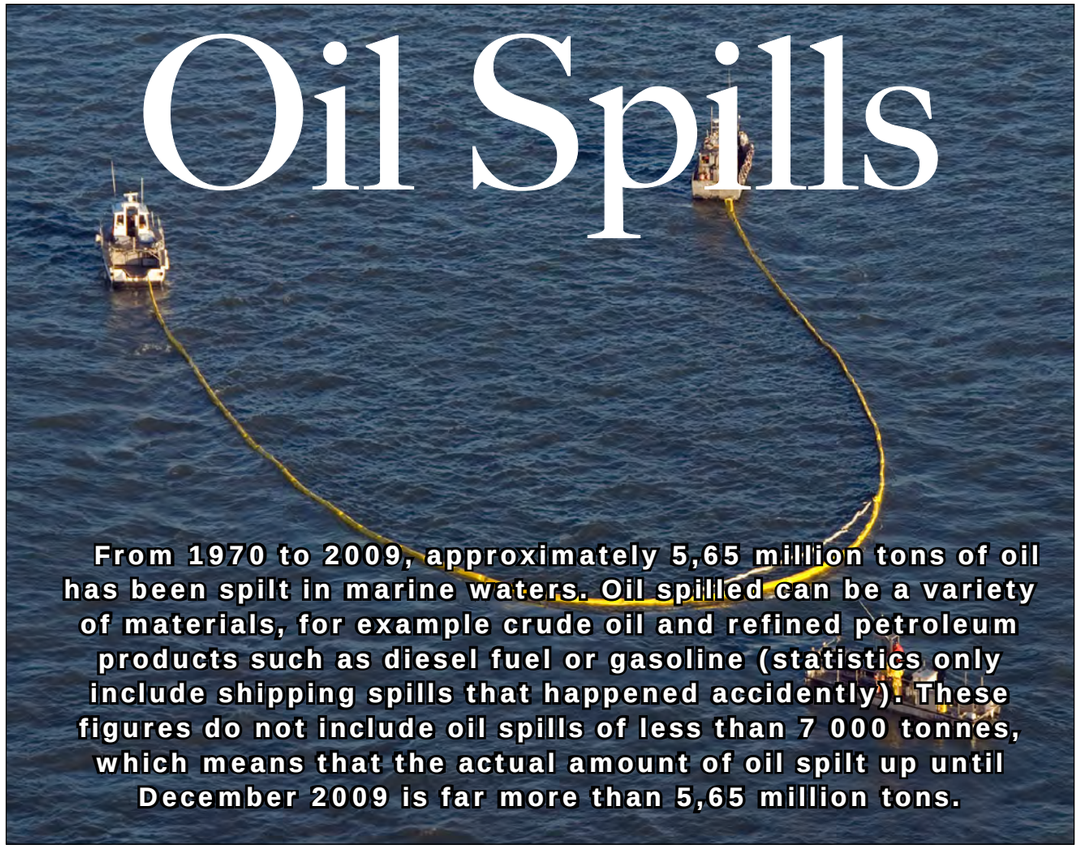
Oil Spills

By: Hermien Roelvert



From 1970 to 2009, approximately 5,65 million tons of oil has been spilt in marine waters. Oil spilled can be a variety of materials, for example crude oil and refined petroleum products such as diesel fuel or gasoline (statistics only include shipping spills that happened accidently). These figures do not include oil spills of less than 7 000 tonnes, which means that the actual amount of oil spilt up until December 2009 is far more than 5,65 million tons.

Luckily, the number of oil spills has declined at a steady pace from 1970 until now. Although this is good news, it's still taking its toll on the marine environment if you think of the strain the ocean has to endure because of other forms of pollution (such as sewage and toxic waste) and over fishing or climate change...

If we think of an oil spill, we imagine images of oil-covered penguins being washed by volunteers. But that is unfortunately not the extent of the damaging effect that oil slicks have on the marine environment. Apart from the many furry animals like penguins and seals that drown because of this disastrous occurrence, other fish and sea birds also come short. Marine animals can suffer in a number of ways caused by oil in the water. Apart from drowning and suffocation, animals and fish can become poisoned or consume some of the oil which can cause slow and painful deaths.

In 2000 the world saw the greatest coastal bird crisis due to the MV Treasure sinking 8km off Table Bay between Dassen and Robben Island, oiling more than 20 000 African penguins.

A massive capture of non-oiled penguins was launched in conjunction with the rehabilitation of the oiled penguins, and this resulted in 19 500 penguins being successfully relocated without oil contamination. (The number of African penguins worldwide is estimated at 180 000 and this number is becoming less and less). More than 90% of the oiled birds were rehabilitated and released. According to the International Bird Rescue Research Centre, the logistics on caring for over 20 000 birds was monumental.

The penguins consumed over 400 tonnes of fish, and furthermore, 7 000 tonnes of beach sand was brought in for the temporary pens and 302 25-litre jugs of soap were used in the cleaning process.

The rehabilitation efforts lasted for more that 12 weeks and the total cost of this spill operation amounted to more than R50 million. The scary part is that the MV Treasure spilled only 1 300 tonnes of bunker oil...

This is the effort and money that goes into only one oil spill. What about all the other sea creatures that were affected by that incident? We will never know the real extent of damage to the environment, because unlike the penguins and other sea birds that we can see and which are immediately in trouble, the effect of something like this will only be seen much later and probably much too late when it has snowballed out of control and we are no longer able to fix the problem. It really doesn't matter who is at fault during such an incident – the damage is already done. We can only minimise the effect.

We haven't even touched on the subject of illegal oil dumping (which occurs on a regular basis and is extremely difficult to control) or oil rigs where their oil leaks into the ocean. Last year, the world witnessed Australia's third largest oil spill – it started on August 21 and the blow-out at the Montara well caused spillage of 2 000 barrels of oil per day into the Timor Sea. This continued for 10 weeks.

The fact of the matter is that we have created a world that relies on the black gold almost more than air. The world today uses more than 11 billion litres of oil every day! The USA and China are the top oil consumers and South Africa is also amongst the top 50 oil using countries.

Tankers and barges will not stop cruising the oceans, and new sea-frontiers are being explored for bigger and better oil wells. And sadly there will be more oil spills.

With that knowledge, we need to be prepared to give a helping hand as soon as there is danger in our waters. The quicker the oil can be removed from the water, the better the chances for that area and its marine environment.

Unfortunately it is our responsibility – we cannot point any fingers. It is our everyday reliance on oil – to get to work and back, to create heat, to be entertained – that creates this demand.

We need to find a solution to the problem that we have created. Or at the very least we can be pro-active and help. One thing we can definitely do is to put pressure on our national authorities to move the 'Environment-folder' higher up on the priority-list within government. That is something we seriously need to think about.

"The reef systems here are some of the most pristine I have seen anywhere in my dive travels around the globe, and Wakatobi resort and liveaboard are second to none. The diversity of species here is brilliant if you love photography." ~ Simon Bowen

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GLOBAL NEWS

SSI Partners with Edges of Earth Expedition to Promote Ocean Conservation and Positive Impact

NEW YORK, August TK 2023 – Scuba Schools International (SSI), the world's largest professional business-based training agency for scuba diving, is proud to announce its groundbreaking partnership with the Edges of Earth Expedition, an inspiring venture led by a female diving team.
This collaboration also involves Mares, a renowned name in innovative dive gear, and marks a significant step for SSI as it embarks on its inaugural brand ambassador program in its 50-year history.

Dive the World
Global News

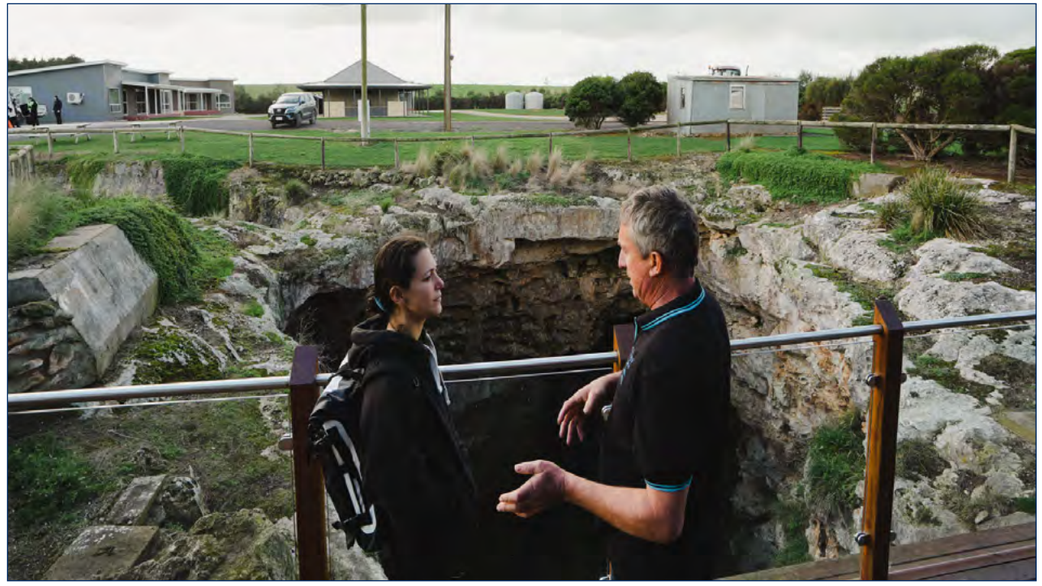
The Edges of Earth Expedition, spearheaded by Andi Cross, an accomplished SSI Divemaster, is a two-year journey to over 50 remote dive sites across the globe. The team, consisting of highly certified scuba divers, free divers, and wilderness guides, will engage with local experts including scientists, conservationists, dive centers, community leaders, and more, all dedicated to preserving and restoring the ocean's delicate ecosystems.

In the face of the alarming consequences of ocean warming, the expedition's primary mission is to shed light on the positive efforts and progress being made to protect marine environments. Through a dedicated online presence across SSI, Mares, and the Edges of Earth's digital platforms, the team will share the untold stories of those who are championing ocean conservation. By showcasing these inspiring narratives, we aim to inspire individuals, especially the next generation, to take proactive steps towards safeguarding our oceans.

Jenny Luksch, Social Media Manager at SSI, expressed her excitement about the partnership, stating, "We're thrilled to welcome the Edges of Earth team as SSI's first-ever brand ambassadors. This collaboration reflects our commitment to promoting diving as well as environmental awareness. By amplifying positive ocean impact stories, we aspire to motivate more people to join the diving community and become advocates for ocean conservation."

Mares, a leading international manufacturer of diving equipment, is equally enthusiastic about the partnership's potential to amplify positive change. Marcel Steinmeier, Head of Marketing at Mares, stated, "Mares is dedicated to enhancing the diving experience and contributing to environmental conservation. We welcome the Edges of Earth Expedition team to our community and salute their efforts in service to our oceans."

SSI's Blue Oceans initiative, focused on environmental conservation, is a perfect fit for the Edges of Earth Expedition's mission. By supporting this



partnership, SSI aims to foster a deeper understanding of the importance of ocean protection and sustainable diving practices.

SSI International
Scuba Schools International (SSI) is the largest professional business-based training agency in the world. Established in 1970, today SSI represents more than 3,300 Training Centers and Resorts in 130 plus countries with over 50,000 affiliated SSI Professionals and growing every day.

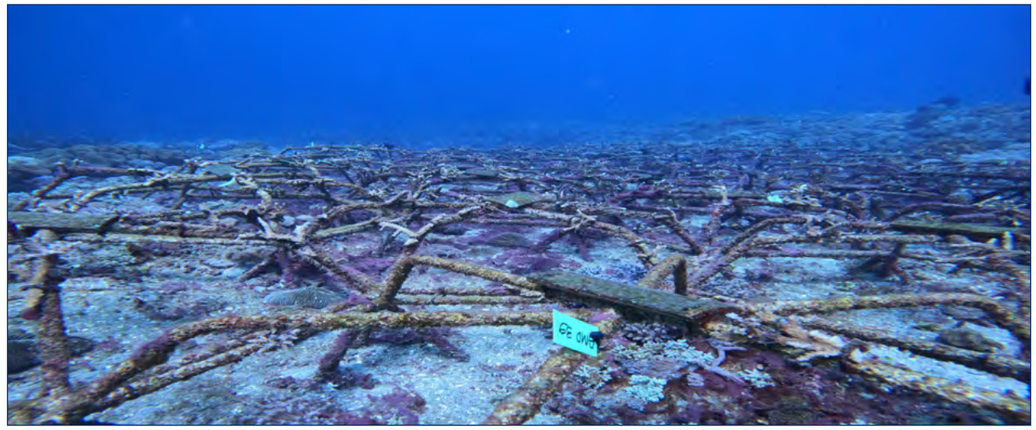
For over 50 years now, SSI has provided the ultimate training experience for millions of certified divers, not only in Recreational Scuba, but in every training category; Freediving, Extended Range, Rebreather Diving and Swim and Lifeguard. SSI completely embodies the industry by being a founding member of the RSTC (Recreational Scuba Training Council) and holding the internationally acclaimed ISO certification playing an active role in setting industry minimum training standards.

SSI is the only training agency in the world offering the unique MyDiveGuide online database promoting thousands of dive sites, including wildlife encounters, linked to Training Centers and Resorts. MyDiveGuide enables divers to find their next adventure and the training level required for these amazing lifetime experiences.

SSI is committed to protecting the oceans. BLUE OCEANS is SSI's free environmental initiative supported by industry partners with a mission to generate awareness for creating healthy oceans by teaching everyone about being ecologically conscientious.

For more information about SSI, MyDiveGuide and Blue Oceans:
Visit SSI on www.divessi.com

AMD-B's News



AquaMarine Diving - Bali (founded 1999) always included recreational divers and PADI students in ongoing 'eco-aware' projects; passing on all environmentally-friendly practices possible.

In 2018, to show their dedication to marine protection, AMD-B launched 'Blue Project by AquaMarine Diving - Bali', their Environmental Conservation programme.

AquaMarine's latest project is to develop a new Acropora-rehabilitation ground outside Padangbai, east coast Bali by embedding 45 MARRS web-structures into the sea floor.

Emphasizing hard coral over soft, AquaMarine's goal is to build a new habitat for marine creatures. They have already seen multiple Green turtles chilling around the new reef garden.

Dive the World
Lembeh Straits

By: Graham Willis

Lembeh Straits

In the last article I covered the diving in and around Bunaken on the Western coast on the tip of Sulawesi...now it's over to the Lembeh Straits on the Eastern side. Part II

By: Graham Willis

The Lembeh Straits has gained a reputation as a diver's paradise, particularly for those with a passion for macro, underwater photography.

This narrow, shallow channel is famed for its incredible biodiversity and unique marine life, making it a must-visit destination for us scuba divers.

Historically, the strait served as a major trade route connecting the Molucca Sea, famous for its spice islands, and the Sulawesi Sea, which was central to the ancient maritime trade in Southeast Asia.

The port of Bitung is still a major working harbour with its own container port and a large fishing fleet that calls the Strait home.

That does equate to a fair amount of pollution in some areas, which is disappointing, yet somehow, despite all the port traffic, despite all the rubbish the waters remain clear…crystal clear.

When I first visited Thalassa, some 10 years ago, a visit to Lembeh was a day trip.

