April / June 2022

OZDIVER

AUSTRALIA'S PREMIER DIVE MAGAZINE

GREAT BARRIER REEF

KOMODO

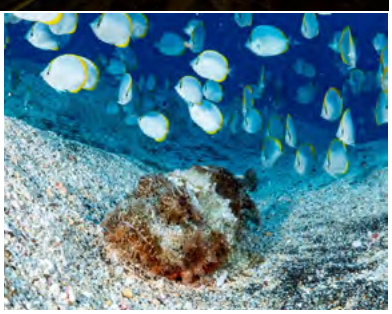
DIVING TASMANIA

THE SCARY LOOKING SHARK

REEF-BUILDING

GALAPAGOS



April / June 2022 Edition

Editor's Deco Stop

Being the editor of OZDIVER has been a huge challenge all along, but I have just faced the biggest challenge so far.

Living in Western Australia, with 2 years of basically no traveling (Western Australia had more restrictions on traveling than the rest of Australia) putting a magazine together has been an enormous challenge.

But luckily with almost 20 years being an editor of a dive magazine I have built up a number of contacts and writers that made it possible for me to continue producing a great magazine throughout this time where the whole world went mad.

But now I can see a light at the end of the tunnel where we can start traveling again, start taking photos and write articles for the thousands of readers we have all over the world.

Thanks to all the contributors and the OZDiver team that have made this last 2 years possible. And, a special thanks to all the operators and advertisers that supported us over these last years.

I hope that you enjoy the magazine and from this edition onwards it can only get better. Famous last words.....

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Johan Boshoff

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

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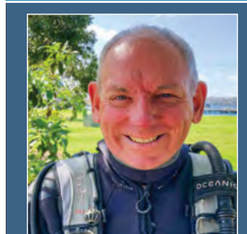
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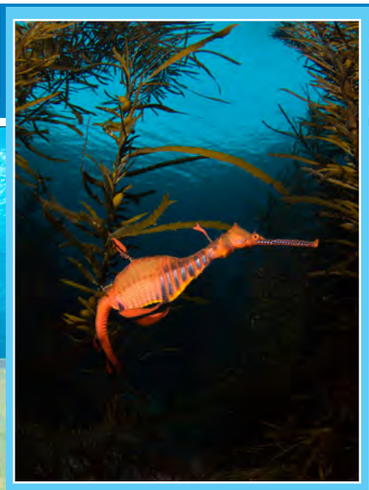
CONTENTS



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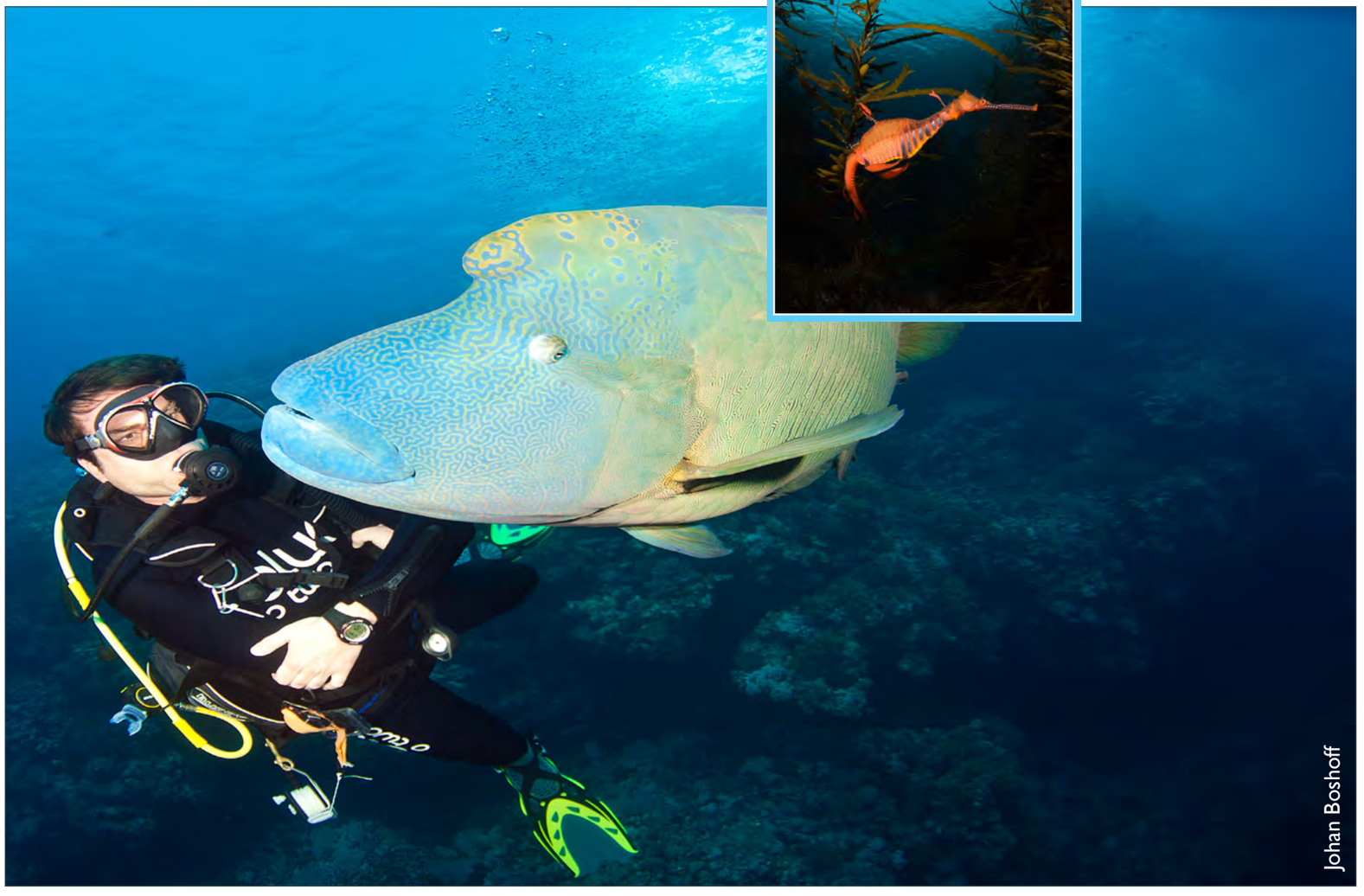
Andre Crone



Johan Boshoff

Diving Tasmania - Pg 15

Galapagos - Pg 45

Komodo - Pg 63

Great Barrier Reef - Pg 79

The Scary Looking Shark - Pg 109

By: DAN

Divers Adrift: Surviving Being Lost at Sea

Should you find yourself lost at sea, here's what you need to know to survive.

Assess Your Situation
The first step in any survival situation is to take in all the information vailable to you. If you are lost without the knowledge that a vessel is actively looking for you it may be wise to start thinking about nearby shore. With near-coastal charters, land may be just a short swim away.

Extended exposure to the elements means dehydration, loss of body heat, exposure to sun and lack of food and water.

You'll want to look at what you have for signalling devices and exposure protection first; your most important task is to signal a vessel, but you'll need to avoid becoming too sunburned or cold in the process.

Should your attempts to signal a passing vessel fail you'll want to ensure you're as warm and uninjured as possible while you wait for a search party to locate you.

Keep Calm and Float On
Keeping a cool head may be the most important thing to do in any emergency situation. Once you've assessed your situation and discovered that you are lost at sea it's critical that you take a deep breath and force yourself to think as clearly and rationally as possible.

It's a common occurrence in some areas to be out of sight of a dive vessel at times.

It may be the case that the crew has a careful eye on you from a higher vantage point (the view from a tall wheelhouse is much better than that of a diver floating on the surface), or they may have gone after another lost diver but still know your location.

At night a vessel may run with minimal lights to preserve the crew's night vision, and you may have to look for red and green side markers to spot them. In case you have been lost by your vessel, panic can quickly make your situation dangerous.

Take a deep breath, locate and grab hold of your buddy, make yourself positively buoyant and as comfortable as possible, and prepare for your next step.

Hope for the Best, Prepare for the Worst
If it's apparent that help will not arrive very soon, it's time to begin planning for the worst-case scenario. Ditch your weights and extraneous gear (if you haven't already), inflate your BCD and lie back on it to keep yourself out of the water as much as possible.

Tie your BCD to your buddy's with a piece of line from a reel or a clip — positive outcomes in survival situations are more likely in groups. Stay close together for warmth and to help each other deal with any issues that arise.

You'll be able to survive for about three days without water and three weeks without food. Depending on when and where you've been stranded exposure protection will most likely be your first concern.

Keep your exposure suit of choice on, minimise unnecessary movement, and pull your legs toward your torso and hug them to minimise heat loss. You can find some protection from the sun by holding up a fin, a piece of a wetsuit or some other light piece of gear.