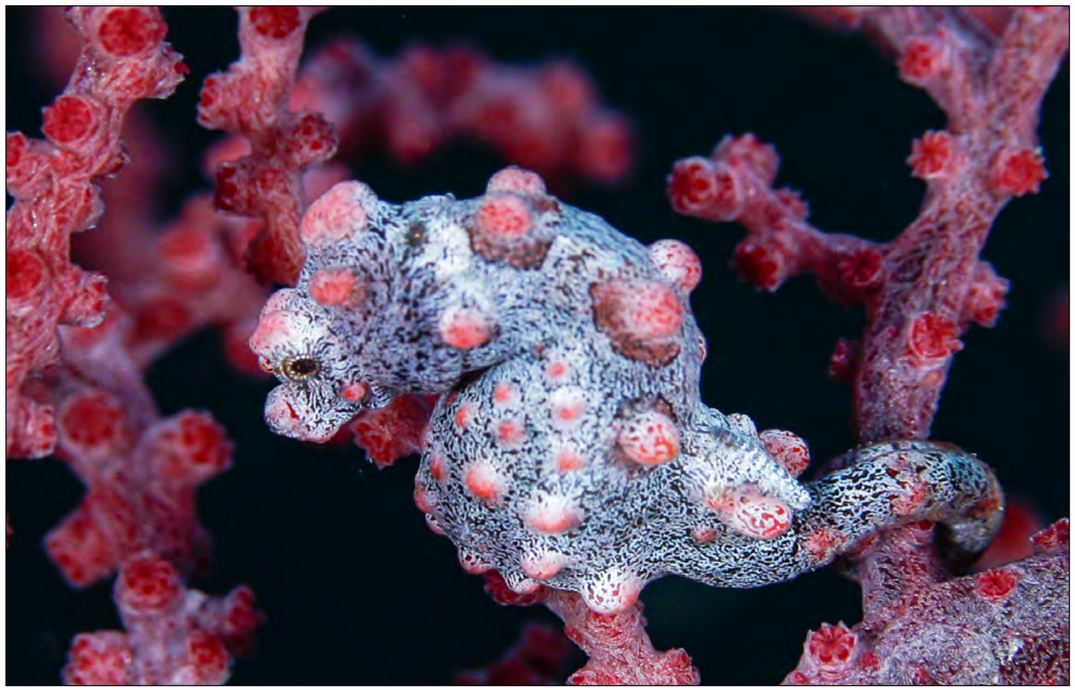
It took a couple of hours to get over there (the tollway had not been built) from Manado and, after three dives, a two-hour return drive.

Fair to say the drive was always a little exciting and you did get to see a decent slice of Sulawesi …but it was a long day.

It was always worth it but now there is a much easier answer…you can just stay at Thalassa's Lembeh resort and hop on the dive boat from their own jetty. You see less of Sulawesi, but you also d not use up as much of your adrenaline reserves!

The resort itself comprises its own jetty, compressor room, dining area (in and out) camera room, freshwater pool, pizza oven, nine sea view bungalows and three single rooms.

Dive the World
Lembeh Straits



By: Graham Willis

All the rooms are airconditioned, have ensuite bathrooms and are a really good size. When we were there the resort even had its own Tarsier monkey nestling in a thicket of bamboo. The Nocturnal Tarsiers are a bit different from other primates in that they are the only entirely carnivorous primate.

Small, with large eyes and not prone to moving around much during the day… they are very cute. I cannot guarantee that the Tarsier will still be there, but you get the idea that the jungle is right on the doorstep.

On this trip we did a mid-sea transfer at Bangka, having headed up from Bahowo, completed a couple of dives in the North, and then carried on round to Lembeh, escorted by a couple of pods of dolphins for good measure.

The Lembeh Straits are renowned for housing some of the most bizarre, exotic, and elusive underwater

Dive the World
Lembeh Straits

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By: Graham Willis

creatures known to exist.

One of the primary reasons for this incredible biodiversity is the strait's geographical location, serving as a natural channel connecting the Lembeh Sea and the Molucca Sea. The mixing of currents brings in a variety of nutrients, providing an ideal environment for the proliferation of a wide variety of life.

Lembeh is one of the best macro diving destinations in the world and the critters include Pygmy Seahorses, Ghost Pipefish, Frogfish, Mandarinfish, Harlequin Shrimp, Rhinopia, Mimic Octopus, Wunderpus, Flamboyant Cuttlefish, the Lembeh Sea Dragon…and the list goes on.

If these are not enough Lembeh offers a very wide range of Nudibranches to spot.

Now what about the diving? The Strait has a couple of spots (at least) where you can see Mandarin Fish during the day. Not having to rely on the 30 minutes around sunset is a real bonus but, like all Mandarin fish, they prefer to stay hidden amidst broken corals and overhangs. So, they are still hard to get a good shot of…but patience has its rewards.

The spot where we went was under the Trikora monument across the channel from the container port. The monument commemorates the Trikora Operation when the Indonesian military aimed to seize and annex the Dutch overseas territory of Netherlands New Guinea in 1961 and 1962. We have also seen Mandarin fish at Bianca across the other side of the Strait.

Most dive sites are within the Strait itself and are good hunting grounds for a wide range of weird and wonderful acro subjects.

It really is muck diving at its best.

Dive the World
Lembeh Straits

By: Graham Willis

Quite often when you descend it appears that you are heading down onto a featureless dark volcanic sand bottom with little hope of seeing anything. But the life there has adapted to become 'invisible' and utilise any little bit of rock, coral, weed or undulation for cover and camouflage.

If you move around quickly you will see nothing and come away muttering about diving in a spot with no life in it.

Slow down, take your time and make sure you have your corrected lenses in, and you will be rewarded.

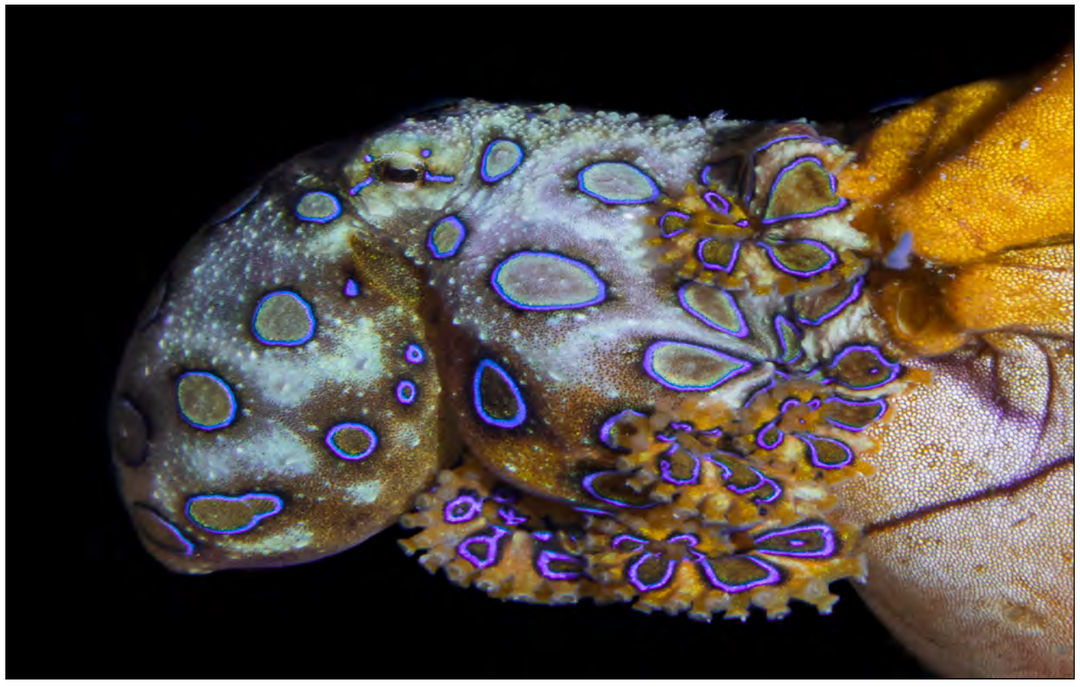
As a photographer I constantly remind myself that when I have found something to look at the chances are that there is something smaller living on or near it …and something even smaller living on that! All too often I get back, process a photo, and find myself saying "I never saw that" … sometimes it is not even that small

I was just not focussed on it…no pun intended.
My favourite dive spots in and around the resort in Lembeh are Nudi Falls, Angel's Window, Air Bajo and Retak Larry and I have already mentioned Trikora.

I guess they are favourites because they always seem to have performed for me…not because other spots are not as good. There are so many dive spots dotted along the strait…it's probably hard to pick a bad one!

Angel's Window is a site on the Island side (East side of the Strait) parallel to where the Western side of the Strait curves further West along the coast. It consists of a twin peaked bommie that comes up close to the surface and a large swim through that bottoms out at 30 metres.

It is a site that offers a change of perspective from the darker volcanic



Dive the World
Lembeh Straits

By: Graham Willis

sands of the straits. It is a reef dive with corals and sponges and usually Pygmy Seahorses…both Bargibanti and Pontohi.

You will also see more reef fish such as Trevally, Barracuda and Red Triggerfish. Angel's window is a spot where you can get strong current so make sure you plan your dive around the slack tide.

Nudi Falls has a wall that starts at the 5-metre safety stop mark and carries on down to 28 metres or so. It is quite a different site topographically from most of those that you will dive in the Straits. My advice is to ignore all the stuff on the way down to 28m because waiting there are some sea fans sprawling with Hippocampus Bargibanti.

You don't want to use up your air or deco time on some nudibranchs that will be there on the way back! Now the Pygmy seahorses might move of course …but they never have. It is also a spot to hunt for, and sometimes find, the Lembeh Sea Dragon.

Masters of disguise they do make looking for the Bargibanti seem easy. They really are little wisps of almost nothing shaped and coloured like filaments of weed! Tricky to find but worth the reward.

Plenty of Nudibranchs as the name suggests but the Pygmy seahorses are the stars.

Retak Larry is a classic Black Sand much dive where you are going to zig zag across the gentle slope looking for critters. It is a Frogfish haven that also has Ambon Scorpionfish, Stingers, Devil fish and, in the shallows, Wunderpus or Mimic Octopus.

I have also been lucky enough to find Rhinopia there.

By: Graham Willis

Air Bajo is one of Lembeh's best spots with a gentle slope that heads down to about 20 meters.

It is also a large site so don't worry if there are a couple of other boats around…there is room for everyone.

Coconut Octopus heaven with Seahorses, Flamboyant Cuttlefish and Ornate Ghost Pipefish are common occupants of this spot.

The best advice I can offer when diving the Strait is to have top class dive guides.

Dive guides who will take their time, not reposition critters just for the photographer's best angle (Yes…I have an issue with that) and have great 'eyes'.

What these guides see is nothing short of astounding. The only thing I will say is that sometimes the guides get so caught up in trying to find you the smallest thing you have never seen…it's like a badge of honour!

That's' okay if that's what you want to do but if not…just let them know and they will adjust.

I have to say Thalassa resort has excellent guides and DMs. I am sure other resorts do as well, but these ones come with a guarantee!

So, there you have a snapshot of diving in the Lembeh Straits whilst hanging out at Thalassa's Lembeh resort.

I can't wait to get back!! I'll see you in the water.

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Lembeh Straits

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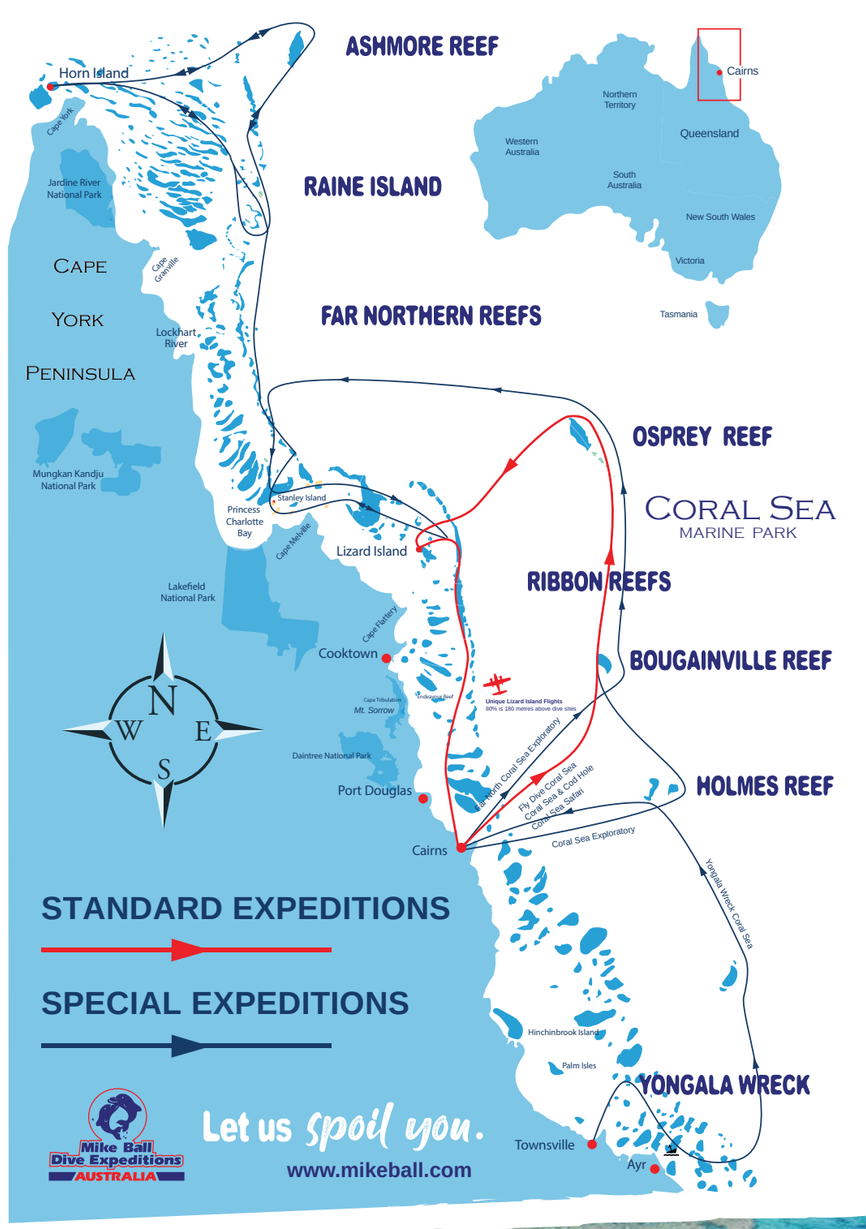
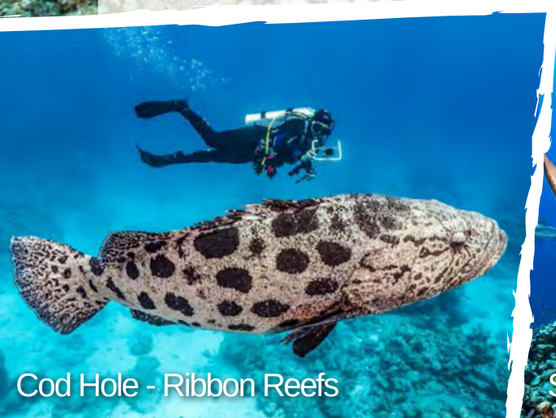