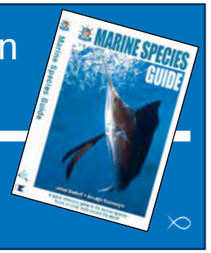
It's unlikely that you'll be able to source water or food while floating, so focus on staying warm and close to your buddy.

Make Yourself Visible
After you've prepared yourself to spend the night out, it's time to make yourself easy to find. Focus on low-energy signalling devices; you'll want to save your strength as much as possible. Surface marker buoys, dye markers, strobes and flashlights are great.

Any shiny object (even a mask or dive computer) can be used to reflect light at passing vessels, and a brightly coloured fin waved in the air can get the attention of someone much more effectively than your hand. At night a flashlight shined up into a tall surface marker will illuminate it and make for an excellent signalling device, and noise-makers such as whistles can attract the attention of rescuers amid the din of wind and surf.

Return to Diving Safely: A DAN Campaign
If you are in the process of planning an overseas diving holiday as international borders begin to re-open, be sure to take the time to review DAN's Return to Diving Safely Campaign at www.DAN.org/return.

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 Advanced Diving Conference & OZDive Show

October 1-2, 2022

Venue: MCEC

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IMPORTANT ANNOUNCEMENT

Thanks to efforts of the OZTek/OZDive Show team and the support of the Victorian Government, we have qualified for COVID Event Cancellation Insurance.

This means all exhibitors and ticket holders will receive 100% refund in the unlikely event the show is cancelled due to COVID 19. In these uncertain times, it can be hard to plan ahead but now, we can all move forward with confidence.

Worst Case Scenario?
If the show is prevented due to COVID, we will not hold your money for a future event
but be able to return it in full.
Sign up for our newsletter or tune in to the OZDive Podcast for up-to-date announcements on tickets, competitions, speakers and workshops.

Facebook / Instagram & Twitter Websites: OZTek.com.au & OZDiveShow.com.au

What are you waiting for?
Come on In ... the water is fine!
October 1-2, 2022
Venue: MCEC
We look forward to bringing you the best show EVER!

Start Planning
October 1-2, 2022
Venue: MCEC

Shark Trust announce the Great Shark Snapshot

As part of their 25th anniversary celebrations, the Shark Trust are launching a brand-new community science initiative aimed at divers and snorkelers. The Great Shark Snapshot will take place during the last week of July. Divers from all over the world will be invited to record all the shark, ray and skate species that they see during that week.

The information of what they find over the week will be added to the Shark Trust's Shark Log. This will, over time, allow shark scientists to build a picture of species distribution and any changes that occur. Sharks are threatened by destructive fishing, climate change and habitat loss. The data collected during the Great Shark Snapshot will help scientists put effective conservation plans in place.

Dive clubs, centres, and boats can sign up to show their support for this exciting new event and advertise their planned dives on the Great Shark Snapshot registration page. Divers looking to join an event will be able to use the map to find Great Shark Snapshot dives taking place near them. As well as gathering vital data, the event will provide a chance to celebrate the incredible shark and ray species that live close to you.

The Great Shark Snapshot is a way for divers to get together, go diving, and do something to help shark conservation. Non-divers can get involved too. Shore based events can be organised so groups can explore their local beaches and search for egg-cases and record these over the week too. Every record can be added to the Shark Trust's Great Eggcase Hunt.

It is easy to join in. Just go diving between 24th and 31st July (inclusive) and record every shark, ray and skate that your dive group sees. If possible, take photos and some video footage too. The Shark Trust really want to see what species you encounter on your dives. Then make sure that you record your sightings on the Shark Trust Shark Log recordings website or on the new app (which is coming soon). If you need help identifying a species of shark or eggcase head over to the Shark Trust website where you will find ID guides to help you.

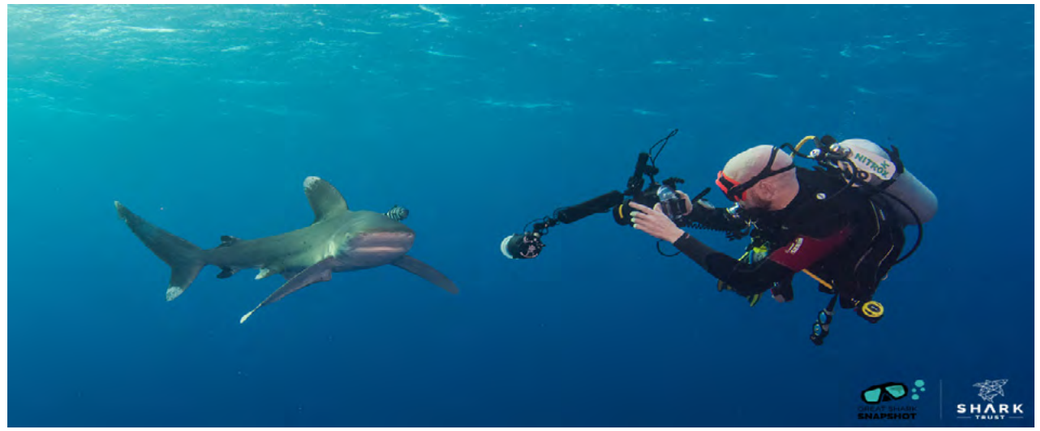
Join the shark and dive communities online and let other divers know what you saw during your dives. Remember to use the hashtag #GreatSharkSnapshot and the Shark Trust will share sightings over the week. It will be incredible to see what divers around the world see on their Great Shark Snapshot dives.

The Shark Trust is a UK-based charity that works tirelessly to safeguard the future of sharks, and their close cousins, the skates and rays, around the world. They have a vision: A future where sharks thrive within a globally healthy marine ecosystem. Let's work together to save sharks around the world.

Info About Great Shark Snapshot
Website: https://www.sharktrust.org/the-great-shark-snapshot Dates: 24th – 31st July 2022 inclusive
Link dive club registration: https://recording.sharktrust.org/snapshot/register Link event map: https://recording.sharktrust.org/snapshot/find
#GreatSharkSnaphot

Video link: https://www.youtube.com/watch?v=USQWkGUkRUI

If you would like further information or to arrange an interview, please contact caroline@sharktrust.org



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

visitsolomons.com.sb

Photo by Matt Smith

Dive the Continent
Dive OZ

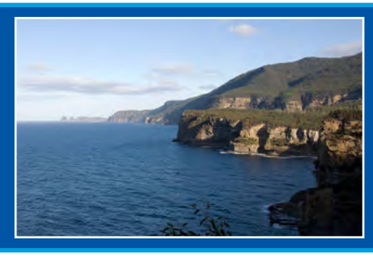
By: Andre Crone

Fairytales in 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

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By: Andre Crone

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 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 varying from clear white to dotted, it pigheadedly looks into the blue. It really has a funny

Dive the Continent
Dive OZ

By: Andre Crone

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 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

By: Andre Crone

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.

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

By: Andre Crone

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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DITCH THE GEAR

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By: Christo van Jaarsveld

Starfish

First of all let's look at the name: Echinodermata is made up of "echinos" and "derma". In Greek, echinos means hedgehog and derma means skin. This Phylum consists of animals that have a hedgehog type skin

This includes Starfish, Brittle stars, Sea urchins, Sea cucumbers, Feather-stars and Sea-lilies to name a few. The Class of the Starfish is Asteroidea, which is made up of the Greek names "aster" which means star and "eidos" which means form.

Starfish are very common in offshore waters and young starfish are often found on the shore at low water during the summer. Divers can find them in very shallow waters or tidal / rock pools to depths exceeding the normal sport diving depth. Their colour varies from pale reddish or orange to brownish, violet or even dark blue.

Most starfish have five tapered arms radiating from a central disc (there are some species that have many more than five arms). The little cushion stars that are so common along our shore have short arms and are pentagonal in shape.

The top surface of the starfish has a rough appearance owing to the short projecting spines. These are interspersed with soft protrusions that act as gills, and with minute tentacles that end in nippers. These nippers keep the protrusions clean so that oxygen may be easily extracted from the water. Besides dirt and sand that fall on starfish, there are in certain seasons a 'heavy rain' of living organisms that sink to the bottom to take up permanent residence there.

The resultant growth is often seen on crabs and shells, but starfish cannot afford to let such growth accumulate on them, so the nippers kill larvae and discard debris. Underneath the centre of the disc is the mouth.

A large groove runs down the underside of each arm; these grooves meet at the mouth. In each groove are many tube feet. These are flexible, extendible tubes used as legs.

Down the sides of the grooves are robust spines that can be pulled over the grooves to form a protective barrier for the fragile tube feet when danger is near. These tube feet operate by hydraulic pressure in a system filled with seawater.