Cod Hole - Ribbon Reefs


Shark Attraction - Osprey Reef

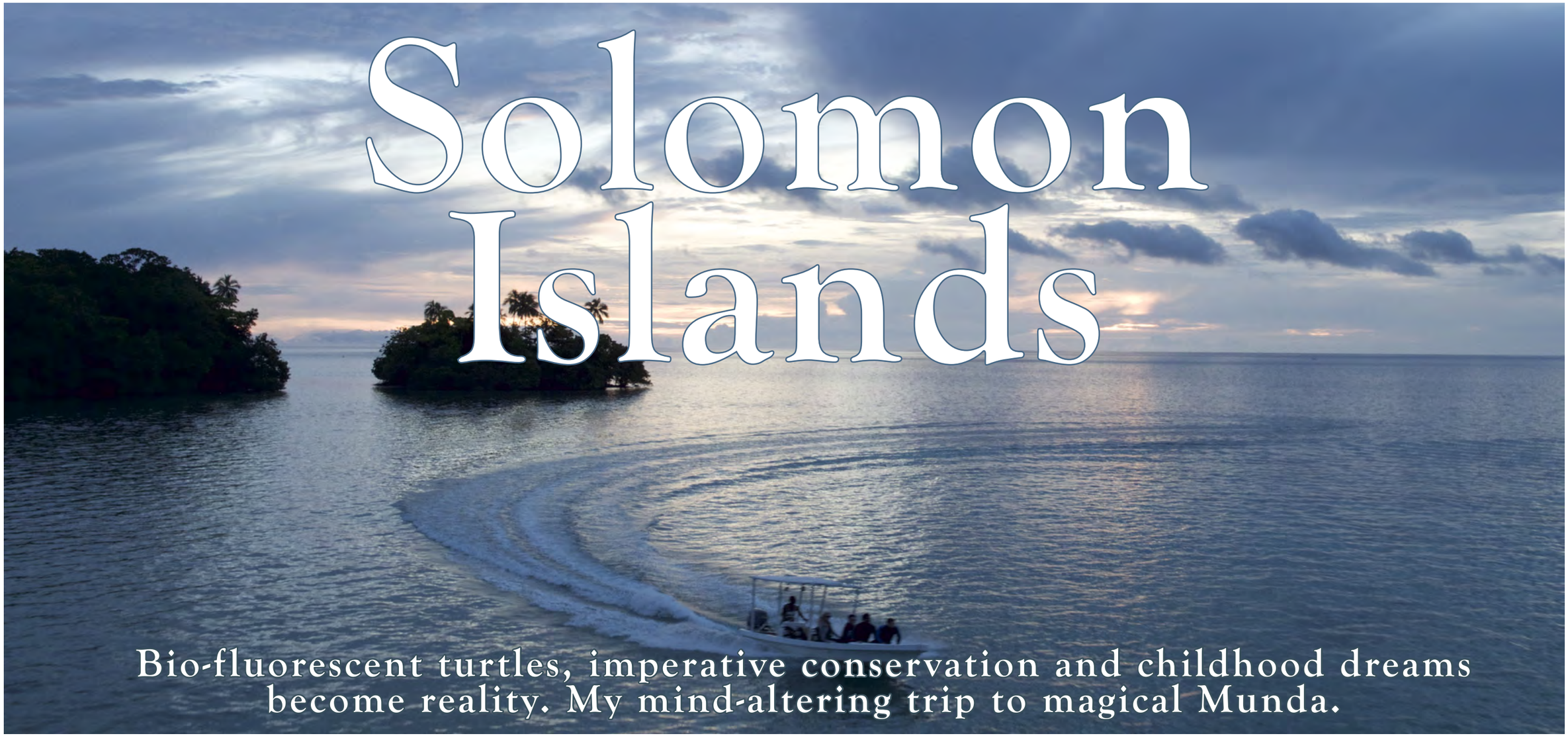

False Entrance - Osprey Reef


Minke Whales - Ribbon Reefs

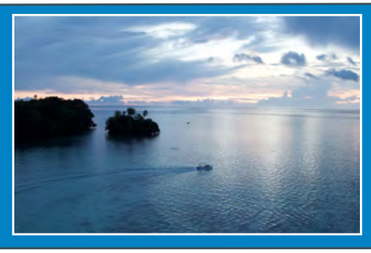
Dive the World
Solomon Islands

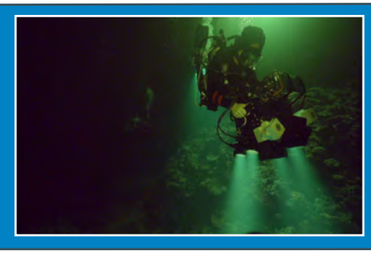
By: Klaus Obermeyer

Solomon Islands



Bio-fluorescent turtles, imperative conservation and childhood dreams become reality. My mind-altering trip to magical Munda.





By: Klaus Obermeyer

This quote kept resonating in my mind as I flew from Honiara over the Solomon Islands to Munda on a film/dive expedition I was directing for Canon and their ME20F-SH low light camera. Renowned biologist. Dr. David Gruber had stunned the world when he discovered the first bio-fluorescent turtle at night during an expedition to the Solomons the previous year.

Canon wanted to shoot something amazing underwater that showcased the low-light capabilities of their technology and I suggested to Grey (Canon's advertising agency) on the idea of filming the bio-fluorescent turtle Dr. Gruber had discovered. To my delight, they got excited about it.

It is not everyday that I convince a large multinational company to travel 45 people for multiple days from around the world to gamble on the chance of finding and photographing a bio-fluorescent turtle somewhere at the end of the Earth.

Needless to say, I was already feeling quite lucky and honestly still enjoyably inebriated in quiet disbelief.

As a very young boy I often spent my time rotating the globe around and around in our living room and trying to determine what the most interesting places on Earth would be and I distinctly remember imagining that the Solomon Islands must be incredible because of their isolation, the vast number of islands and their proximity to the warm equator. I sensed that the Solomons were still wild and largely undiscovered and I was right.

I had often travelled to Hawaii as a young child and experienced how beautiful warm water and tropical South Pacific islands could be, however, I would always imagine and deeply contemplate what it must have been like to be the first ever to discover them, before people had ravaged them.

Since then I have always yearned longingly to get that opportunity of true discovery somewhere and sometime in my life.

Dive the World
Solomon Islands

By: Klaus Obermeyer

All those memories were playing in my mind as I excitedly watched countless untouched islands and healthy reefs fly by from the window of the only Dash 8 aircraft in the entire 1000 Solomon Islands as we began our descent into Munda.

I was excited and ever so slightly stressed for many reasons not the least of which was the risk of not finding competent dive professionals or even seeing a turtle after I had gotten everyone excited about this crazy idea not to mention all the hype on the internet of malaria, dengue, crime and saltwater crocodiles (that theoretically hunt the same turtles at night that we would be trying to film) but all that just contributed to the euphoric adrenaline high that was building as we touched down.

Within the first steps off of the airplane I was introduced to Belinda Botha who had taken over a small dive shop the year before and had trained a team of locals into a powerfully competent and passionate group of dive professionals.

I immediately felt relieved meeting Belinda as her confident introduction and radiant smile melted away any doubt about the dive team upon whom the success of the entire job would be depending. We then all walked a few hundred yards from the dirt strip through a tiny town center to Agnes Gateway Hotel, which would become our charming new home and our base of operations.

It became immediately clear to me that Munda and the Solomon Islands in general were on a knife edge that would either fall to the side of continuing to exploit their resources to rapacious logging companies and succumb to shortsighted greed, or they would take a path of eco-tourism and resource conservation which would preserve the natural beauty and magic of the islands for generations to come by bringing prosperity and long term employment to their people.

It became instantly clear that Belinda and her brilliant dive operation were the key to that bright future as divers in search of real adventure have the resilience, passion and disposable income to travel the extra mile for an amazing experience and they deeply appreciate untouched natural beauty and underwater wildlife.

The past year had already shown proof of concept in that Agnes Gateway Hotel had seen a huge bump in occupancy from Belinda's dive tourism and she had employed a team of ten locals in her dive shop alone, not to mention the extra housekeepers, cooks, hotel staff and business to local shops, artisans, fisherman and farmers that benefit from dive tourism.

I knew that by providing film and photography of the amazing dive sites, WW2 wrecks, healthy coral reefs and unspoiled islands; those images could be used as a powerful tool for Belinda to increase sustainable tourism, which would ultimately lead to a path of conservation and long-term economic success for the local people.

So we decided to shoot during the day to capture images of her awesome dive sites and use our nights in order to accomplish the job of filming a bio-fluorescent turtle for Canon. It turned out to be the most amazing diving adventure of my life, by far.

Besides the completely otherworldly coral reefs and wall dives, the Solomon Islands were the site of the most ferocious air, land and sea battles, which changed the course of WW2 and multiple hundreds of aircraft and ships, remain missing and undiscovered in the surrounding area of just Munda alone.

Belinda guided me on several dives, one of which was my deepest dive ever, at 170 feet. We went on to dive multiple World War II wrecks, including airplanes and a Japanese supply ship, the Kashi Maru, that had been sunk right off shore. We also dove the coolest cave that defies the imagination.

The entrance of the dive is situated within a small island 40 feet inland from the shore; we hiked our equipment in

Dive the World
Solomon Islands

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By: Klaus Obermeyer

over land to get to the small entrance and dove down through a spectacular cave opening with photogenic cavernous sections to a depth of 100 feet. The dive ends up leading back out into open ocean through a vacuous underwater cave exit.

Once you are birthed back into the light and into Open Ocean (at a depth of 100 feet) the dive then transforms into an incredible shear wall dive for Pelagics. This location and dive profile are completely unique in the world and currently in danger of being destroyed by a Chinese shrimp farm if the government approves it.

We must share this incredible dive with as many divers as possible and get this unique treasure protected.

At night we would dive Mbigo Mbigo for its amazing clarity, unmatched coral formations and turtle population. By shining blue light on the corals and turtles combined with using a yellow filter on the camera we were able to see incredible bio-fluorescent life forms and uncover the mystery of how turtles see their underwater world at night.

Using the Canon ME20F-SH, we ended up shooting the most incredible bio-fluorescent turtle footage ever captured on the first and second night, which completely released stress for the entire team and allowed us to focus calmly on telling the rest of our story with brilliant night cinematography of our expedition team.

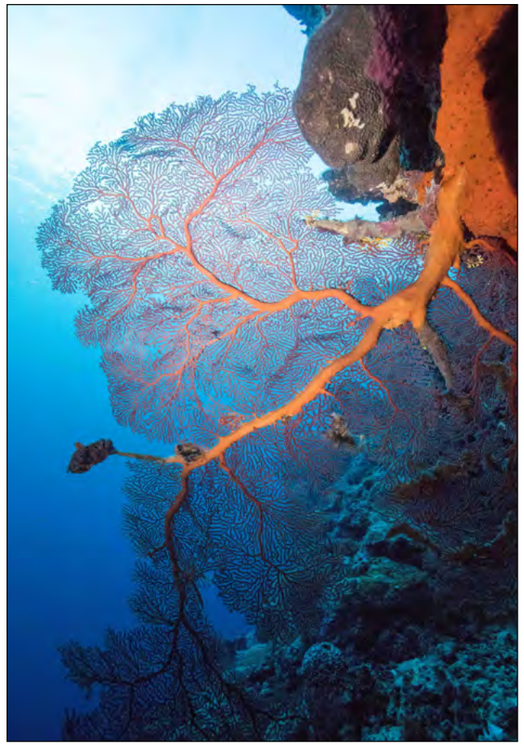
Happily, our clients left the island with revolutionary footage and resounding success as a reward for their faith in our expedition.

I could not bring myself to leave Munda with the group and decided to stay to make a subsequent expedition to the remote island of Tetepare a few hours from Munda by boat. Tetepare is the least developed and most remote island in the Solomons and is home to vast untouched jungle, monitor lizards, Dugong, crocodiles, leatherback turtle nests, green and hawksbill turtles and countless species of fish, butterflies and frogs just to name a few. It is also the home of a conservation group that focuses on helping leatherback and other turtles successfully hatch and Tetepare is one of the only bright spots in the future of those endangered species.

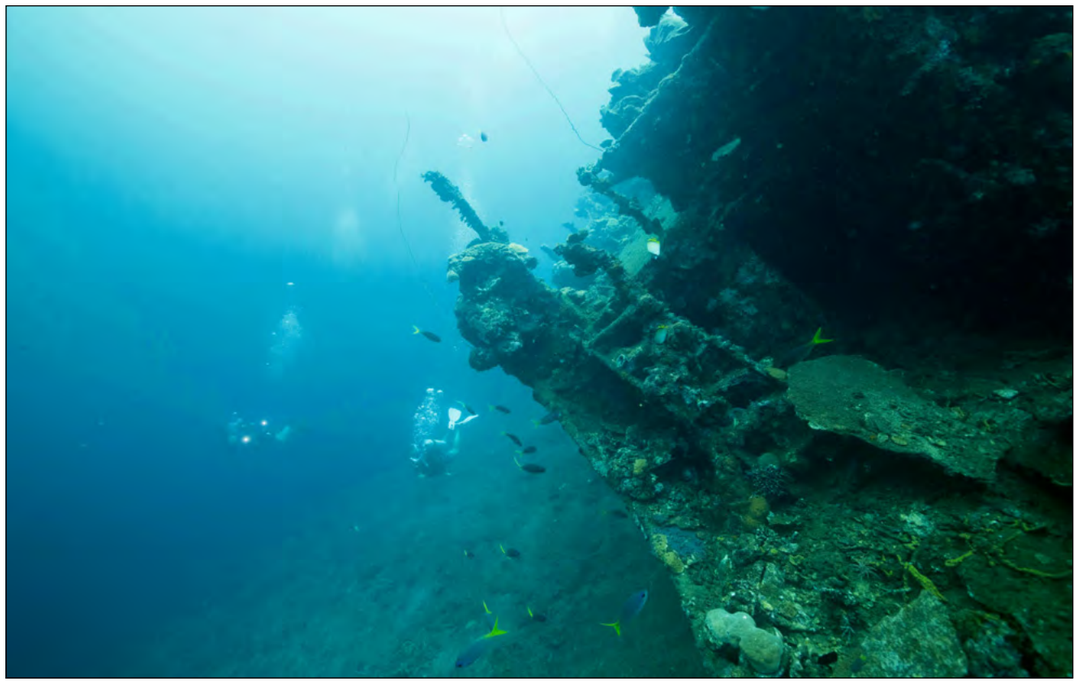
Its remoteness is both a blessing and a challenge to conservationists who brave the elements to carry out their year round work but desperately need funding support to continue. We shot a short film to help communicate their mission to donors.

Tetepare has a very small eco-resort that is designed to let tourists participate in turtle tagging and nest protection to create a sustainable source of income to power their conservation efforts in the future.

Our overnight stay there was amazing, with inspiring people and stellar food.



Dive the World
Solomon Islands



By: Klaus Obermeyer

Most profoundly for me personally was that I was truly able to realize my childhood dream of being the first to discover and dive completely virgin and never before explored underwater landscapes thanks to Belinda and her team.

We established three new world-class dive sites together around Tetepare that she insisted I name.

Our first was "Tangerine fields," inspired by the Beatles song "Lucy In The Sky With Diamonds" written about a psychedelic journey to an otherworldly place, which is exactly what that amazing dive felt like.

Then "Magic fingers" which is a dive through tight fingerlike canyons that extend out from shore and provide a brilliant labyrinth of discoveries and amazing photographic opportunities and finally "The Blue Wall," which was my personal favorite as the picturesque wall descends into the abyss, where tides move massive amounts of water from deep open ocean into and out of an epic island chain.

We saw a large Hammerhead shark, and many others feeding at dusk. The wall itself was covered in amazing coral structure and felt healthy and teaming with life. I wish I could dive it everyday!

The untouched natural beauty of the Solomons is felt in the people I met, as well as in the landscapes themselves.

We stopped in the small remote village of Sasavele and were greeted by many smiling children and villagers who were open and playful. They were happier holding their hand made sling shots and playing hide and seek than any kids I have seen in the "civilized world" who all seem to sit alone in a room full of people, glued to their smartphones like digital Zombies.

These kids were connected to each other, the natural world around them and to their entire multi generational families who would all be living under one roof. It made me question why the modern world considers living separate from your family to be progress.

Skull Island is where Headhunters would deposit the skulls of their enemies and revered local tribal leaders in the not so distant past. The conch shells on the gravesite are in perfect shape and still create the same haunting signal that the headhunters made to boast the number of skulls that they harvested on their journey.

When I was invited to set foot on to this exotic and sacred island, I was moved by a palpable sense of how recently some of those skulls had been brought there and by the violent axe wounds visible.

It was a reminder of how far off the beaten path we were and how special it was to be one of very few people ever to be in this place.I have been fortunate to travel the world directing commercials. I have made a career of finding rare beauty and being the very first to capture it, however, I have never had an opportunity like this, for my work to help create a lasting and positive impact on a magical place like Munda in the Solomon Islands.

My hope is that by sharing my experience and images of our expedition with the dive community, that we will all help Belinda on her quest to preserve one of the last healthy underwater eco systems on the planet for future generations, by simply visiting Munda and diving this underwater paradise. Each person who books a trip gives strength to the theory of sustainable tourism and can be a powerful force at this crucial time in Solomon Island history.

By the way, I only saw one mosquito and oddly it was on the airplane back to Brisbane. I used repellant and took no malaria meds. The people of Munda were open, friendly and delightful and crocodiles don't like coral reefs because they have soft bellies and they stick mostly to the swampy mangroves, but they do add exotic dimension to the stories and keep out meek vacationers, which I see as a total benefit.

Dive the World
Solomon Islands

By: DAN

When Should the Rescue Begin?

Diving inherently carries an elevated level of risk because humans cannot survive underwater without specialised equipment. When things go wrong, an effective rescue is vital for a favourable outcome.

Divers who practice situational awareness are more likely to prevent a potential accident. It could be as simple as noticing a broken mouthpiece zip tie while gearing up or as complex as a panicking diver who is out of breathing gas. Mastering the art of awareness is not a simple task, and it can take divers years to become proficient at spotting potential problems.

Being an aware diver is often about identifying and solving problems before they become emergencies. Every diver should regularly practice rescue skills, but their goal should be to prevent incidents, so they never have to use those skills. Deliberate observation can help make a dive incident- and accident-free by recognising potential problems at each phase of a dive.
So, when should the rescue begin?