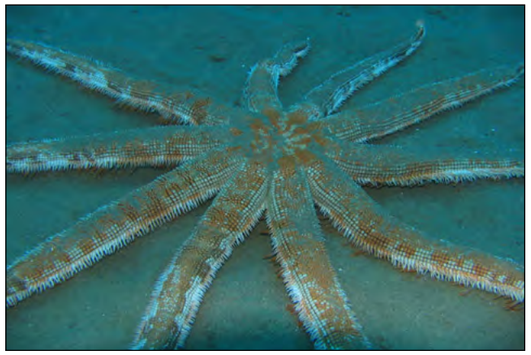
As the tide ebbs and flows, varying the depth of water above the starfish, water pressure in the system can be equalized with that of the sea outside. On top of the disc is a hole, which allows water to enter or leave the system.

The tube feet do not march in unison but irregularly stretch out and grasp rocks with the suckers located on the tip of each tube foot.

The suction is enough to enable a starfish to climb vertically up the glass of an aquarium. If you turn a starfish upside down, it will right itself by folding over and doing a slow, methodical somersault, or by rising up on the tips of the arms and then rolling over to land mouth down.

If a predator seizes an arm, a starfish is able to discard it and will later re-grow the lost arm. This ability to regenerate missing parts is so great, that an arm and a portion of the disc broken from a starfish can develop into a new complete starfish. Starfish are carnivorous and feed on a variety of animals, including shellfish, crabs, sponges and polyps of hydroids and corals.

Many pry open oysters or mussels by climbing on top of the shellfish and



grasping one shell with the suckers of an arm and the second shell with the suckers of another arm. A battle of strength ensues, with the powerful muscle of the bivalve keeping its shells tightly closed while the arms and many tube feet of the starfish endeavour to force them open.

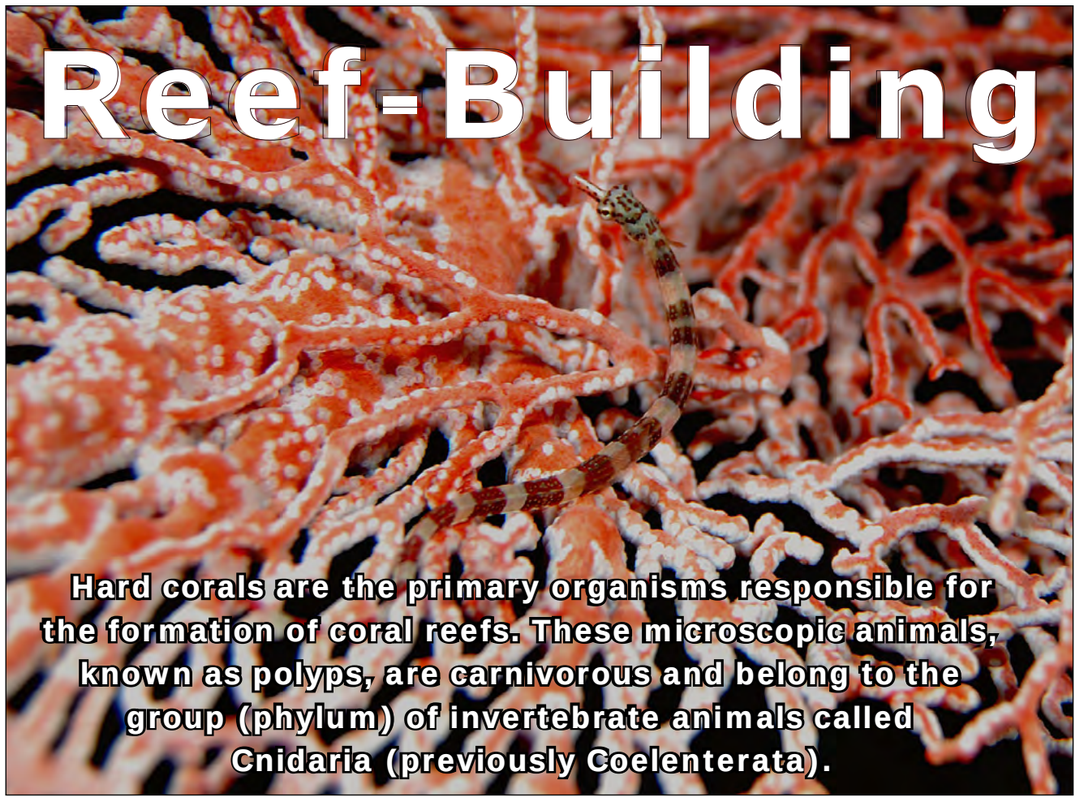
Starfish have no jaws or teeth with which to chew. They feed instead by pushing the stomach out of the mouth and smearing the food with enzymes. Partial digestion takes place outside the mouth.

A thick soup results, which the starfish drinks, leaving indigestible matter behind. Once the starfish has forced an opening as small as 0,1mm between the shells on an oyster or a mussel, the starfish oozes its stomach between them and begins to dissolve and consume the softer parts of the bivalve.

These include the muscle holding the shells closed. The bivalve then falls open and the starfish feeds at leisure.

By: Cristo van Jaarsveld

Reef-Building



Hard corals are the primary organisms responsible for the formation of coral reefs. These microscopic animals, known as polyps, are carnivorous and belong to the group (phylum) of invertebrate animals called Cnidaria (previously Coelenterata).

Some cnidaria are free-swimming while others are fixed or attached to the reef or substratum. A coral polyp is a sac-like structure with two cell layers – an outer surface or 'skin', known as the ectoderm, and an inner lining to the gut, called the endoderm.

The centre of the body consists of a cavity and comprises the gut, which has only a mouth, or orifice, and no anus.

The orifice is lined with tentacles which have stinging cells at the top which are used to capture and paralyze prey and to ward off predators. The principal diet of coral polyps is zooplankton.

Reef-building cnidarians, or hard corals, deposit limestone cases (skeletons) around and beneath their balloon-shaped bodies to support them and to provide protection for the polyps.

The skeletons are known as corallites, the walls of which are reinforced by a series of radial partitions known as septa – these provide corals with their geometric patterning. Corallites gather to form colonies which characterise the coral's shape and form.

However, only hermatypic corals of the order Scleractina build reefs through their relationship with tiny single-celled algae of the order Dinophyceae. The many different forms and colours within this species are collectively referred to as zooxanthellae.

Since coral polyps are transparent, it is the colour of the zooxanthellae within them that gives hard corals the various subtleties of colour they display when healthy.

Through photosynthesis the zooxanthellae are able to use sunlight to convert carbon dioxide and water into various sugars and oxygen. This added oxygen is absorbed by the coral polyp thereby increasing its respiration while generating the energy required to drive its life processes. In return, the zooxanthellae gain a home and protection from the coral polyp's limestone case and stinging tentacles.

However, for this relationship to flourish, the water must be sunlit, shallow and as free of suspension as possible, otherwise photosynthesis will be retarded – it will not occur below certain depths because of the loss of direct sunlight.

In addition, if the water temperature drops below 20C (68F) or rises above 29C (84F), the successful deposition of corallite by the coral polyps rapidly decreases. The forces of erosion soon overwhelm those of growth, and under these conditions it is not long before the coral reef begins to degenerate and die.

Nature sculpts hard corals into a seemingly endless array of shapes and forms and colours. Within a tropical reef there are corals which are huge and ponderous while others are lace-like, fragile and delicate; some are tiered and overbearing, others are flat and insignificant.

Many corals of the same species adopt different shapes in different locations and thus the environment the coral species finds itself in has a great influence on the shape it adopts.

In shallow areas where corals are exposed to wave action they are short and squat and often rounded so that they can contend with the forces of water movement.

In calmer waters these same species assume more delicate and avant-garde forms, generally as a means of maximising the amount of light required to generate life-giving photosynthesis. Another factor that helps to determine the shape is competition with other corals for space.

Non reef-building Cnidaria

Non reef-building corals that occur on coral reefs comprise ahermatypic hard corals, soft corals of the order Alcyonacea Octocorals, gorgonian corals of the orders Gorgonacea Octocorals and Pennatulacea, and black corals of the order Antipatharia.

Ahermatypic hard corals are omnipresent as they do not depend on zooxanthellae. Many belong to the family Dendrophyllidae, including the ubiquitous daisy or turret coral Dendrophyllia sp.

When this coral feeds, its tentacles are extended and its uninteresting turret-like structure is transformed into a bank of bright orange daisy-like flowers.

Another ahermatypic hard coral is the dark green, rugged, bush-like Tubastrea sp. which can grow up to 2m in diameter and in which many dainty tropical fish make their home.

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No photo is worth the destruction of the Reef or Marine Life

By: Greg De Valle

After experiencing the amazing world under the sea, many divers are prompted to take photos to share the experience and beauty with family and friends. Over the years, photographers have got a bad name for damaging reefs and the environment through poor diving practices or the "get the picture at all costs" attitude. Underwater photographers are ambassadors for the underwater realm. Very few people ever get the opportunity to see exactly what's under the sea. By sharing our images we educate others about the marine environment. With this in mind and with first hand knowledge of the fragile, if not threatened, state of the marine environment, we should not only be ambassadors but environmentally friendly ambassadors.

In order to be an ECD (environmentally correct diver) and underwater photographer, we need to consider two things: does my photograph portray a positive conservation message, and do I behave in an environmentally friendly manner underwater while taking photographs? Remember that on each dive boat there are at least 10 other divers watching you.

Positive photos show the subject in its natural environment, where it would normally be found behaving as nature intended it to. When we use models in our photos, it's important to ensure that the model looks like an ECD, with the gauges and octo tucked away while not touching the reef with any part of their body or gear. If they're interacting with an animal, make sure it's positive - no chasing, touching or riding.

The key to taking good photographs and being an ECD is having good diving ability – this means effortless buoyancy. All aspect of diving should be automatic before you even attempt to take photos. At the start of the dive, ensure all your diving practices are taken care of before you start taking photos. If it's been a while since you've dived I recommend you take 10 to 15 minutes just to get used to your equipment and get your buoyancy right. The first time you're going to use a camera underwater, I recommend that you take the housing down without the camera inside so you can test the housing is watertight and get used to the extra equipment. You must "practice" taking photos to learn how to position yourself without causing any damage to the corals. Refrain from using gloves (unless it's really cold).

In ideal conditions it's possible to hover motionless and take photos without touching the reef. The majority of the time our coastline conditions don't allow for motionless hovering, with factors such as currents and surges making this nearly impossible. Where possible, try using the surge when taking wide-angle shots by finding the lull between sets and using the lesser surge to push you into place. If this proves impossible, locate your subject and survey the area around the subject looking for a piece of solid reef that is bare or dead to use as a hand hold. Remember, all you need to hold on is two fingers – your thumb and index finger. Position yourself with your fins in an upward position, head down and kick with your fins to push your body against your finger hold. This helps to keep you in place when the surge is pulling you away.

Ensure that your fins and body aren't touching the reef. A good rule to remember is "right hand camera, hand left reef". Don't hold the camera with both hands. If you can, it's always best to position yourself on a sandy bottom. Make yourself negative by letting all the air out so you can stay on the bottom, but beware of the surge pushing you onto the reef. Many animals live in the sand, so always check that there's nothing under you before you settle down. Rubble areas are home to many animals, so settling on the bottom in these environments can hurt or kill them. A point to note is that corals are extremely slow growing, with soft corals averaging 1cm and hard corals averaging 5cm per year. Causing physical damage by breaking or kicking a coral can be removing year's worth of growth. Ever notice how things don't grow over one another on the reef and that there seems to be an order? This is achieved by each reef dwelling organism having toxins that repel the others. When we touch something and then touch another organism, we transfer these toxins which cause them to expend unnecessary energy to survive this chemical warfare.

When we take photos we try to "capture" the animals in the picture. We can be likened to hunters by the marine animals. Our body language and eagerness make us appear as dangerous animals – slow, steady approaches make us seem less threatening. This is applicable from the smallest critter up to the large mantas, sharks and dolphins.

The general rule of "do not touch" also applies to photography. By moving something to give you a better picture, you may be exposing it to being eaten or injured. Ask your local dive guide for advice, but remember when in doubt, there should be no doubt. Don't mistake a guide's eagerness to please for experience. Rather shoot your subject where it is or leave it for another dive. No photo is worth the destruction of the reef or marine life.

However, some subjects are hard to shoot without human intervention, like shark chumming. Ensure that you use operators who have sound conservation ethics. It's your right to question them as to their justification for interfering in the animals' natural behaviour.

We're discovering new practices all the time and understanding our role in the reef community as divers, so always try keeping up to date with the latest practices. What may have been acceptable behaviour in the past may be unacceptable today.

"Simply put you can't have a better experience! Everything is about service and maximizing your diving and snorkeling. The dives were amazing, and all the staff are first class. At Wakatobi they will accommodate any request, but you hardly need to make any since they have thought of essentially everything." ~ Dr. James and Laurie Benjamin

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GLOBAL NEWS

DAN Awards 2021 Bove Research Grant to Peter Buzzacott, Ph.D.

Divers Alert Network has awarded the 2021 DAN/Alfred Bove Research Grant for Cardiac Health in Scuba Diving to Peter Buzzacott, Ph.D., of Curtin University in Western Australia.

Dr. Buzzacott, formerly the director of injury monitoring and prevention at DAN, recently co-authored a paper with DAN researchers describing cardiac function in recreational divers.1 While the study contributed to our knowledge of cardiac function in healthy divers, the participants had been diving in the sea in water ranging in temperature from “bath warm” to “ice cold” and with variable depths and diver workloads. Buzzacott’s proposal is to build a swimming pool inside the new AU$4.6 million hyperbaric chamber at Fiona Stanley Hospital in Perth and to tightly control depth, water temperature, and workload. One hundred fifty recreational scuba divers will cycle gently on underwater ergometers while being monitored via electrocardiography. The project will form the basis for a fully-funded Ph.D. program, including tuition fees and a living allowance.

The grant was established in memory of Alfred Bove, M.D., Ph.D., a cardiologist and dive medicine specialist who contributed significantly to the field of dive medicine for more than four decades. Among his areas of interest were cardiorespiratory fitness and fitness to dive. DAN created the grant to honor Dr. Bove’s contribution to dive safety, committing US$50,000 per year in research funding for up to five years. Proposals were accepted through April 2021, and numerous submissions were received.

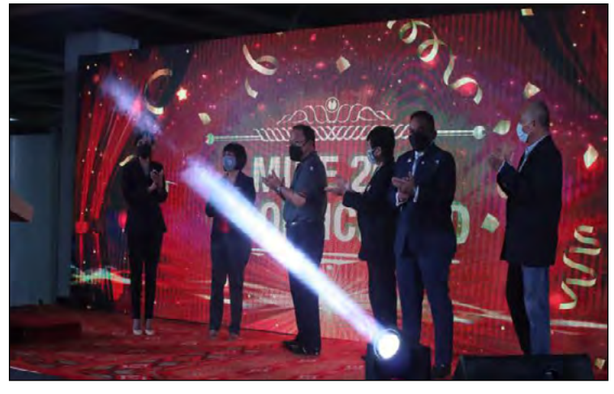
“Cardiac health and fitness are such important factors in recreational divers’ safety that DAN is enthusiastic about supporting this project,” said DAN president and CEO Bill Ziefle. “This is exactly the type of research that is needed to improve our understanding of how the human heart responds to the combination of immersion, pressure, and exercise while diving.”

Expanding the scope of Buzzacott’s work further, funding for a second Ph.D. student’s tuition and living allowance has been secured from the Australian federal government. This person will record bubbles in divers, including the 150 volunteer recreational divers undergoing heart monitoring. The Curtin School of Nursing will cover a portion of Buzzacott’s salary during the five-year project, and including the cost of the 150 hyperbaric compressions the total value of the project is approximately US$1 million.

1. Buzzacott P, Anderson G, Tillmans F, Grier JW, Denoble PJ. Incidence of cardiac arrhythmias and left ventricular hypertrophy in recreational scuba divers. Diving and Hyperbaric Medicine. 2021;51(2):190-8.

MIDE 2021 a success for both Exhibitors and Attendees

After a 20-month hiatus due to Covid-19 pandemic restrictions, the long-awaited Malaysia International Dive Expo (MIDE) returned to the World Trade Center in Kuala Lumpur on 3-5 December 2021.



Staying true to its theme, “Let’s Meet & Dive Locally,” the show aimed to kickstart the country’s dive industry and welcomed over 7,000 visitors during the three-day event with over 400 exhibitors, resulting in over RM5 (US$1.2) million in sales.

The bold decision to hold the show

drew the attention, endorsement and partnership of several government agencies and leaders, including Prime Minister Ismail Sabri Yaakob, who addressed the event and said that he saw the dive community playing an important role in the recovery of tourism in Malaysia.

Long-standing exhibitors, Tourism Malaysia, the Malaysia Scuba Diving Association (MSDA), partners and the organizers of MIDE worked together to help kickstart the recovery of the dive sector to the delight of water enthusiasts. While strict standard operating procedures were maintained, exhibitors enjoyed more time and space than usual to give one-on-one attention to every visitor in their booths, which proved highly beneficial. While there were only slightly less than the expected 8,000 visitors, exhibitors were very pleased with the quality of the visitors who attended the show.

“Given the pandemic is still ongoing, we are happy and pleased to have taken the plunge to re-boot the dive sector and inject some confidence into the community,” said Ness Puvanes, director and organizer of MIDE. “From what usually takes a year to organize, we pulled MIDE2021 together in just 45 days and that’s not without a multitude of challenges. Moving forward is the key”

Activities

During the expo, various speakers presented talks about dive education, marine conservation, cave diving, diving for people with disabilities, photography and more. As usual, a big hit with visitors were the bargains and promotions offered in dive wear, equipment, technology, photography/videography equipment, dive holidays, tours, courses, and other dive-related products. There was keen interest from dive operators and holiday resorts in the show’s boating section, with numerous sales leads generated, and the water sports exhibits, pointing to this area’s growth potential.