In the Parking Lot
When planning a dive, divers should seek to correct any issues that could cause problems later. From the moment divers arrive in the parking lot, they should pay attention to everything around them to identify potential issues. How are the other divers acting? If those individuals are friends or acquaintances, pay attention to any abnormal behaviour. Is the ordinarily talkative person suddenly quiet? Does the typically confident diver appear anxious? Talking to the nervous diver may reveal their own difficulties or safety concerns.

It is also important to listen to other conversations. Questions and comments from divers can give insight into their experience and training. Listening can help you learn important information and prevent egos from interfering with safety.

Pay attention to the condition of gear that divers remove from their vehicle. Appearance isn't everything, but it can indicate how often a diver is in the water or how well they maintain their equipment. Well-used gear could suggest an individual who either dives frequently or one who neglects their equipment. Likewise, don't assume that someone in well-used gear or a technical configuration is a well-qualified and competent diver. Conversely, a gear bag full of pristine equipment might suggest a diver newly introduced to the sport. Ensure you and your buddy have training on the gear you will be using, especially if borrowed or rented, and familiarise yourselves with each other's gear.

At the Dive Site or on the Boat
It's possible to identify other potential problems after divers arrive at the site or board the dive boat. Watch closely as the divers assemble their gear. Was the assembly process smooth and efficient? Were the divers confident during assembly? Did they make any mistakes? Pay attention to divers who obsess over minor details; this behaviour could indicate insecurity in their ability to properly prepare for the dive.

Before the dive, evaluate how much situational awareness other divers display. Are they paying attention to only the task at hand, or are they aware of what those around them are doing? Are they distracted from their preparation, or are they able to capably handle multiple tasks? Take note of these observations as they could indicate the preparedness of other divers to manage future problems that may arise.

During the Predive Check
One of the worst things a diver can do is to assume that simply asking "Are you ready?" before descending can replace a predive check. This practice results in divers not inspecting and testing equipment, reviewing hand signals, or finalising the dive plan.
A predive check is the last opportunity to prevent an incident before submersion. Using an acronym or a physical checklist will help divers complete a thorough review.

Many divers also adhere to a three-strikes rule. If any three things during your dive preparation do not go as planned, you should postpone the dive. Strikes can include many things, such as a diver waking up late and rushing to pack the car or a ruptured O-ring. If something feels like a difficulty at any point, count it as a strike.

In the Water
After submersion, pay attention to how other divers handle themselves in the water. What is their comfort level? Indicators of distress can include buoyancy issues, hand sculling, increased breathing rate, awkward body position, or constantly holding the regulator to keep it in their mouth. The beginning of descent is the final opportunity to address potential problems before they become full-blown emergencies.

Distress can quickly escalate to panic. Divers may have rapid and awkward movements (like trying to climb a ladder), fast and shallow breathing, or enlarged eyes moments before panicking, which often leads to rejecting gear or bolting to the surface. Swift, efficient, and effective responses are necessary to prevent the situation from escalating to a more dangerous or potentially deadly scenario.

It is important for divers to regularly practice in-water rescue skills so they will instinctively know what to do if an incident happens. Proficiency with skills such as breathing without a mask in place or dealing with a buddy who is out of breathing gas builds confidence in the water. Regular practice could help a diver effectively manage an emergency.

When a diver can calmly deal with issues, those situations become more of a nuisance than an out-of-control emergency. That doesn't mean they won't have to address a dangerous situation or terminate the dive, but they will be able to do it smoothly and efficiently.

In effect, a rescue begins in your first dive class when you begin to learn and develop the skills you need. When a diver becomes proficient at executing basic skills in open water, they are more likely to respond effectively and capably to an emergency. Divers who are confident in their abilities can focus less on themselves and more on those around them. Practicing situational awareness allows them to recognise when other divers encounter issues and intervene to prevent emergencies.

Consistently practicing rescue techniques is key to making every dive incident- and accident-free, and the art of awareness is a skill that divers should constantly utilise. Identify issues before a rescue is needed. Everything you see is telling you a story. Are you listening?

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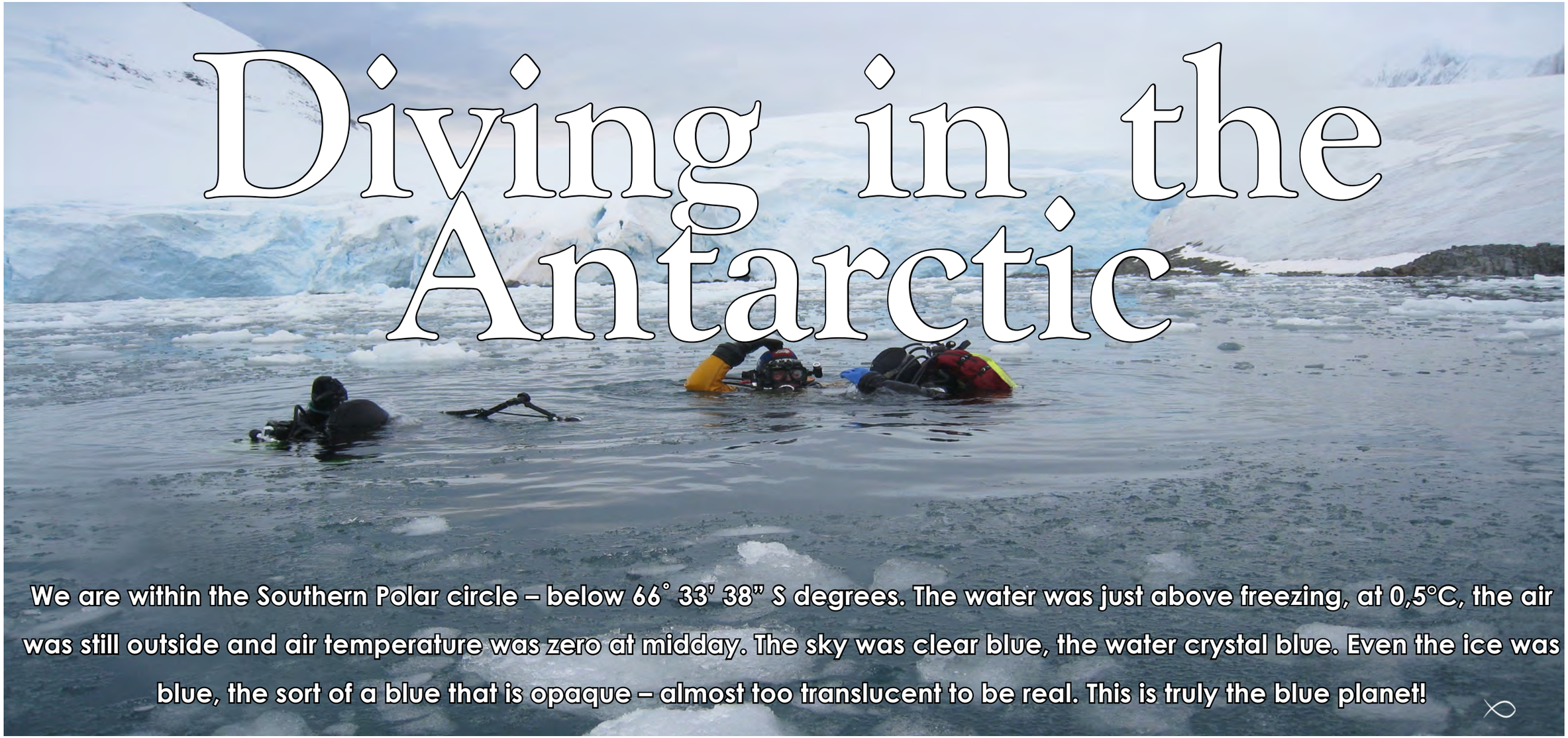
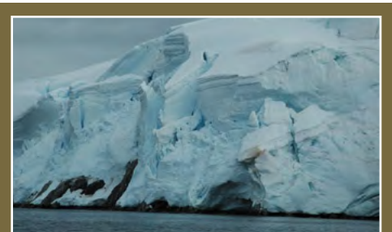
Exploration
Antarctic

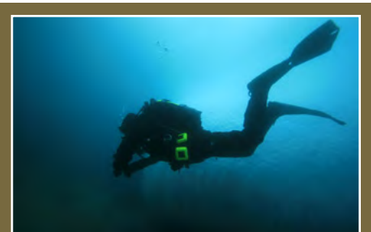
By: Don and Andre Shirley

Diving in the Antarctic



We are within the Southern Polar circle – below 66˚ 33' 38" S degrees. The water was just above freezing, at 0,5°C, the air was still outside and air temperature was zero at midday. The sky was clear blue, the water crystal blue. Even the ice was blue, the sort of a blue that is opaque – almost too translucent to be real. This is truly the blue planet!





By: Don and Andre Shirley

Amidst all this blue was I who am allergic to water colder than 24 degrees – arm twisted right back by Don to actually venture into the freezing Antarctic waters! I told him in no uncertain terms that we're going to be lugging all this excess dive gear around the world, and I'm not going to be using it.

It seems like the twisting of the arm did not stop, and I found myself in my cabin kitting up one day. The kitting up was probably the hardest part. There's the physical side of getting all the gear on – I cannot get my mask on with these cumbersome dry gloves, never mind getting my long hair which wants to go all over the place out of said mask – then let's not forget the mental state… what am I thinking? Its freezing out there, will I be able to press the power inflator with frozen hands in the cold water gloves? Then there's the waiting for the zodiacs to come alongside the ship.

I'm sure they take their time to make us quit beforehand so they can go back to their cabins and drink hot chocolate.

Once on the zodiac, I was thinking of going in feet first instead of the usual backward roll – just so that when the icy waters hits my face I am in an upward position instead of inverted. I've seen the scary movies when people fall into frigid water and I want a fighting chance please. But sense and dignity prevailed and one backward roll later I was in. And hey, what a surprise – I am comfortable, you could even say toasty – thanks to my extreme thermal dive gear.

Diving under this Antarctic sea is surreal. Don and I had travelled to the bottom of the world together, leaving southern America from Ushuaia. The area is called Tierra del Fuego (the land of fire – the native Indian's lived naked, and had fires to keep them warm. From their ships the Spanish saw the land

dotted with fires), sailing through the Beagle Channel, then across Drake's Passage (two days at sea) after which we worked down towards the Antarctic peninsula, visiting islands along the way and diving in some of the remotest places on earth.

Twenty to thirty minutes is a good time to end the dive, as your feet and hands start the quick journey to numbness as soon as you hit the water, even if they are encased in the latest thermal technology. Depth was an average of about 15m.

Marine life comes in the form of millions of krill, thousands of crustaceans, hundreds of nudibranchs of small and large proportions and lots of kelp along the coastlines.

There's also the chance of seeing penguins, Fur seals, Leopard seals and whales underwater. Some were lucky enough to be circled by a Leopard seal trying to figure out just what to do with these bubble-blowing things.

The dives next to icebergs were another story. The ice was breathtaking in all ways, for its colour, beauty and temperature. Under water the bergs were like giant golf balls – regular and uniformly pitted. The water density and clarity changed depending on where you were – close to the berg you found fresher water, and buoyancy needed to be adjusted accordingly.

Bergs are almost living creatures – they bounce around like giant ice cubes and scrape along the bottom, making the most horrific sounds – the noise of the groaning vibrates in your chest and you cannot tell from where the sound is coming.

You're sure that they are coming after you to crush you, almost as if they know you're there and easy prey. As they grind on the bottom, chunks of

By: Don and Andre Shirley

ice break off and try and take you out on their way up. You should also be watchful for 'calving' from the top – when chunks break off and drop down on you. And if it did not get you with any of those methods, it might decide to become unstable, do a roll-over and you could suddenly find yourself on the top (which was bottom five seconds ago) of its surface with rapid bubble expansion taking place in your body. These icebergs really are cunning!

This experience was a big first for both Don and I. Don had dived under ice in frozen lakes and around the Falklands (1996) previously and wanted to get further south since seeing South Georgia in the 1982 Falklands war. This was a dream come true for him.

Diving in the Antarctic was scary but exhilarating at the same time! In retrospect, I was glad my arm was twisted so badly. I would advise anyone going that way to be properly trained for those conditions; it is not the place to find out you cannot cope. Help is also days away on a clear day, and it's not going to happen if the weather is bad.

Antarctica, ice and ozone

Icebergs were once snow, which over time, compressed to ice – this can take 25 to 50 years. All Antarctica's ice slowly moves to the sea, with some ice fields being 4,8m at the deepest point. They say that the older the ice the richer blue it becomes. I wonder how old the icebergs were that we have been swimming next to. What has it seen it its time?

Due to the compression, the sea salt gets pressed out, called leaching, and it forms stalagmites under the ice. I would still love to see some of this type

By: Don and Andre Shirley

of formations underwater. We saw the start of sea ice forming when we were in the Lemaire Channel – this is called ‘grease ice’ as it looks a little a film of grease over the water. The water is thick and still. It has thin veins of unfrozen water and the ice is very thin.

As it gets thicker the ice forms ‘pancakes’, which is when the thin grease layers are pushed on top of each other and become round. Ice forms in the sea very quickly, and once it starts it advances by around 100 000 square kilometres per day. It eventually doubles the size of Antarctica, adding up to an extra 20 million square kilometres of ice around the land mass. That’s one and a half times the size of USA. It then melts each summer.

A lot of research has been done on ice fields for climate change projections. Global warming is a ‘hot issue’. The general consensus from various research stations and the glaciologists says it is actually worse than what the general public is told!

The ice field around the American Palmer Station is receding at the rate of 10 feet a year. A large chunk of the Wordie ice shelf collapsed last year, giving back a huge area of sea. The western Antarctic is showing the most signs of global warming, alarmingly so. Whether the ozone hole is connected to global warming is an open question.

They are finding that it is opening earlier and closing later each year – in other words the hole stays open longer each year. The hole distorts as the polar year progresses, and opens as far as

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By: Don and Andre Shirley

South America and South Africa.

The ozone hole was first discovered in 1985 at the British Station Faraday on the Galindez Island (65 o 15'S, 64o16'W) by John Shankline.

The British research station was first on Winter Island in a hut called Wordie hut, which is now a historic site.

It comprised of a kitchen and bunk room, and was later expanded to include a generator shed, office, store and toilet. (I'm sure the staff were pleased not to venture outside to the toilet). The research station is now owned by the Ukraine and renamed Akademik Vernadsky. When the station was handed over (for $1) in 1996 the two teams of scientists played football to commemorate the day. It has always been a metallurgical station and is the oldest station in the Antarctic Peninsula area.

Visiting the all male personnel (their motto: "No women, no cry") at Vernadsky is an interesting experience. They have a wicked sense of humour, and their home-made vodka hits just the right spot on a cold Antarctic day.

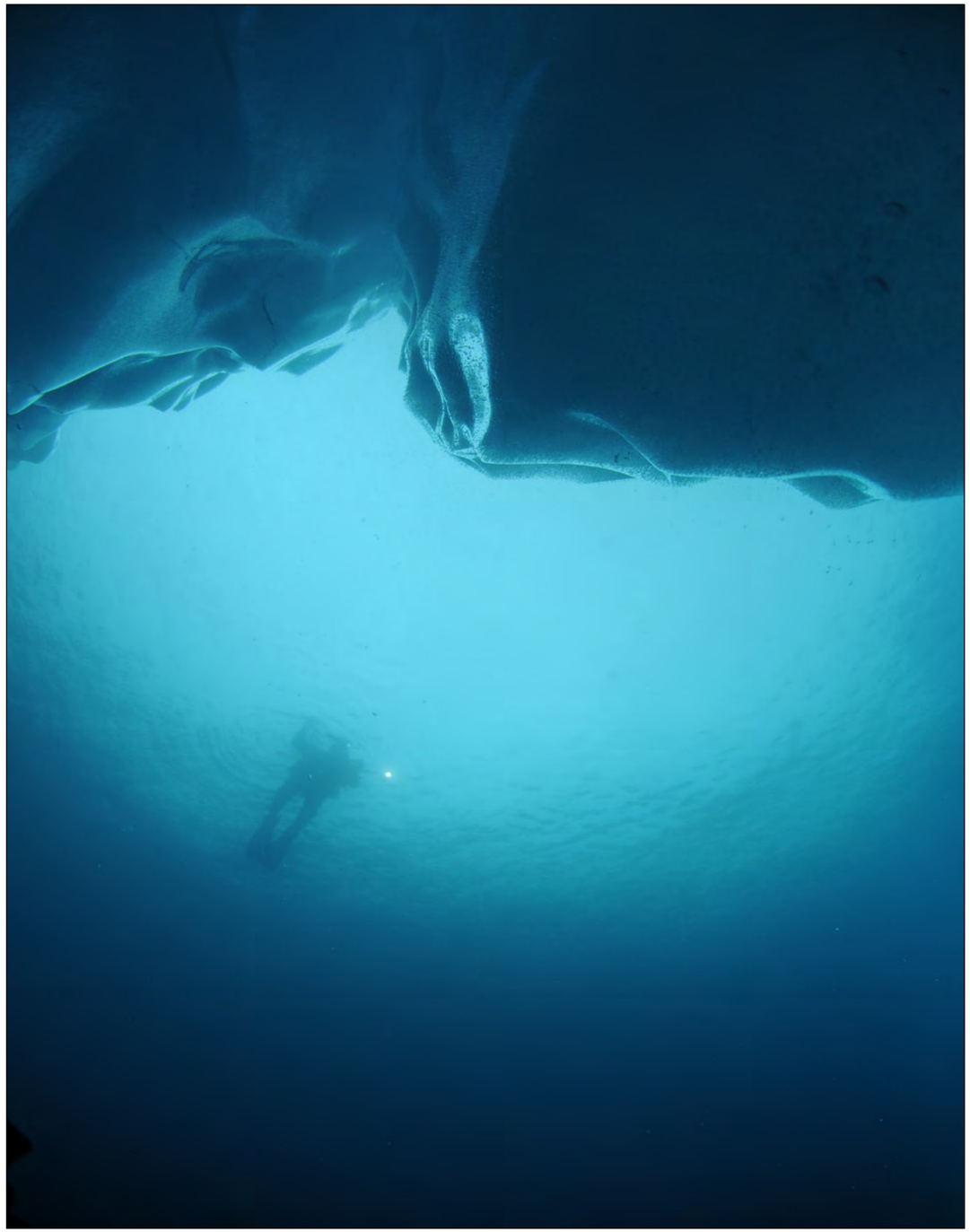
As we entered the station we saw a monitor that displays the Ozone hole's state; any count above 234 UD was bad news. It was at 300 UD that day, and we were told not to go outside without good sunglasses and other protection.

I had a long chat with Egor Quosdofsky. He operates the current measurement instrument which is in the same place as the original machine. The original is now in a museum in UK. The current machine is named Virginia, after John Shankline's mother.

All machinery on the base has names – a custom which started with the original British guys. The machine room also doubles as Egor's bedroom and office and he had beautiful drawings pinned to the wall – a hobby in his spare time.

Egor said that they still play football when the sea freezes in the small inlet between the rocky islands.

Exploration
Antarctic



By: Rian Bester

Photo School

Wide-Angle

To capture the essence, the adventure and the mystery of the underwater world, there is only one way – wide-angle.

Wide-angle photography is the technique of the editorial and publishing photographer. The very magic of the wide-angle lens depends on close proximity and sharpness.

You get to be extremely close to subjects and yet still have the ability to record amazing wide views.
Your general lens for wide-angle photography would be in the focal length region of 14mm to 24mm but you also get your extreme wide-angle fish-eye lenses.

Wide-angle lenses are ideal for capturing large subjects in their entirety, at close range. Fortunately the lenses have a great depth of field so they are quite forgiving when it comes to focus.

The first rule in wide-angle photography is getting close to the subject. This is absolutely crucial if you want to get sharper, clearer and richly coloured photographs.

You also want to shoot on smaller apertures to increase sharpness and depth of field, while decreasing the strobe-to-subject distance. Always try and shoot up towards the surface as this allows you to make use of the ambient light in the background.

The second rule is to always compose through your viewfinder.

If you compose with the naked eye, your subjects will look distant and the final result will look very different to what you expected.

Through the Lens
Photo School

The third rule is that unless you can get extremely close to the subject, a very wide-angle lens is not recommended.

You will have to have a good knowledge about the subjects you wish to photograph, as this will usually influence your choice of lens.

There are several different wide-angle situations that you might encounter on a dive which range from available light silhouettes, scenic seascapes, people and marine wildlife and wreck photography.

For optimum impact for fixed features such as soft corals and fans, do not take the shot unless you can almost touch the subject – a good wide-angle lens can focus down to about 25-30cm. A very common error made by novice underwater photographers is to have too much space between their subject and the picture frame edges.

With wide-angle photography backscatter becomes one of your worst enemies.

This is where decreasing the amount of water between you and the subject can make a huge difference.
The other option is to make adjustments to your strobes by changing their position, i.e. moving the strobe slightly forward of the lens or lighting the subject with the edge of the beam.

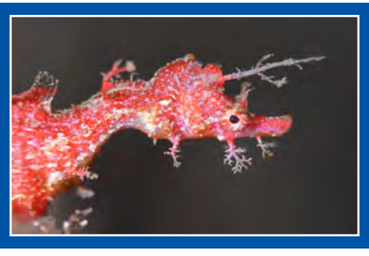
Another point to remember is to take multiple photographs, each time recomposing the photograph to look for the best composition.

Through the Lens
Photographer

By: Nicolas & Lena Remy

Nicolas & Lena Remy

A journey through the Lens



By: Nicolas & Lena Remy

Nicolas Remy and Lena Remy are a couple of underwater photographers and rebreather divers based in Sydney, they have spent a cumulated 1700 hours taking photos underwater.

Their work has been awarded in local and international photo competitions, and Nicolas has written articles on their behalf for a diversity of print and web magazines.

This includes underwater photography equipment reviews as well as trip reports. Nicolas now teaches a diversity of underwater photography subjects, from beginner to expert level, both as one-to-one coaching and group classes, either online or in person. Visit their website for more details: www.nicolaslenaremy.com

They got certified PADI open water divers in Bass Point (NSW) back in 2007, and immediately fell in love with the underwater world. Their first 100 dives were spent without a camera, but Nicolas had already devoured two underwater photography course books before knowing what a BCD was!

It took them time to save for their first underwater housing, giving them time to get comfortable underwater beforehand.

In 2008 they returned to their home country (France) and settled down there for about 10 years. From their home in Antibes (southern France), they would dive the Mediterranean Sea every week, plus the occasional overseas trip, which saw them visit the UK, Azores, Spain, Turkey, Egypt, Sudan, South Africa, Indonesia and Malaysia.

Nicolas and Lena were constantly looking for ways to have more “quality time” underwater, where they could properly focus on photography.

PADI AOW certifications weren’t enough to go self-guided in Southern France’s dive boats, so they continued their education with CMAS 3* (and PADI Rescue Diver, for overseas trips) in 2011. By 2012, their search for better marine life approach and longer dives saw them both moving to rebreathers. After trying a few units, they have settled on rEvo rebreathers and haven’t looked back since. Nicolas has spent 800 hours on his rEvo and Lena 500 hours on hers.

They dive their rebreathers for even the shallowest jetty dive, as they can see advantages at all depths, and like to keep their muscle memory sharp, which is best achieved with using the same gear on and on. Nowadays their standard dive is 2h30 to 3h30 long, with their bottom time rather limited by surface commitments than anything else.

In terms of underwater photo equipment, their first camera was a Nikon D300 in an Ikelite housing, and a pair of DS160 strobes, with electric sync cords. They subsequently moved to a Nikon D7000 in a Hugyfot housing, and its ergonomic hands strap, and also adopted a 45 degrees viewfinder, the best thing since sliced bread!

When becoming parents, they had they decided to downsize and had an Olympus OM-D EM-5 in a Nauticam housing for 2 years. The compact size certainly was advantageous, but they missed Nikon DSLRs lighting-fast autofocus, and moved back to a Nikon D300s, and then bought one of the very first Nikon D500, and France’s first Nauticam housing for this amazing camera.

They also own a Nikon D810 in another Nauticam housing, and strobes from Inon, Retra and Backscatter.

For creative pursuits, they also use a number snoots, colour filters, and DIY bits and pieces to trigger strobes off-camera.

Practicing underwater photography as a couple means they have twice the enjoyment, two minds bouncing ideas around the next shot or best technique for a given subject, and also a second pair of eyes to review photos and offer (constructive!) criticism to keep improving their imagery.

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SDI SCUBA DIVING INTERNATIONAL

By: Nicolas & Lena Remy

Seadragons courtship dance, Kurnell, Sydney. Nikon D500 with 2x Retra Flash Pro, Tokina 10-17mm. 1/25s, f/8, ISO 100.

Sharks canyon, South West Rocks, Australia. Nikon D500 with 2x Retra Flash Pro, Tokina 10-17mm. 1/60s, f/10, ISO 200.

The Three Fiat trucks, Umbria Wreck, Sudan. Nikon D500 with 1x Z240 on camera and 1x 240 off-camera. Tokina 10-17mm, 1/40s, f/7.1, ISO 400.

Two male cuttlefish (above) competing for one female, Clifton Gardens, Sydney. Nikon D500 with 2x Inon Z240, Tokina 10-17mm. 1/40s, f/10, ISO 200.

By: Nicolas & Lena Remy

Lena and the dragon, Blue Fish Point, Sydney. Nikon D500 with 2x Retra Flash Pro, Tokina 10-17mm. 1/100s, f/9, ISO 200.

Undercover wobbegong, South West Rocks, Australia. Nikon D500 with 2x Inon Z240, Tokina 10-17mm. 1/160s, f/9, ISO 200.

By: Nicolas & Lena Remy

Anger fish #3, Kurnell, Sydney. Nikon D500 with 1x Retra Flash Pro + Retra LSD snoot, Nikon AF-S 60mm macro. 1/20s, f/14, ISO 250.

Giant Stride
Banda Sea

By: Mathew Kempton

The Banda Sea

The Forgotten Islands aboard the Coralia.

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SSI GREEN FINS SDI

By: Mathew Kempton

If you're looking for an unforgettable SCUBA diving experience, then a 10-day liveaboard dive trip to Ambon, the Banda Sea, and the Forgotten Islands aboard the Coralia is a must-do adventure.

There are only a few months in each year when the Banda Sea is calm enough to be safely crossed – usually around September to November.

The trip takes you to some of the most remote, pristine, beautiful and diverse dive sites in the world, offering a chance to explore underwater landscapes teeming with marine life and breathtaking coral reefs.

There is lots on offer from great muck diving through to vast coral reefs and ……. Hammerhead sharks.

My wife, Liz, and I began our journey back in October 2022 with four dives in and around Ambon having flown in from Jakarta. Ambon, where we boarded the Coralia, is located in the Maluku Islands. Formerly Dutch Amboina, it is the capital and largest city of the Indonesian province of Maluku.

This port city is also known as Ambon Manise, which means "beautiful" or "pretty" Ambon; it's population is around 330,000 and it has a well serviced domestic airport.

Ambon is renowned for its world class muck diving sites and diverse marine life, including rare and elusive creatures like the psychedelic frogfish and Rhinopias.

Along with the usual nudibranchs, frogfish, pipefish, octopuses and other creatures you typically see at good muck diving sites, we were lucky enough to see two different species of Rhinopias along with Bumblebee Shrimps and Donald Duck shrimps.

Ambon certainly lived up to its

Giant Stride
Banda Sea

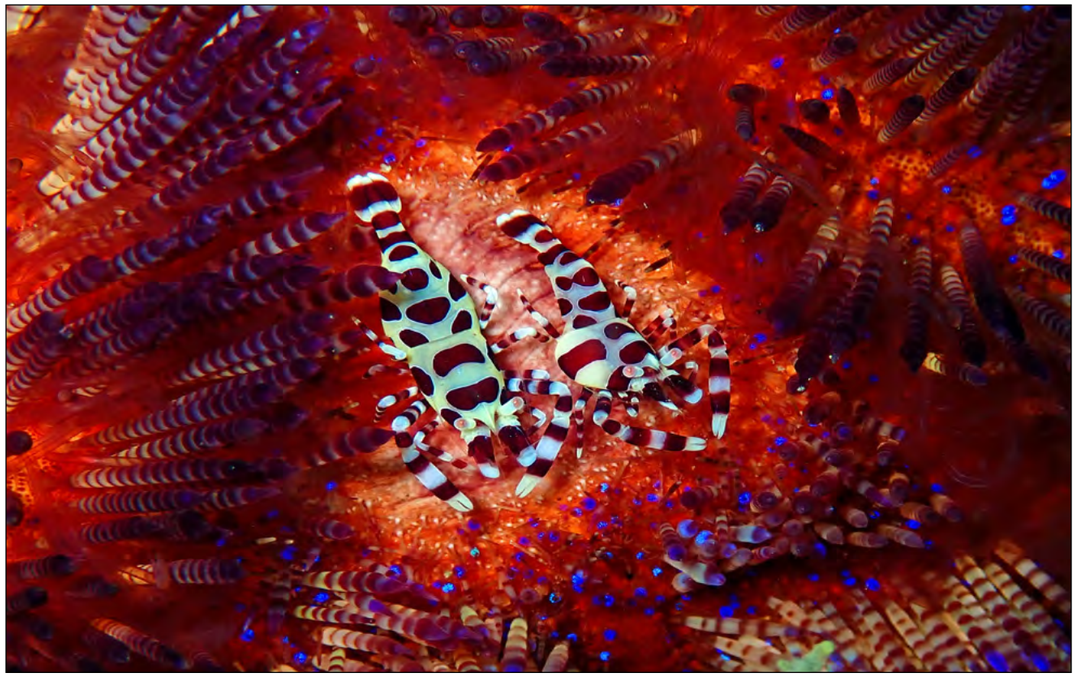
By: Mathew Kempton

reputation as a premier muck diving location.

After Ambon, we moved east onto Nusa Laut and the Banda Sea looking for, amongst other things, schooling Hammerheads! Although we didn't get to see the massive schools of Hammerheads you see in some photos we were not disappointed. Over 3-4 dives we did see a 2-3 Hamerheads as they swam up from the deep following the cooler currents towards the shallower depths.

The half dozen dives in that area also produced Eagle rays, Barracuda, a variety of species of Moray eel, large schools of reef fish and massive barrel sponges – the largest I've seen over my 800+ dives. Banda Niera was next.

Banda Neira, the capital of the Banda (Spice) Islands, is an old Dutch colony. This tiny island is home to a rich colonial, and somewhat turbulent, history; it's famous for its nutmeg production – a valuable spice back



By: Mathew Kempton

in the days of the Dutch East India Company.

Whilst there we visited an old Dutch fort, largely intact, dating back to the 1600s; the streets of Banda Neira still have old colonial Dutch canons lying around.

The dive sites around Banda Neira are beautiful for both macro and wide angle; we were able to explore a variety of dive sites, including the famous Lava Flow dive site.

The Lava Flow dive site features a stunning landscape of black volcanic rock formations that have been shaped by underwater currents over time.

This unique and otherworldly landscape provides an incredible backdrop for diving and is a must-see for any diver.

The Banda Jetty in Banda Neira is a must do night dive for the Mandarin Fish – there are lots of them; we also saw Bobtail squid, Blue ringed octopus, Stargazer and the usual assortment of nudibranchs.

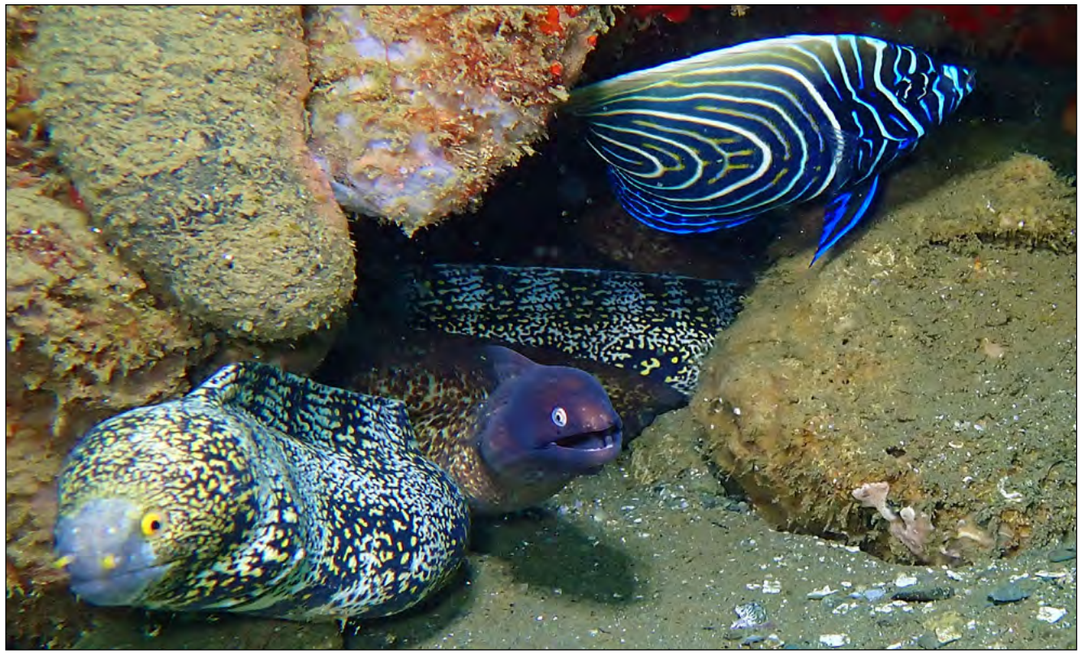
Next on the itinerary was the famous Manuk. Why is it famous? This is the most easterly volcano in Indonesia and is home to lots of birds and also LOTS of sea snakes; Black-banded sea kraits to be exact .