In addition, 28 Lucky Draw prizes were handed out to visitors, with a combined value of RM30,000 (US$7,190), including dive holidays, dive gears, dive courses, and camera equipment, with a grand prize of a seven-day, Sudan and Maldives liveaboard trip valued at RM6700 (US$1,600) provided by Maldives & Red Sea Blue Force Fleet.

Wakatobi Resort

Returning to Normal

There are growing signs that travel to Indonesia is returning to normal. Communications from the government indicate a lifting of current travel restrictions by or before Easter of this year. Indonesia continues to see high vaccination rates and hospitals returning to normal status while surrounding countries are also beginning to open borders.

The first international flights from carriers such as Singapore Airlines are now landing in Bali; this will certainly increase quickly with the elimination of quarantines.

Wakatobi has also started to prepare for reopening. While the resort has been well maintained throughout, it is now time to start bringing our staff members from other parts of Indonesia and abroad back to the island so we can once again delight our guests in the same spirit that has made Wakatobi loved and celebrated.

All the positive news has prompted an enthusiastic response from our global community, and our reservations team has received numerous requests for bookings. If you are considering travel to the resort, we suggest you contact us as soon as possible to secure a booking or schedule a date for a postponed booking.

2023 time slots are filling up quickly with a combination of new reservations and postponed dates. To ensure things run as smoothly as possible, please reach out to your guest experience representative if you plan to visit, even if you do not have an exact date in mind.

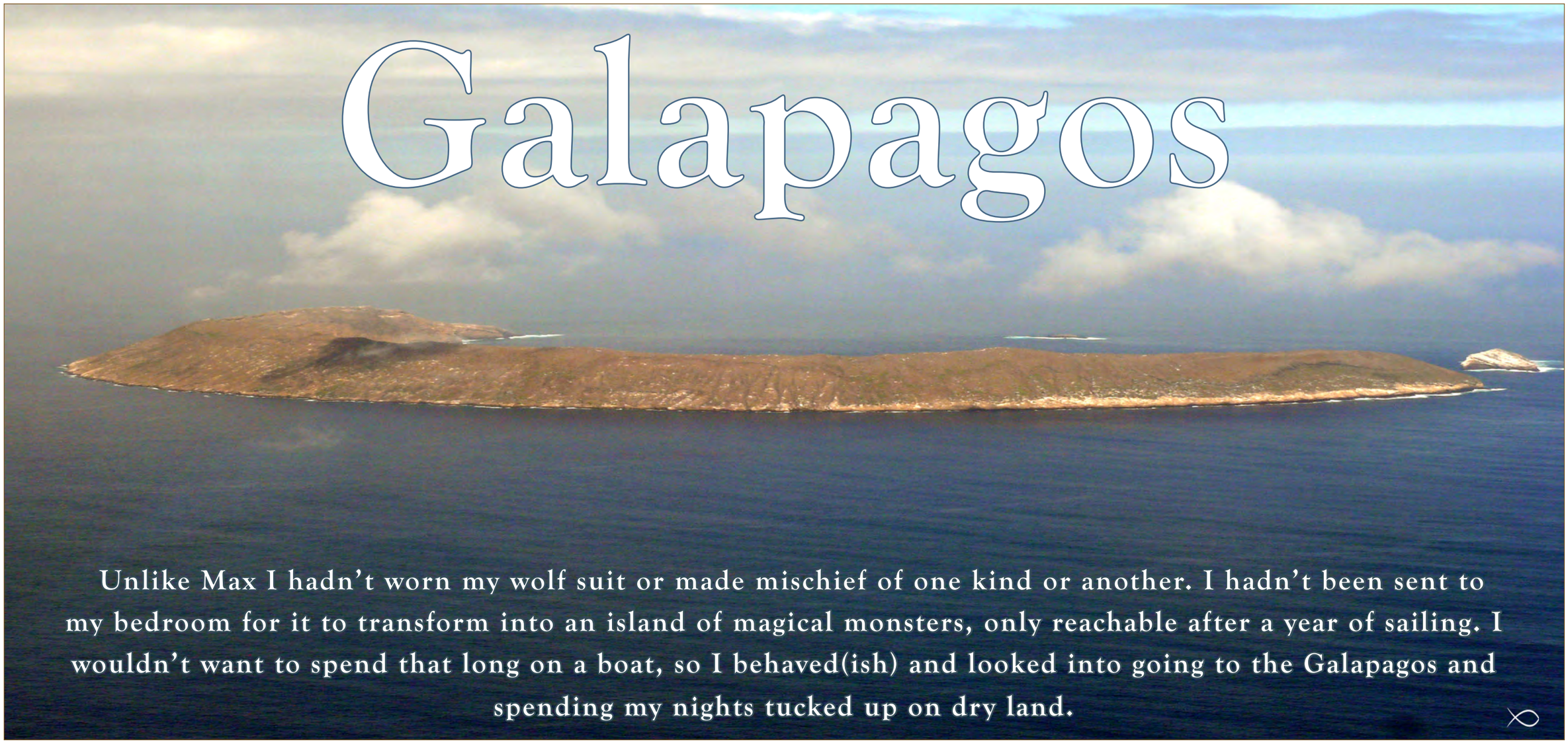
Every member of the Wakatobi team feels a deep appreciation for the patience and loyalty of our clients. Your understanding these past two years is what has kept us going and we sincerely say “thank you” for standing by us.

As we return to normal operation, we look forward to welcoming our treasured guests and friends. We are all excited to see you!

Dive the World
Galapagos

By: Christopher Bartlett

Galapagos



Unlike Max I hadn't worn my wolf suit or made mischief of one kind or another. I hadn't been sent to my bedroom for it to transform into an island of magical monsters, only reachable after a year of sailing. I wouldn't want to spend that long on a boat, so I behaved(ish) and looked into going to the Galapagos and spending my nights tucked up on dry land.





By: Christopher Bartlett

Simon's left arm shot out, index finger extended, and he clenched his right fist and stuck it on the side of his head. I scanned left and right fast, peering through my mask into the milky blue water. "Where?! Where?!" my brain implored. "There!" my eyes answered. "At last," I smiled to myself with relief, bringing by camera up to eye level as the school of Scalloped hammerheads cruised past 10m away, swaying over the sandy bottom of the underwater caldera in the middle of the site called Gordon Rocks. I now knew that Gordon certainly did, providing me, and many other divers over the years, with their first sightings of this oddly but brilliantly-shaped fish.

In the past I'd searched for hammerheads in the Red Sea and in South Africa on five blue dives with a solitary faint blur my sole reward, and coming to the Galapagos they were on the top of my fish wishlist.

They are one of the emblematic Galapagan species after all; the T-shirt shops of Puerto Ayora on Santa Cruz, the most-inhabited island of the archipelago, were draped in them, and along with the giant tortoise formed the logo of the Galapagos National Park. Yet I had been on the islands for a week, investigating land-based diving and nature tours with Red Mangrove's suite of luxury lodges, and tacky miniatures and gaudy prints were all I'd seen. In terms of diving, the best had definitely been saved until last.

Not that the rest of the diving had been poor, we'd just been a bit unlucky. Gordon Rocks is normally the first or second diving destination from Santa Cruz island on Red Mangrove's land-based island-hopping diving itinerary, but due to a last-minute flight cancellation, my partner and I missed Gordon Rocks on what should have been our first day of an eight-day tour whilst we occupied ourselves in Guayaquil on the mainland for an extra twenty four hours. Still, we had planned to have plenty of days 'spare' on Santa Cruz looking at diving from Puerto Ayora, so we arranged to catch up at the end.

I also thought that I was on a bit of a lucky streak; I was randomly upgraded to first class on the flight to Guayaquil to meet up with Imi, and we were both upgraded for the two-hour A320 Tamé flight to Isla Baltra. Being greeted with

cool water and chilled face towels by our escort enhanced the good vibe, as did the friendly banter with our guide on the 200mferry ride and 42-kilometre drive across Santa Cruz island.

By the time we had checked into our funky room metres from Puerto Ayora's gently lapping bay, seen marine iguanas basking on the restaurant deck, snapped a sea lion snoozing in the shade on a coffee table and eaten some tender calamari and chicken with perfectly steamed veg, we were naturally feeling pretty positive.

A post lunch-trip to snorkel with some sea lions resulting in a couple of half-decent pics, a boat ride to the white sands of Tortuga Bay and a guided nature walk to see the marine iguanas, Sally Lightfoot crabs and large cacti growing from volcanic rock, which did nothing to dampen the feeling that everything would just fall perfectly into place, the late flight cancellation and re-jigged schedule a minor blip. After a brief meeting with our dive guide for the following day and a candlelit dinner, I was rocked to sleep by the wash of the ocean, dreaming about big fish with funny heads.

On the boat ride out to Sante Fé island the next morning, having left the busy cargo ships, numerous moored liveaboards and plentiful small craft behind, we were regaled with the previous day's missed sightings of a manta, Eagle rays, stingrays, White-tip reef sharks, and of course, hammerheads. A Reef manta (Manta alfredi) breached to the side of the boat, as if to say "come on, jump in, we're waiting for you."

Except they weren't. Nature, of course, works to its own schedule. There was a 6m cave swim-through, a group of silvery grunts and a school of Barracuda in the distance. "Never mind," I thought, "It was fine for a return to the water," but I was a little disappointed. I had been expecting the 10 -15m viz and the rocky underwater landscapes.

Although the Galapagos are in the Pacific and on the equator, the water temperature drops to the low 20's, too cold for much coral growth, due to the passing Humboldt current coming up from the south. But I had also been expecting more action.

It is also about expectations – maybe I'd

By: Christopher Bartlett

misread the hype – I had been expecting big stuff: sharks, big schools of fish and classrooms of rays, turtles, sea lions and marine iguanas. The two fellas from Quito doing DSDs, and their two OW buddies, naturally thought the whole experience had been grand.

During the surface interval we motored back towards Puerto Ayora and descended upon a shallow site called La Loberia (lobo del mar being a sea lion in Spanish). The viz was at most 10m and full of fish poo, but we soon saw why we were there.

Two sea lions dived down from the surface, spinning and turning with incredible agility, zipping around us like underwater break-dancers as we approached a dark shadow in front of us. The other divers were ahead and, as I turned to take a snap, went in and disappeared.

As I approached I saw that it was in fact a huge school of the endemic Black-striped salema (Xenocys jessiae). Where were the others? I moved forward. The fish parted a little, but stayed inches from me. I went in some more and it got dark. I looked around and saw that they had surrounded me – I was engulfed in a giant amorphous blob of fish. I could hear the DM rattling his shaker, trying to guide me on. I tapped back on by strobe arm. I swam on and we met up, four divers in a zillion sardine-sized fish. Incredible. When we emerged back into daylight, more sea lions came to play briefly, then sped off, no doubt to get a stripy snack.

In the afternoon we were escorted to a small cruiser and sped off towards Isla Isabela, the largest of the four inhabited islands. As the cabin looked pretty full with 16 passengers, we asked to sit on the flybridge with some cargo. We chatted to the skipper in dodgy Spanish as he opened the twin 300 HP four-strokes up for the two-hour crossing.

Approaching Puerto Vilamil, we slowed to little more than an idle as the skipper skirted around the inside of the bay formed in the lava rocks. The contrast with Puerto Ayora was considerable – with little more than 3 000 inhabitants, our

Dive the World
Galapagos

From Whale Shark to Pygmy Seahorse....

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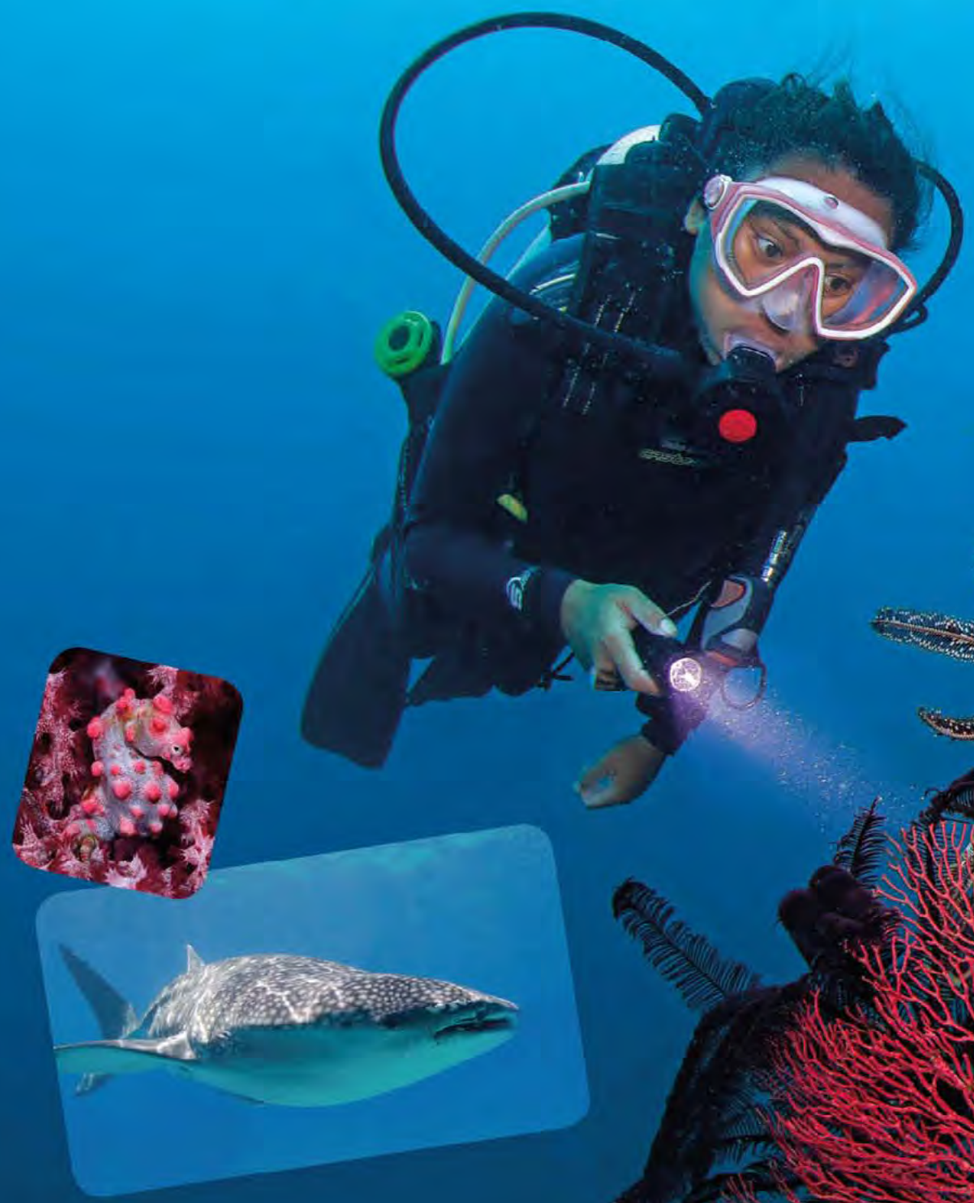

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By: Christopher Bartlett

home for the next four days was sleepy and quiet under the afternoon sun, our small boat the largest in the port. As soon as our feet hit the wooden pontoon of the port we were guided to a 'panga,' a narrow speedboat, and taken for a snorkel in the shallow lagoon. The tide was going out, lifting up the sandy bottom, but not enough to obscure a Spotted eagle ray and a small White-tip reef shark. I thought the tide of my luck was swinging back the other way.

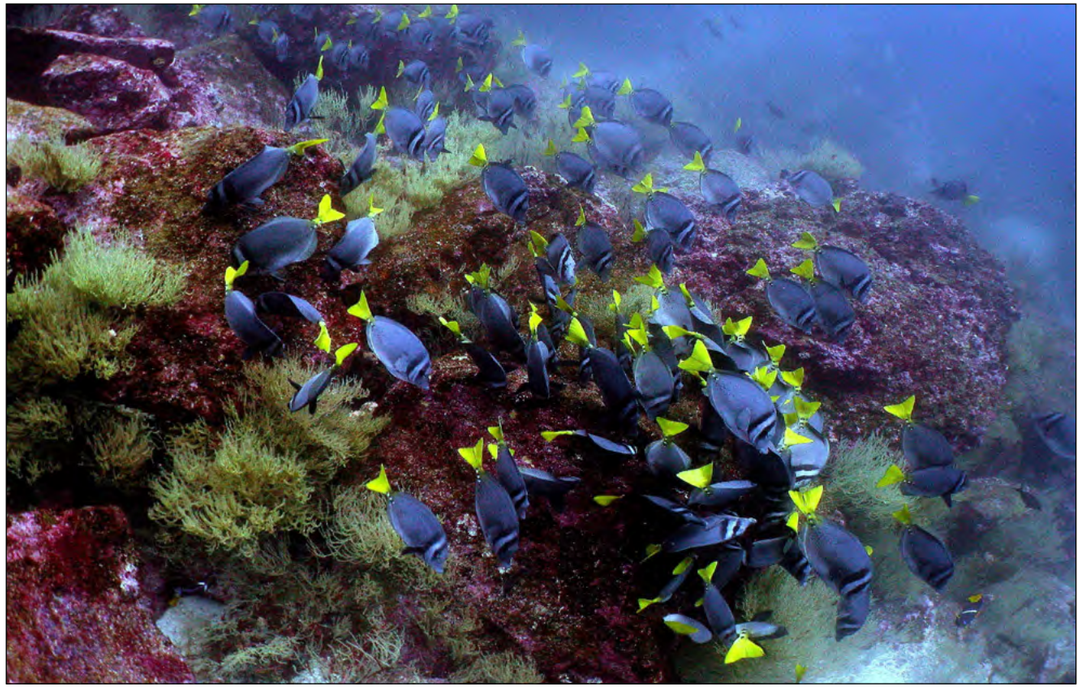
Over a gourmet dinner, our dive guide for the next day, Paco, seemed to think so. "95% chance of hammerheads at Isla Tortuga," he stated confidently before drawing a map of the dive site. It would be a fast drift dive around the outside edge of a crescent-shaped island that was once a volcano, with a few interludes hiding behind outcrops of cooled lava to hopefully watch the hammers go by and break my duck. Of course you know that I didn't.