Early in the day they tend to be at their most active and hunt in packs – groups of 5-10 and more move together across the reef looking for small fish, crustaceans and other creatures that are hiding in the nooks and crevices of the reef.

They were very curious and we were approached by many snakes during the dives we did there.

Once they determined we weren't part of the reef and had nothing to offer they quickly moved on. Despite conjecture about the volcanic nature of the water around Manuk it's still not known exactly why there are so many snakes at the sites around Manuk.

Another popular dive site in the Banda Sea is the Hatta Reef, a vibrant and colorful coral reef that is home to an



By: Mathew Kempton

incredible variety of marine life. The Hatta Reef is located in the middle of the Banda Sea and offers a chance to see everything from large schools of fish to smaller, more elusive creatures.

Next up a few dives at the island of Nila and the sea mounts of Dusborgh and Nil Desparandum. These sea mounts are surrounded by deep water so we were hoping to see large pelagics here.

Sure enough there were plenty of Grey reef sharks around as well as large schools of barracuda, jack and tuna. There were also more massive barrel sponges and great expanses of beautiful hard corals.

The penultimate Forgotten Island we dived at was Dawera. You can dive just about anywhere around this island and find a fantastic dive site! Whilst the hard corals abound the soft corals are equally impressive.

Along with more schools of Barracuda, Jack and Tuna there were plenty of Batfish around; the odd Eagle ray cruised past as well as an unexpected Devil Ray. A couple of the sites here also had Ornate Ghost Pipefish and Denise Pygmy Seahorses on them. We completed our voyage with a dive at Saumlaki in the Tanimbar Islands.

A great muck dive on a flat sea bed of rubble, sand and odd coral outcrop with a huge variety of nudibranchs along with sea snakes and turtles.

Saumlaki is a town of about 15,000 people in the Tanimbar Islands Regency of Indonesia. It is the seat of Tanimbar Islands Regency, as well as the biggest town on the island of Yamdena. Like Ambon is has a well serviced domestic airport from which we flew back to Jakarta.

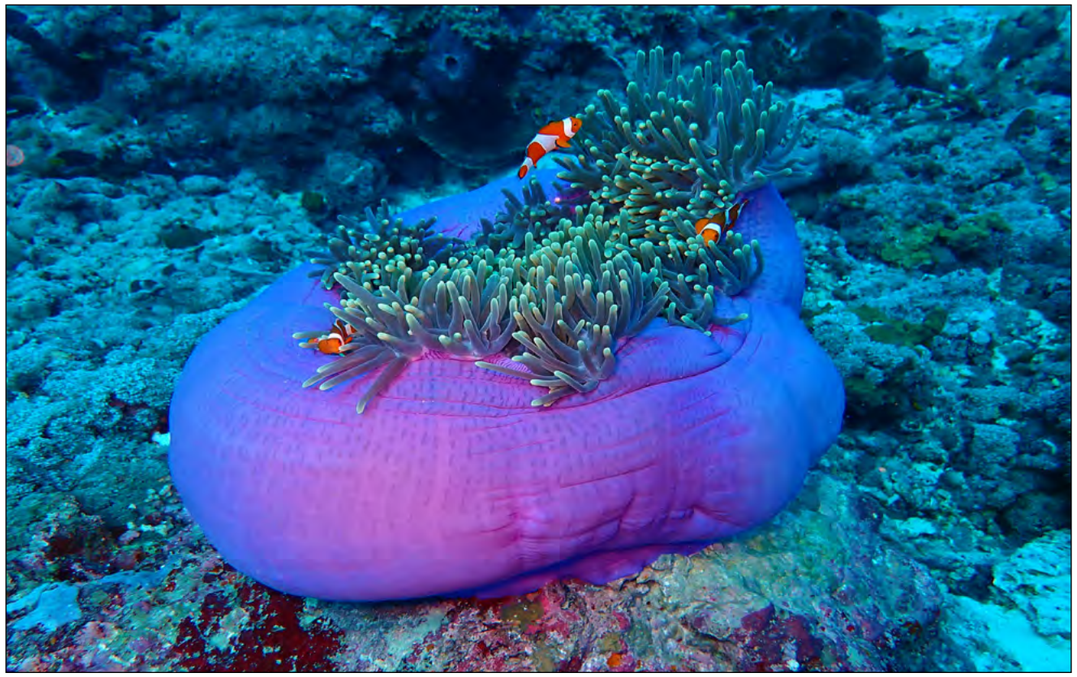
In addition to the incredible diving opportunities, the liveaboard trip aboard the Coralia was an adventure in itself. The boat is a beautifully crafted wooden vessel that offers comfortable and spacious cabins, delicious meals, and a range of amenities to ensure a very comfortable and enjoyable dive trip.

Our trip had a great mix of nationalities; Dutch, American, Canadian, German, Belgian and, of course, Indonesian – Liz and I were the only Aussies. It was great to be able to share stories, and swap tips about the best dive locations to explore and what sort of dive and camera rig suited different people. The crew on board the Coralia were friendly and knowledgeable, and did everything they could to ensure that our trip was an unforgettable experience.

A big thanks to our dive partners Greg and Anne from Denver, Colorado and our dive guide Billy from Manado! Overall, a 10-day liveaboard dive trip to Ambon, the Banda Sea, and the Forgotten Islands aboard the Coralia is an adventure that should not be missed. From exploring vibrant coral reefs and encountering rare marine life to learning about the region's rich history and enjoying the comforts of the Coralia, this trip offers something for every type of diver.

Whether you're an experienced diver looking for a new challenge or a beginner hoping to explore the underwater world for the first time, this trip will provide an unforgettable experience that you will cherish for a lifetime.

Giant Stride
Banda Sea



Giant Stride
SS Royal Shepherd

By: Graham Willis

The SS Royal Shepherd

Page 184 Dive Spots of New South Wales

The SS Royal Shepherd is one of Sydney's most accessible and compact wrecks. Given the wreck sits at around 28m you do not need any technical training to dive it, but you should be certified down to 30m. Given its depth it is also Nitrox friendly, assuming you are diving a 32% mix and using a PO2 of 1.4.

Chucky Kane

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By: Graham Willis

When I dived it in July this year, we had just had a long dry spell in Sydney and visibility at the wreck was of the order of 12-14 metres.

The wreck sits some 700 metres East of South Head and given its proximity to Sydney Harbour, visibility at the site does suffer after a period of rain.

The Shepherd was launched in 1853 in Scotland and left Scottish waters later that year bound for Australia. For the next 35 years or so the Royal Shepherd worked between Tasmania and Victoria as well as to and from Adelaide. It wasn't until 1885 that the ship ended up in Sydney.

By now the gloss had worn off this passenger/cargo ship and it was being used to get rid of rubbish and sewage outside the heads. In 1890 it was headed to Wollongong, to fill up with coal, towing another ship the Countess of Erroll.

At around 11 pm, having cleared the Heads, the Royal Shepherd struck the SS Hesketh which was loaded to the gunnels with coal. All too short a time later the Royal Shepherd paid a visit to Davy Jones' locker, where she now sits waiting for divers to visit her. It is good to know that there were no lives lost on either ship courtesy of this incident.

Interestingly the Captain, Thomas Hunter, had only recently got his ticket back after the SS Duckenfield, of which he was Captain, suffered the same fate and sank in 1889.

This time he was absolved of blame and the Captain of the SS Hesketh lost his ticket. Still I am not sure I would have been keen to jump on a ship with Captain Hunter at the helm! There is an excellent recount of the ship's history and the sinking on Michael McFadyen's Scuba Diving Website at: https://www.michaelmcfadyenscuba.info

The wreck itself is not hard to find with a depth sounder, given it is marked on charts and the location is provided on

Giant Stride
SS Royal Shepherd

By: Graham Willis

page 184 of Dive Spots of NSW.

The boiler is the structure that shows up most obviously on the depth sounder. If you descend, miss the wreck and the visibility is poor, you are up for a bit of a search on a somewhat featureless sandy bottom.
The bulk of the wreck is some 25 metres long and runs in a North-South Orientation.

There is a solitary winch where the bow was, at the Southern end, with nothing but sand between it and the boiler...I would suggest not really worth the time to visit.

Between the boiler and the propellor, despite the fact it is quite compact and only has a little of the hull intact, it is quite interesting.

You first see the large square boiler, which is a bit unusual. Pretty much every boiler I have ever seen on a wreck is cylindrical, so that's a bit different.

The boiler is pretty much intact and on the Northern side you will see all the tubes, used to conduct heat from the hot flue gases to the water surrounding the boiler drum so generating steam.

These tubes are worth a poke around because you never know what is living inside them. Moray eels, shrimps, small crustaceans and the like.

Immediately forward of the boiler is the engine, attached to which is a quite impressive flywheel.

From the bottom of the flywheel runs the propellor shaft which in turn heads out to the propellor and the rudder assembly.

As you look back down the wreck you will see the ribs of the hull on one side (right, as you look back towards the boiler) do protrude from the sand, but not to any great extent.
In terms of fish life, alth ough the sounder showed shoals of fish hanging around above the wreck, there is not a fiesta of life on the wreck itself.

A few Scorpion Cod, Mado, Stripeys, Bullseyes, Red Morwongs and a couple of small rays was pretty much all that was hanging around the wreck.
There are also some soft corals, anemones, and sea tulips around the boiler and flywheel.

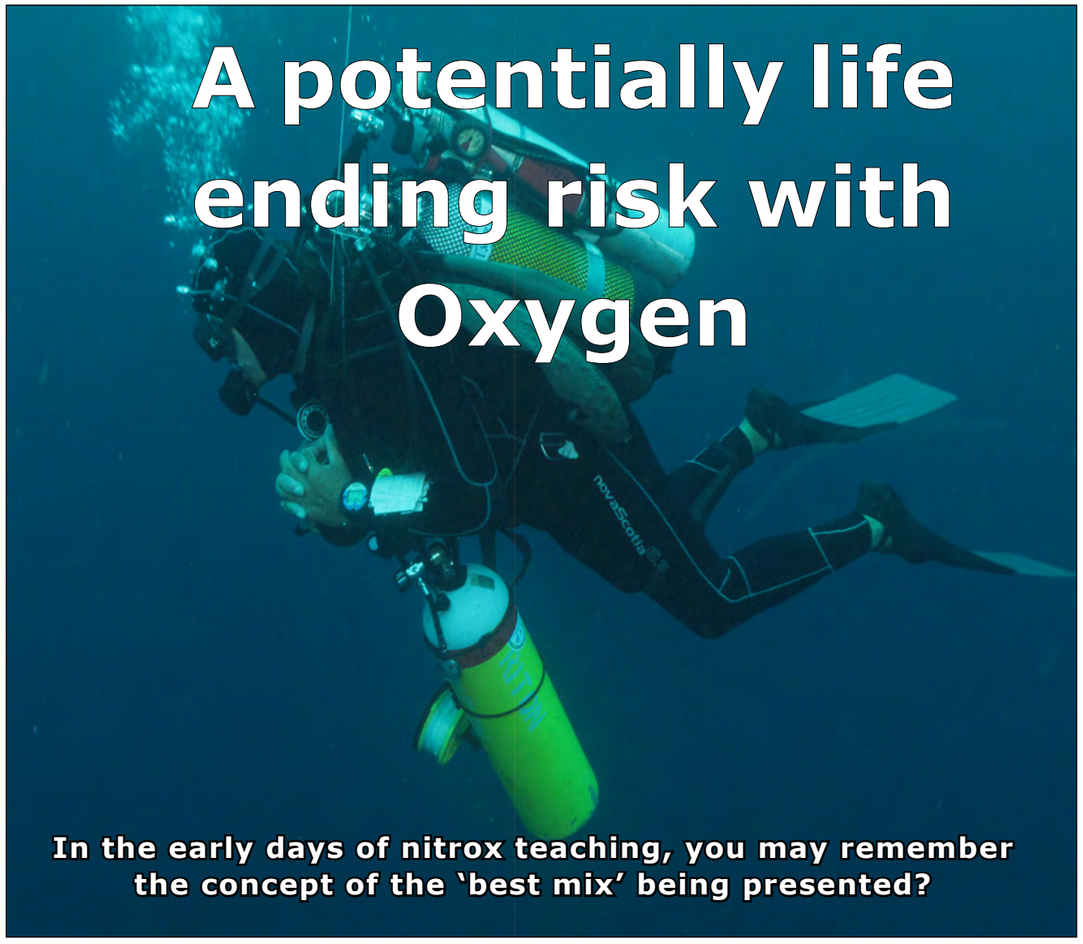
Like any wreck dive much of the interest is in the history of the ship and how it ended up being on the bottom of the ocean; the SS Royal Shepherd is no different. Is the Shepherd Sydney's best wreck dive?

No ...however it is very accessible, easy to navigate, relatively shallow compared to many and worth a visit.

As with any wreck please look but do not touch and absolutely do not remove anything from the wreck site.

A potentially life ending risk with Oxygen

By: Barry Coleman



In the early days of nitrox teaching, you may remember the concept of the 'best mix' being presented?

The idea that in order to maximise your benefit from diving nitrox (longest no stop times or smallest amount of decompression to be done) you dived the highest partial pressure of oxygen possible, and therefore the lowest amount of nitrogen in the breathing gas.

A simple premise which often lead to dive plans with anything up to 1.6 ata PO2's with the intent of gaining a few more minutes of no stop time.

Some technical divers still carry this concept with them even now, deliberately pushing all bottom gases to their limits of 1.4 ata or even beyond with the same reasoning - more oxygen = less inert gas = less decompression time. Here we'll take a look at why this logic could be considered both unwise and flawed.

One area is simple to grasp, the risks involved in CNS oxygen toxicity occurring in water. Technical dives can be long, can be hard work, and more or less mandate the use of high partial pressures during ascent and decompression. Oxygen at 6m for example.

A diver who has run a high bottom partial pressure will be arriving at his decompression switch points with a higher accumulated exposure and subsequently an increased risk of toxicity at this point in the dive (that it's true, could conceivably happen on even a low bottom PO2 dive if the wrong set of circumstances came together).

At least at this point in the profile a diver going symptomatic can switch to a lower gas, and a recovery/ rescue effort stands good chance of success.

Much worse case than this would be a diver running high bottom PO2 who began to experience symptoms at depth.

Down here there is no relief to a lower oxygen gas. In an overhead environment with no immediate shallow access, or with significant decompression in place, this will likely be a non-recoverable situation.