We were accompanied by a huge school of Galapagos barracuda most of the first dive (good food for sharks), there were plenty of King angelfish (who are partial to cleaning sharks), Eagle rays and stingrays on the second dive (more shark food), four Green turtles and three schools of Razor surgeonfish. The current was fun and the diving was good, despite mediocre viz, and back in the aquamarine bay we saw more turtles and stingrays, and the world's smallest and only tropical penguin, the cute Galapagos penguin.

After a dry day spent walking up Sierra Negra, the world's largest active volcano crater spanning an impressive 11 kilometres from side to side, we set off along the coast for Los Tuneles. As we bombed along we passed more than twenty turtles and five mantas on the 30-minute ride. Skipper Julio displayed admirable skill to get us through some rough surf before threading us through the treacherous lava rock formations to an astonishing haven.

Los Tuneles is a maze of arches formed by lava tunnels in some of the most beautiful water I have ever seen. There were turtles galore to snorkel with, as well

Dive the World
Galapagos



By: Christopher Bartlett

as juvenile Eagle rays, stingrays and the odd Barracuda. By the time we were done we estimated that we had seen at least 50 turtles either from the boat or in the water.

Julio's prowess wasn't limited to tricky boat manoeuvres either. At Elfinado he donned mask and fins and found two arches occupied by close to a dozen White-tips, and then led us to the mangroves to show us his secret seahorse. Tail wrapped around a branch, with the sunlight filtering through the film-covered surface, the view was ethereal. Just below a turtle snoozed, half-under a ledge on a bed of leaves in an almost autumnal composition.

To cap a great day, he pointed us to narrow, shallow channel close to the port and told us to snorkel carefully along the top. The incoming tide made the water murky, but a couple of metres below us we made out first one, then two, then another now-familiar White-tip. As we pulled ourselves along the sides of the 100m long, 1m wide channel, we could see that the bottom was carpeted with them. My notes say, "Photography value zero, thrill value high." On a slack tide with some viz, it would have been amazing.

After a fun 90-minute flight on a 10-seater Norman Britten Islander to San Cristobal island, we dropped our bags off and were whisked off on a short walk up to a water-filled crater to learn more about frigate birds and down to another beach popular with sea lions, before sorting out our gear at the dive centre for the next day's diving with DM Jimbo. Over dinner he told us about Kicker Rock (a.k.a. El Leon Endormido), talking up our chances of seeing hammerheads and the endemic Galapagos shark.

As Imi had decided to put on some additional neoprene, we stopped at Isla Lobos for a quick check dive. While we suited up, a rather cheeky sea lion hopped onto the boat and started checking out my gear for me and followed us into the water for a quick play around on the sandy bottom of the bay.

Alongside the lion-shaped rock, we rolled in and entered the channel formed by a 20m gap towards its western tip. Sheltered from the sun's rays, the sea was grey as we hovered above the sandy peering ahead. A couple of stingrays were resting on the bottom and a third flitted past. We lay in the sand and waited and shortly three Galapagos sharks swam through the 25m deep channel. A first for me – they are quite small but beautifully-shaped creatures and moved with their natural predatory grace. I couldn't help wondering whether they would be followed by hammerheads.

A couple more swam by, followed by a couple of Black-tips. "Martillo, martillo, aqui martillo," I sang in my head, but none came. The vertical wall along the outside flank of the rock was madly mottled with blue and orange sponges, Pencil urchins resting wherever they found a nook, often with a small Hawkfish or the stunning blue and red of the endemic White-tailed damselfish juvenile. The sea was full of fish with King angelfish, and in abundance, Streamer hogfish and Gringos (Creole fish).

Dive the World
Galapagos

By: Christopher Bartlett

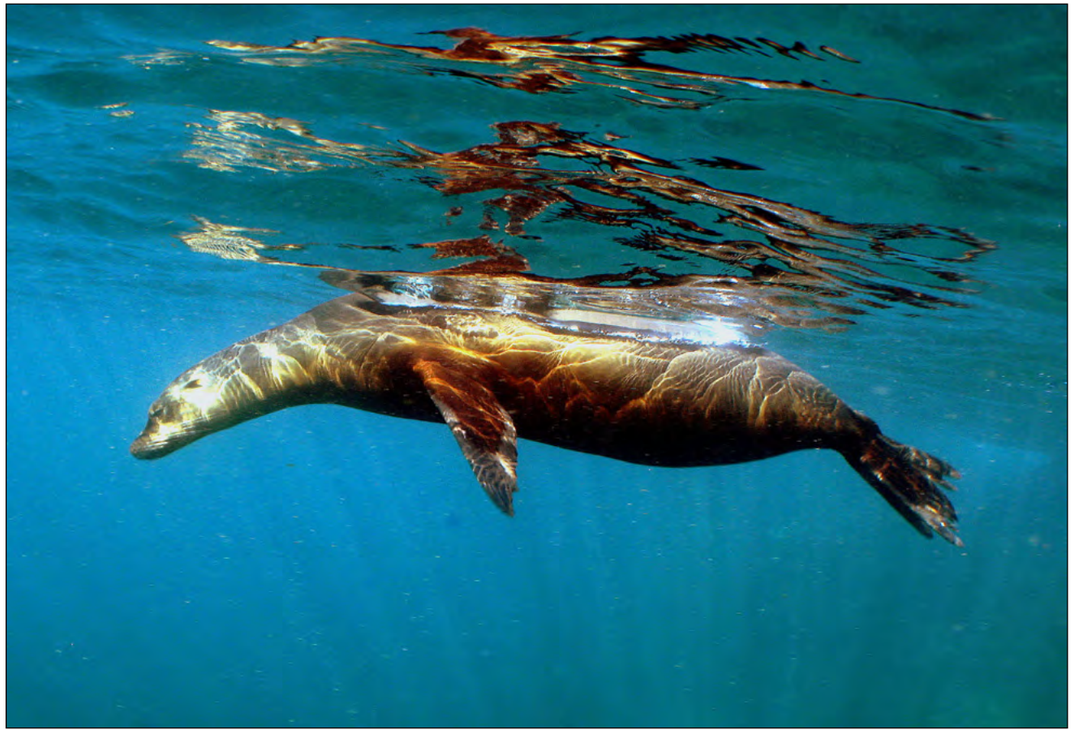
We returned to the wall for a second diving, after going to the far tip looking for hammerheads (obsessed, me?) in the current, and were rewarded with more fish soup and five Green turtles no less. Despite being hammerless that morning, the Sleeping Lion was certainly awake underwater.

After lunch back in the sheltered waters of Isla Lobos, Jimbo took us for a snorkel along the rocky edge to look for marine iguanas. We weren't disappointed, as well as more damsels and Razor surgeonfish, we quickly found an iguana trying to escape the playful attentions of a sea lion that was pulling its tail in a slapstick wrestling contest.

Once that act was over, a pair of sea lions popped up, darting and whirling in random directions like a firework display run by delinquent kids. As the finale, yet another smooth, brown underwater puppy whizzed into view, a black object with a shiny end in its mouth. Like a Covent Garden juggler it tossed it up, watched it sink a few metres and flitted down to catch it, before doing it again. But what was it juggling? After a few minutes our entertainer swam right up to my lens, looked at me, and placed the object on the sand below me before swimming off. I dived down and picked up an immaculate, but battery-less, 120-dollar dive torch. Amazing. Was this the same curious and cheeky chap from this morning who had borrowed a toy from another diver?

That wasn't the end to the day though. No sooner were we back on shore, we were greeted by our guide who took us to the island's visitor centre and up to frigate bird hill for more great views and wildlife info before a quick dinner with our host Daniella and a deep sleep.

San Cristobal had been pretty action-packed, so they next day we chilled out firstly on the boat transfer back to Puerto Ayora on Santa Cruz, and then walking around the Charles Darwin Research Station, attempting to slow down to the same pace as the old giant tortoises,



By: Christopher Bartlett

the most well-known of them being the century-old Lonesome George – the last survivor of a species decimated by human activity.