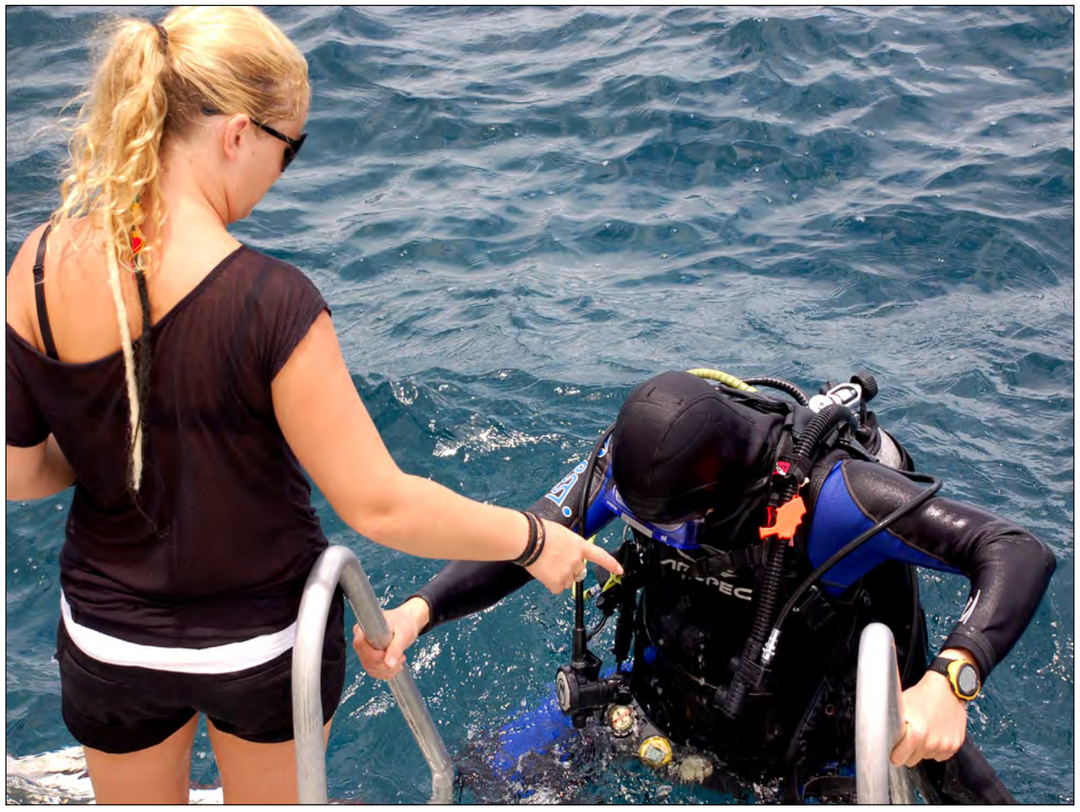
In the light of the above we have to evaluate whether taking a potentially life ending risk with oxygen is worth it for the perceived saving of literally a few minutes of decompression time. Answer, no.

Beyond toxicity issues there is a less obvious consideration concerning actual offgassing.

Oxygen is a pulmonary vasodilator and peripheral vasoconstrictor.
In normal life this allows good transfer of gas from lungs to bloodstream but stops unnecessary delivery to other tissues that already have enough O2.

At higher partial pressure though, things start to change. Blood vessels in the lungs open more than normal, fluid pressures increase, inflammation occurs, fluids accumulate in the alveoli and membranes thicken.

Pulmonary toxicity in other words, greatly slows gas exchange. In peripheral tissues the high PO2 starts to constrict blood vessels, vessels that were open early in the dive (ongassing phase) now



By: Barry Coleman

shut down and inhibit offgassing of the surrounding tissue.

These processes worsen over time and reverse only slowly.

The way to avoid this (especially long or multiple dive scenarios) is to keep bottom PO2"s low, in the 1.2 ata or less range seems prudent, thereby keeping these effects at bay and allowing you to arrive at your decompression with your body still in a condition to actually offgas.

You need the higher partials now to decompress effectively with, and while deco gases will also naturally cause your pulmonary and circulatory effectiveness to shut down, the time taken for this to occur can be greatly extended by cycling on and off of high gases ("air breaks ").

In summary then, we find the 'Best Mix' idea adding needless risk of CNS toxicity, whilst at the same time physiologically hindering the decompression that it was originally perceived to be reducing.

Keep your dive gas oxygen low and you can't hurt yourself whilst down there, with the bonus of being able to decompress cleaner and safer later on.

Safe and simple.

Technically Speaking
Tech Talk

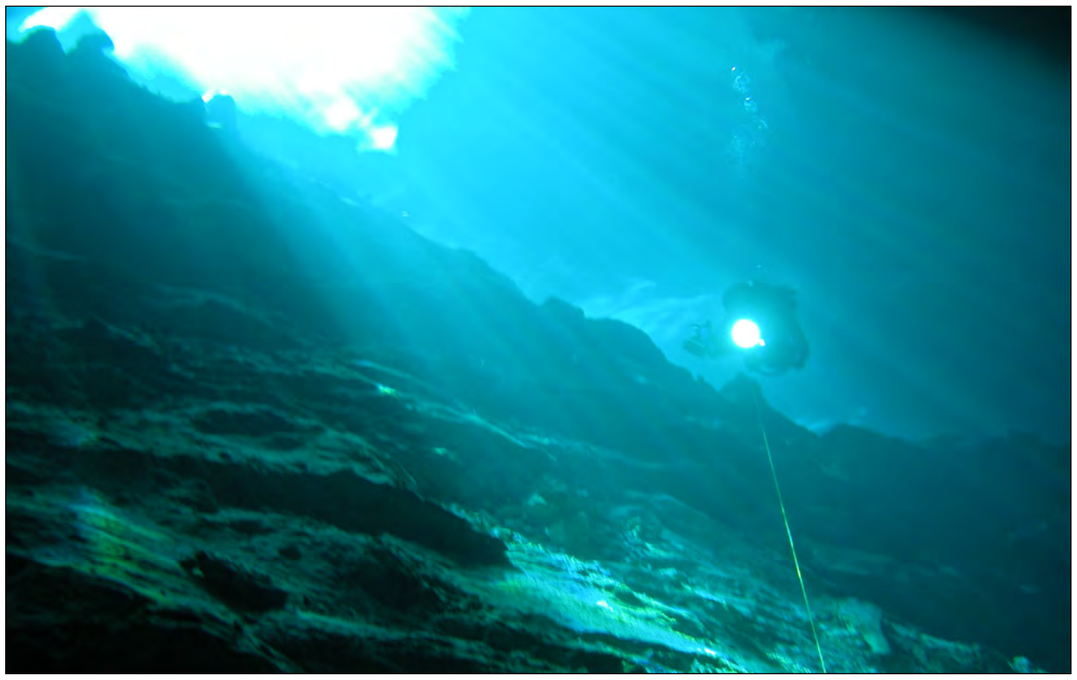


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Photo: Gerald Rambert

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Photo By: Nuno Gomes

Nuno Gomes

When I started diving I had no intention of doing any courses beyond the standard open water courses. I was doing the standard thing that many divers do – doing the course for the novelty of it and for the 't-shirt'.

The conditions and type of diving available in the Johannesburg area soon led me to dive at places such as Wondergat, Wetsgat and Boesmansgat. In order to explore such places safely, I needed to learn new techniques, such as cave diving, deep diving and trimix diving.

Later my commercial diving experience in Simon's Town introduced me to wreck diving, salvage, chamber operations and other types of diving equipment.

I can say that my technical diving career and experience was very gradual and unplanned. I did not chase certificates – they came as a result of the diving that I was doing. The main reason for having done technical diving was that I enjoyed the diving and the new knowledge, as well as the varied challenges and the experience of going where no one, or few, had been before.

Barry Coleman

What is technical diving? Only recently has it been generally agreed what the terminology 'tech diving' quantifies, and in time it will change with technology. Some would argue that all diving is technical as would a non-diver, and others not.

I started diving in Zimbabwe (then another name), in rivers and dams. Today diving in rivers is technical, considered as dangerous as cave diving for entrapment. So the adventure of looking at the world from a different perspective is why I started 'technical diving'.

All diving requires a mental state of mind – some say that it is 40% physical and 60% mental and I believe at times it may be more mental but then that could be said for all aspects of life! I generally do not like to get hung up on the terms and prefer to concentrate on diving.

Pieter Smith

I 'found my fins' in Wondergat and in those days training was thorough and you had to complete certain types and numbers of dives before you could enrol into the next course.

Diving Wondergat with depth limitations due to your level of qualification was not on for me and technical diving was the logical next step to get 'dive freedom'.

More than that, we were a group of enthusiastic divers that had a flair for exploring the unknown and the SA inland sites were not fully explored at that stage.

We were later approached by media and marine scientists to explore marine life on the edge of the SA continental shelf of Sodwana Bay with coelacanth findings a very small possibility at depths starting from 90msw.

I suppose personality type also plays a role and I for one do not like to be limited in what I do. Technical diving is an extreme sport which gives you freedom and intensity.

Pieter Venter

I did my first dive course in the freezing waters of the Cape. After five dives seeing only concrete blocks in Mossel Bay harbour I was qualified, but not hooked. A few years later my staff convinced me to enroll on a CMAS 1 star course with them and I have never looked back. During these lectures we heard about

Archimedes's principle, Boyle's law, Charles's law and especially about Dalton's and Henry's laws. Suddenly 'right hand release' and 'equalise early and often' faded into the background as we now understood why these actions were necessary. A whole new world opened up, above and below the surface. Interesting courses like compressor and chamber operator and gas blending suddenly came into existence. Midweek club social events were spent hanging on the lips of the 'old divers' telling tales about the 'rapture of the deep' and the whole new unexplored world which exists below 30m.

Our student group had a number of yuppies in it and so the stage was set. My yuppie buddies had the money and we made the time available to dive at every opportunity and in every hole we could find with water in it. Diving in Wondergat on three consecutive weekends was not an uncommon event. Low and no viz dives in the sand river on the other weekends to fill in the gaps was the norm. I used to fly quite a lot in those days and every minute in the air was used to scan the ground below for potential holes to dive in. We were like boys waiting for their 16th birthday so they could get a motorcycle license.

Our club was very strict on course entry prerequisites, but finally one day, there I was, sitting in a class, enrolled on a trimix course, with the unsung legends and true pioneers of trimix diving in South Africa – Rehan Bouwer, Johny van der Walt, Roly Nyman and Nico Brandt as my instructors. Finally, I was in 'heaven.' Other trimix and cave icons of the day, who we absolutely worshipped, were guys like Boetie Scheun, Dietloff Guiliomee, Frank Slabbert, Jaap Barnard and of course Nuno Gomes. Rehan would not sign us off unless we had also dived trimix in the sea, which is how we ended up in Sodwana Bay. But that's a whole other story.

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By: PADI

Holiday Gifting

Give the Gift of Scuba Diving

Have you almost completed your Christmas shopping but are still drawing a blank with that one person who seems impossible to buy for? Or are you thinking, “I can’t buy them socks again”?

If so, don’t worry, you are not alone, and we’ve all been there!

Some of the best holiday gifting ideas are not physical products but experiences.

How incredible is it to allow someone to try something new and something that you can do together?

Take a breath this holiday season and make the underwater connection with someone you love by gifting the gift of scuba diving!

Scuba diving is more than just a leisure activity; it’s a journey into a mesmerizing world hidden beneath the waves.

Imagine exploring vibrant coral reefs, encountering colorful marine life, and experiencing the weightlessness that comes with diving beneath the surface.

By giving the gift of scuba diving, you’re not just presenting a one-time experience, but an opportunity to embark on a thrilling adventure together.

Unlock a Lifetime of Underwater Adventures

Getting your PADI Open Water Certification together ensures a lifetime of underwater adventures in the future too.

It’s not just about the present moment; it’s an investment in the future, enabling you to explore the world’s oceans and dive sites together.

Whether it’s exploring mysterious shipwrecks, swimming alongside majestic sea turtles, or witnessing the delicate dance of underwater creatures, every dive becomes a shared memory that will last a lifetime.

Holiday Gifting that Creates Connections

Create a lasting connection with your family, friends, and the blue planet. With your dive certification, you can explore the underwater world together and discover what’s worth saving.

Once you have seen what lies beneath the surface, don’t be surprised if you become addicted!

PADI Reactivate eLearning

Is there a diver in your life who hasn’t been underwater recently? Why not help them get back into diving and back underwater by holiday gifting them the PADI Reactivate eLearning? Reactivate is an online course that will refresh their skills and knowledge and reinspire them to get back to doing what they love most.

This Christmas, let them unwrap the gift of knowledge and discovery. With PADI’s online courses, they can dive into exciting experiences and learn at their own pace.

From diving essentials to underwater photography, there’s a course for every passion.

Visit padi.com and purchase a Holiday Gift Pass to make this Christmas

Give a PADI eLearning Gift Pass!

This holiday season, surprise the ocean lover and adventure seeker in your life with the perfect Xmas gift - a PADI eLearning® Gift Pass!

With PADI's online courses, they can dive into exciting experiences and learn at their own pace. From diving essentials to underwater photography, there's a course for every passion.

This Christmas, let them unwrap the gift of knowledge and discovery.

Purchase a Holiday Gift Pass now and make this Xmas unforgettable!

PADI | SEEK ADVENTURE. SAVE THE OCEAN.℠

By: Gerrit Maritz

Compressor Operators

We all learn at the very beginning of scuba training that we should always check the air that we are about to use after we have kitted up by breathing it and smelling it. Yet still many of us do not even do these basic precautionary measures to ensure that the air we are about to breathe is 'clean'.

We generally assume that the air is uncontaminated because the operators will not knowingly be so reckless as to put us divers in such a dangerous position.

We always trust that the operator is competent and that the equipment used to fill our cylinders is in good working order.

How many of us have ever wondered what it entails to be regarded as a competent compressor operator and to what standards his/ her work must be carried out? Because of the expense involved in running such a facility, operators do try to cut corners, but when does it become dangerous to all involved?

Not surprisingly, there are many rules and regulations to be adhered to by compressor operators, their employers and to which the equipment and facilities must conform. In this article I will try to explain the duties and responsibilities of operators and also you, the scuba diver, whose cylinders are being filled.

Have you ever tried to quantify how much pressure is contained in your scuba cylinder?

I am sure many have, but just to recap... the pressure contained within your car tires fitted is usually between 1, 8 and 2, 2 bar. Should you walk around your car and kick the tires as we sometimes do, you realise that they are rather hard.

Now multiply that by 100 and you will get the idea of how much pressure is actually being contained in your cylinder and how important it is to have a cylinder that is safe to use and to use equipment that is able to handle these extreme pressures.

The owners of such equipment bear a heavy burden with regards to the safekeeping, operating of and air quality delivered by the equipment.

Machinery must be safeguarded

What this basically entails is that the owner and user must ensure that the equipment used is suitable for the intended use and that it is properly installed and maintained in order to prevent the exposure of persons to hazardous or potentially hazardous conditions or circumstances.

All exposed and dangerous parts of machinery which are within the normal reach of a person must be fenced off or insulated using screens or fencing.

All safety equipment must be kept in a good working condition and, should the machinery used be considered to be a danger to other persons, the employer or user of such machinery must enclose the machinery and doors kept closed and locked.

Furthermore, no one is allowed to remove any safety equipment from the machinery.

Operation of machinery

The owner/employer or user of machinery must ensure that all persons operating the machinery are fully aware of the dangers and are able to take precautionary measures should any dangerous situation occur.

A person that operates a machine that requires constant attention to avoid accidents may not leave his post except when he is relieved by another competent and trained person.

An employer or user of machinery must make sure that there is a responsible person present at all times in order to avoid accidents while the machinery is in operation.

No operator may hand over his duties to another person that is not fully trained in the use of the machine. Measures must be taken by the employer/owner that the machinery cannot be started accidentally or set in motion and if the machinery is likely to threaten safety of persons such machinery must be stopped.

Devices to start and stop machinery

An employer or user of machinery must provide devices to start and stop machinery that must be in a position where it can be easily reached by the operator, and it must be placed or angled so that the machinery cannot be started accidentally.

When work is being carried on the machine, the machine must be rendered in- operable to ensure the safety of person carrying out repairs.

These are just the basic safety precautions that must be adhered to by the operator and the owner of machinery that is involved with compressed gasses, and in our case, compressed breathing gas.

Ultimately, the owner of the compressor and the operator are responsible and hence liable for the safety of the compressor's operation and the quality of the air as set out in regulations.

However, you should still check the air that you are about to use, and a good rule of thumb is that when the compressor and equipment looks old and uncared for, the chances are good that you are going to get contaminated air.

Keep your eyes open and remember to never take chances with what you breathe as your life literally depends on it, and remember to have your cylinders checked yearly – do not het a surprise if someday in the future you cannot dive due to the fact that your cylinder is out of date and no amount of persuasion will help you to have it filled.

Choose your service provider well and you will not have any problems, but be warned – there are some unscrupulous dive operators and business owners out there who are only interested in your money and not your wellbeing.

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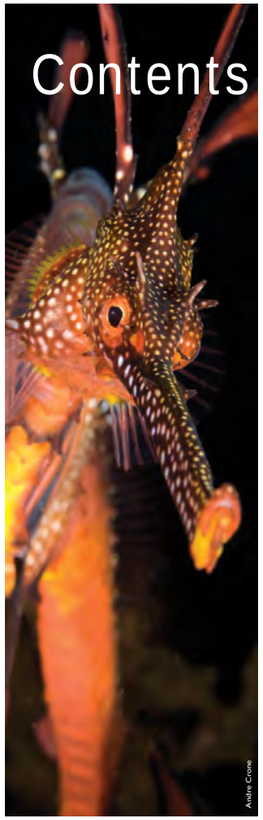
Contents



GENERAL

NORTH COAST

CENTRAL COAST

SYDNEY & SURROUNDINGS

Northern Beaches

Sydney Harbour

Southern Beaches

SOUTH COAST

Marine Species Guide

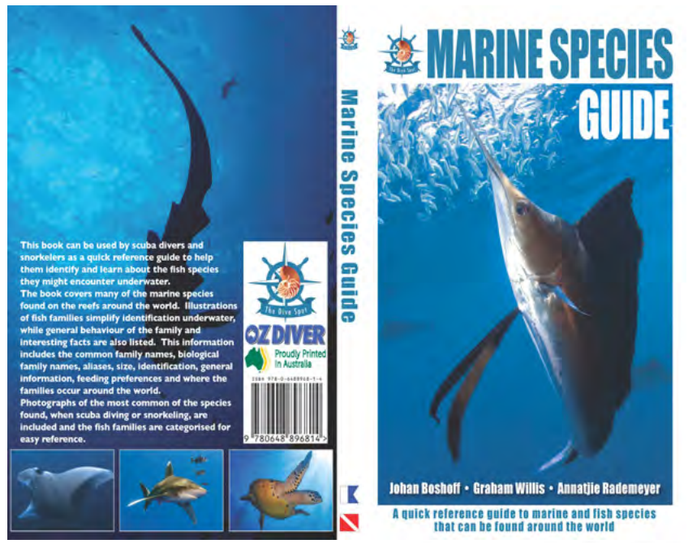
This book can be used by scuba divers and snorkelers as a quick reference guide to help them identify and learn about the fish species they might encounter underwater.

The book covers many of the marine species found on the reefs around the world. Illustrations of fish families simplify identification underwater, while general behaviour of the family and interesting facts are also listed.

This information includes the common family names, biological family names, aliases, size, identification, general information, feeding preferences and where the families occur around the world.

Photographs of the most common of the species found, when scuba diving or snorkeling, are included and the fish families are categorised for easy reference.

To buy your copy for $ 25, visit www.ozdiver.com.au or email info@ozdiver.com.au



Scubapro A2 Dive Computer

There is a saying "big things come in small packages" and that is what the Scubapro A2 Dive Computer is: a big computer in a small housing. I always fancied small dive computers and when it was time for an upgrade, I found exactly what I needed.

By Johan Boshoff

I needed a watch type computer that did everything I wanted it to do. I was looking for a dive computer for recreational scuba diving but that could also be used for my technical diving and the Scubapro A2 Dive Computer offered everything. From recreational diving to full technical diving and it even works for my rebreather.

The Scubapro A2 Dive Computer is a fully functional wristwatch-style dive computer with a high-resolution, hybrid matrix display with large numbers, making it easy to read underwater, even in adverse conditions, and even easier to use and navigate.

You can choose from six dive modes: Scuba, Gauge, Freediving, Trimix, Sidemount and CCR. Its Predictive Multi-Gas algorithm can accommodate up to eight gases (21-100% O2) plus two in CCR mode. The digital tilt-compensated compass provides easy navigation underwater or on the surface. And when the diving is done, cord-free connectivity using a Bluetooth LE interface lets you easily sync with a PC, Mac, Android or iPhone, for data downloading and more.
The A2 has wireless air integration which can handle multiple transmitters while monitoring tank pressure and providing true remaining bottom time based on a diver's workload from breathing. An optional heart-rate monitor belt allows the A2 to record heartbeat and skin temperature, providing even more vital, individualized information that can be factored into your decompression calculation.

Features
•Wireless air-integration can handle multiple transmitters, monitor tank pressure and provide true remaining bottom time (RBT) calculations based on the workload from breathing
•Digital tilt-compensated 3D compass allows for easy navigation
•Predictive Multi-Gas ZH-L16 ADT MB algorithm accommodates eight gases (21-100% O2) plus two in CCR mode
•PDIS (Profile Dependent Intermediate Stops) calculates an intermediate stop based on N2 loading, current and previous dives and breathing mixes for better diving
•Microbubble levels let you adjust the level of conservatism in the algorithm to match your experience level, age and physical conditioning
•Heart rate monitor records heartbeat and skin temperature (with SCUBAPRO HRM Belt only) that can be factored into the decompression calculation along with workload
•Multiple Dive modes: Scuba, Gauge, Apnea, Trimix, Sidemount, CCR
•Sport mode offers sport-related functions like a swim stroke counter, activity counter (pedometer) and stopwatch
•High-resolution hybrid matrix display with large numbers is easy to read under water, even in adverse conditions
•Intuitive menu and four button controls make it easy to navigate through the system
•Lightweight design is so comfortable on the wrist you won't want to take it off
•Modern design with full watch functions is perfect for topside time-keeping as well as underwater data tracking
•Max Operating Depth: 394ft/120m
•Bluetooth Low Energy interface lets you download dives to any iOS or Android device or PC/Mac
•Firmware can be user-updated by going to scubapro.com
•CR2450 battery is rated for up to two years/300 dives
•Included: Protection foil, Quick Card, Arm Strap Extension, Read First (user manual is available online).
Optional equipment: Transmitter and heart rate belt

If watch type dive computers is your thing, then this one is for you.

A DIVER'S GUIDE TO THE WORLD

Over the course of 14 months, National Geographic dive travel experts Carrie Miller and Chris Taylor traveled to 50 inspirational locations around the world, spending more than 250 hours underwater, to create their one-of-a-kind guidebook: A DIVER'S GUIDE TO THE WORLD: Remarkable Dive Travel Destinations Above and Beneath the Surface.

This book was born from love—a love of travel and a love of the ocean, the phantasmagorical blue expanse that covers more than 70 percent of our planet's surface, unexplored and unprotected, mysterious and magical.

Although the land and sea are wonderfully and inextricably interconnected, travelers tend to visit one or the other. Scuba divers seek out underwater realms, impatiently counting down surface intervals until their next dive. Land-lovers might venture out for a snorkel or sail, but they're glimpsing only a pixel of the bigger picture. Exploring both underwater and on land is the most holistic way of experiencing a destination and the interconnectedness between the green and blue.

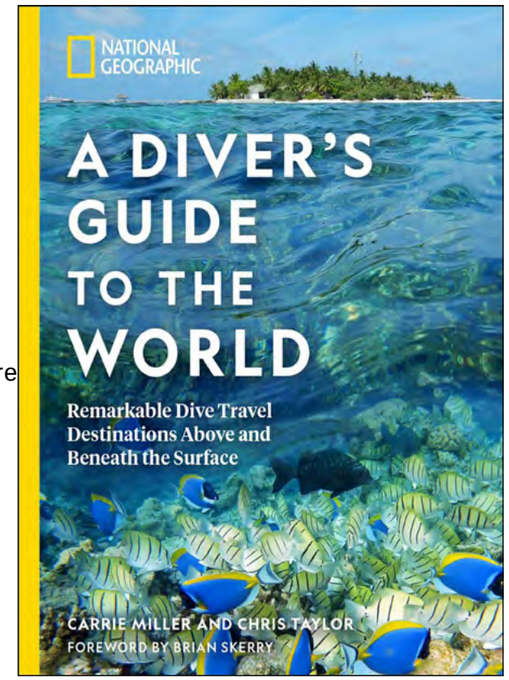
This is a book for those explorations—for ocean travelers. It's a different kind of guidebook, written for divers who like to travel, divers traveling with non-diving companions, and travelers with an interest in the underwater world.

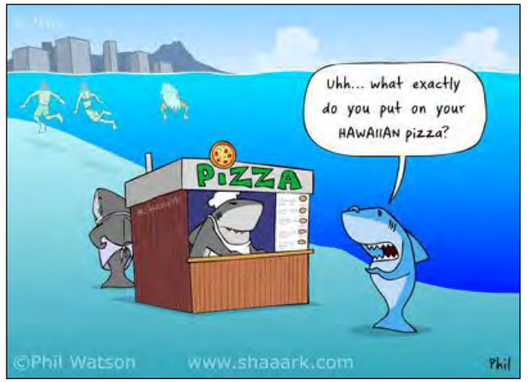
Each of the 50 locations is its own chapter – marvel at manta rays and dragons in Komodo; learn martial arts and go shore-diving in Okinawa; go on a tour of WWII history on land and underwater in the Solomon Islands; linger in the land and sea gardens of Bormes-les-Mimosas, France; and road-trip around the marine reserves and coastal towns of New Zealand's North Island.

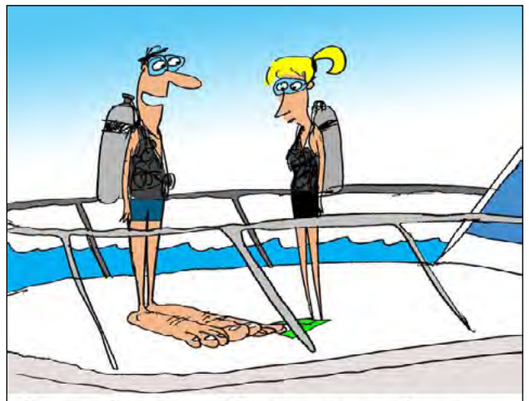
Each chapter contains compelling stories, stunning National Geographic photography, and expert advice, including travel tips, dive information, and activity suggestions, from remarkable shared experiences to solo excursions if divers and travelers choose to go their own ways for an afternoon.

Miller and Taylor believe in conservation through exploration, so each location also highlights a global issue such as the necessity of protecting remarkable ecosystems like coral reefs and mangroves, to sea turtle and shark conservation. They feature scientists and organizations that are striving to make a difference and suggest ways you can learn more and get involved.
Whether you're dreaming of your next dive holiday or looking to travel the world a little differently, this book will inspire you to get out and explore—above and beneath the surface!

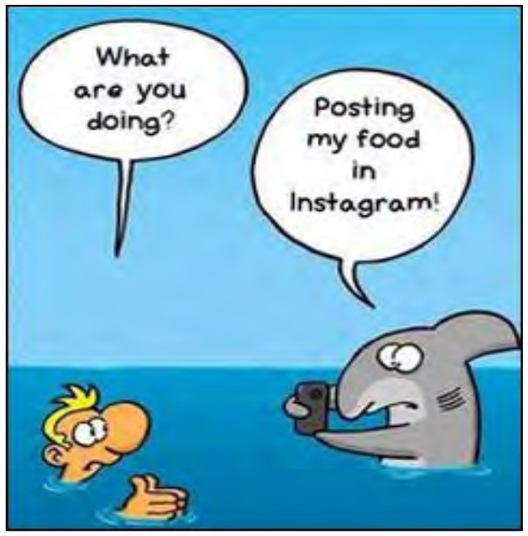
A DIVER'S GUIDE TO THE WORLD
By Carrie Miller and Chris Taylor (www.beneaththesurface.media)
Publisher: National Geographic Books
Release Date: December 6, 2022
The book is available from Amazon or https://books.disney.com





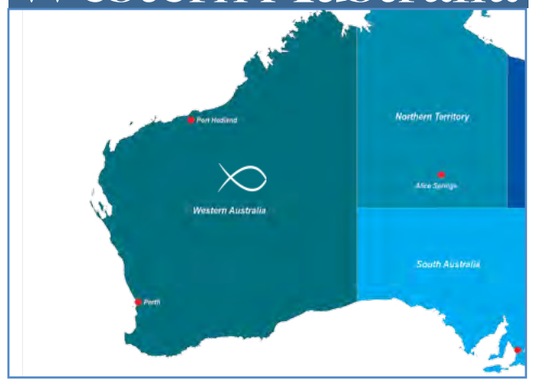


"I used to be self conscious about my giant feet. But, they've been a real asset since I started scuba diving."



Send your funnies to info@ozdiver.com.au

Western Australia



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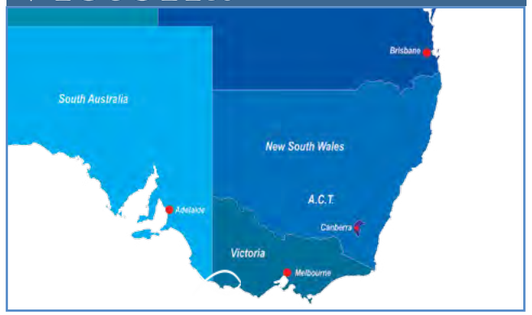

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New South Wales

Sydney

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Web: www.feetfirstdive.com.au

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South West Rocks Dive Centre

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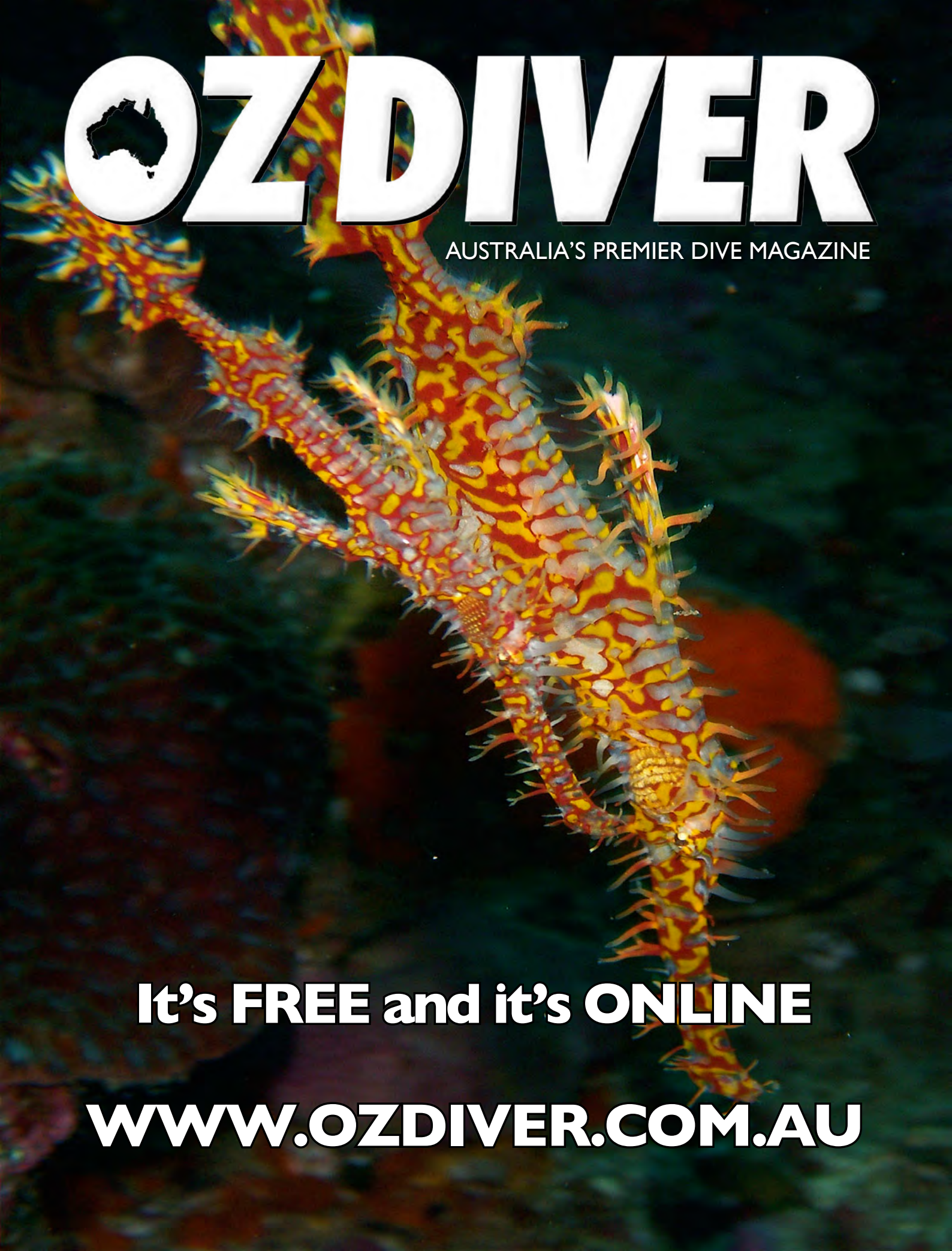
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