And so we were finally at day one, on day eight, about to roll into the small volcanic crater that makes up Gordon Rocks. The overcast day and choppy seas did nothing to make me think that I'd come away with much.

How wrong I was. More than a dozen hammerheads cruised past just above the sandy crater bottom as soon as we had descended the 28-odd metres to get there. Bingo! As we did a circuit around the inside (and through some crazy thermoclines that went from 21ºC to 17ºC) there were swimming White-tip reef sharks, turtles and large schools of King angelfish and Razor surgeonfish again, basslets and Butterflyfish, all good cleaner fish for large species.

Gordon Rocks really did rock. It was a fitting finale to a most excellent first week as we moved into budget accommodation in the centre of town, a street back from the sea, for the final six days.

For 30 dollars a night we found a double with air-con of sorts (it was either on freezing or warm), private bathroom and breakfast. There are plenty of restaurants serving main courses from $8, small stores that sell fruits and snacks, there is a small supermarket down by the port and lunch is provided on dive boats.

The following day we returned to Gordon Rocks and saw more hammerheads, White-tips, friendly turtles and even a sea lion. The vertical currents and surge can definitely be quite a challenge for inexperienced divers, and the cold currents can be core-chilling. It's quite common for divers to come up after 30 minutes as the combination of the above and going down to 30m sucks up their air. One fellow diver, an out of practice yet ex-commercial diver with 2 000+ dives, was done in 19 minutes. For those who can hang around and check out the outside walls, the rewards are excellent though.

Although my camera had already fogged up, I got to marvel at a huge, slow-moving school of countless 1m long snapper at 10m and then a wahoo as we surfaced, and on another safety stop saw over a hundred Golden cow rays cruised past.

They also put in a brief appearance on another visit to Santa Fe, as did a massive school of pompano that encircled us in a silvery fishy cylinder, and yet more Galapagos barracuda.

We also went to North Seymour with Galapagos Sub-Aqua, found more stingrays, Marbled rays, Eagle rays, a manta silhouetted above us in the gloom, and several pairs of White-tips resting under overhangs, the dives culminating in some exciting fast drifts over shallow water on the safety stops.

Whenever I think about Gordon Rocks my mouth curls into a smile. It epitomises the Galapagos for me. Even on a gloomy day it reflects the unique and enchanting nature of the archipelago's diverse nature, its strong currents symbolising the challenges ahead, and its diverse life reminders of what we have to lose.

Information:
Indigo Safaris (www.indigosafaris.com, info@indigosafaris.com) organize tailor-made trips, accommodation, dive packages and vehicle rentals to many diving hotspots all over the world.

Dive the World
Galapagos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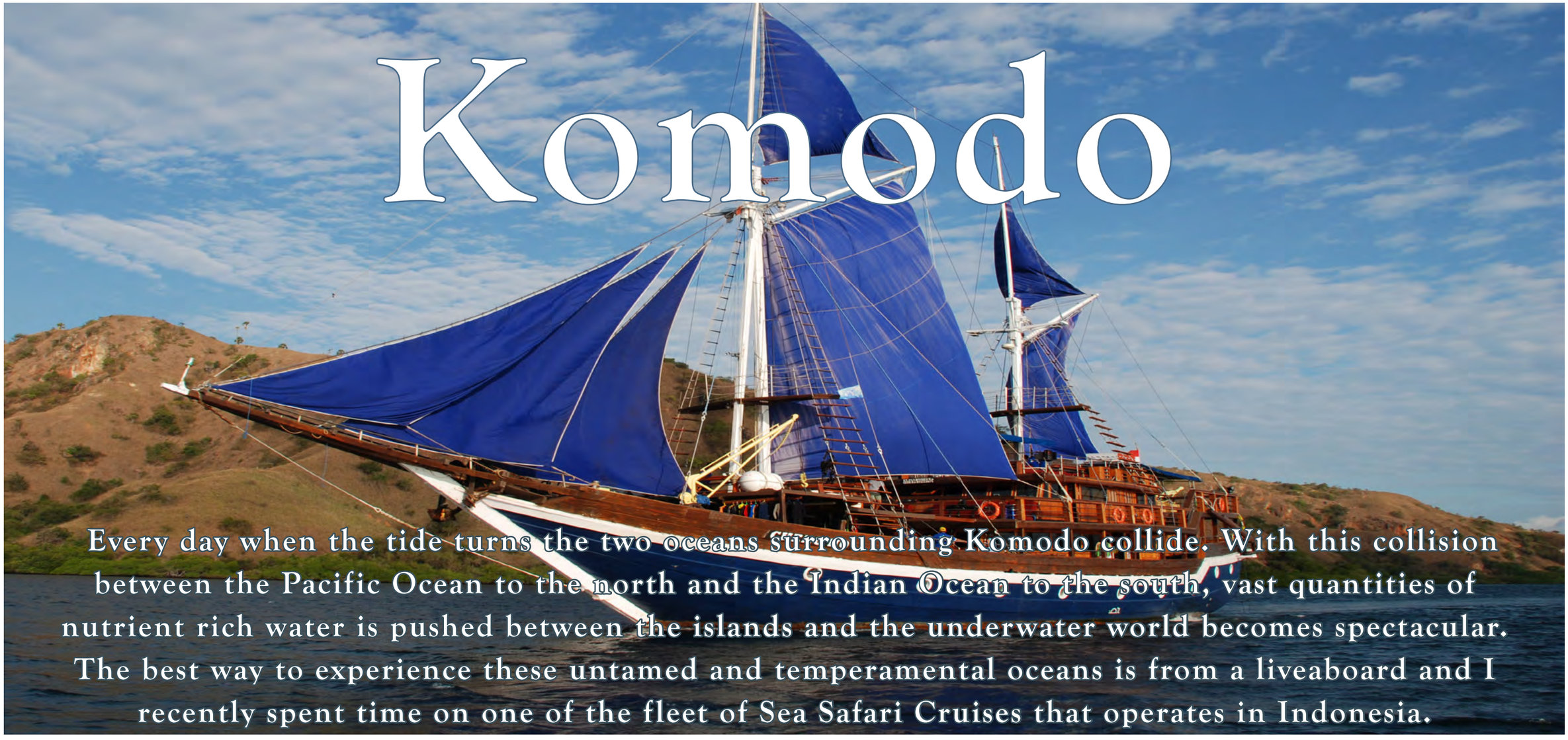
Dive the World
Komodo

By: Johan Boshoff

Komodo



Every day when the tide turns the two oceans surrounding Komodo collide. With this collision between the Pacific Ocean to the north and the Indian Ocean to the south, vast quantities of nutrient rich water is pushed between the islands and the underwater world becomes spectacular. The best way to experience these untamed and temperamental oceans is from a liveaboard and I recently spent time on one of the fleet of Sea Safari Cruises that operates in Indonesia.

By: Johan Boshoff

Komodo islands is a set of volcanic islands that is located approximately 450 kilometres east of Bali, and a short flight from Denpasar will get you to Labuan Bajo/Komodo Airport. Komodo National Park consists mainly of the islands of Komodo, Rinca, Padar, Gili Moto, Nusa Kode and other numerous smaller islands together totalling approximately 600 square kilometres of land.

It's a part of Indonesia that feels slightly forgotten; the islands have beautiful panoramic views of savannahs, rain forests, white beaches, beautiful corals, and blue seas. A variety of animals can be found on the islands and there is very little habitation in the park (transport infrastructure is virtually non-existent on most of the islands).

There are many activities for visitors on these tropical islands where temperatures on land average around 28 degrees throughout the year. With this in mind you can engage in many activities such as, scuba diving, snorkelling, kayaking, hiking and sightseeing or take a cruise ship or fisherman's boat to roam around this spectacular part of the world. Around the islands you can also find horses, wild water buffalo, deer, wild boar, snakes, monkeys and various types of birds. But the main thing that most people that come here want to see is the Komodo dragon. And this is the only place in the world where you can see them.

The Komodo dragon, also known as the Komodo monitor, is one of the largest species of lizard found in the world with the larger dragons usually approximately three metres in length and weighing up to 90kg.

As a result of their size, these lizards dominate the ecosystems in which they live. Komodo dragons hunt and ambush prey including invertebrates, birds and mammals. It has been claimed that they have a venomous bite; there are two glands in the lower jaw which secrete several toxic proteins. The biological significance of these proteins is disputed, but the glands have been shown to secrete an anticoagulant. Komodo dragon group behaviour in hunting is

By: Johan Boshoff

exceptional in the reptile world. The diet of big Komodo dragons mainly consists of deer, though they also eat considerable amounts of carrion.

Mating begins between May and August, and the eggs are laid in September. About 20 eggs are deposited in abandoned nests or in a self-dug nesting hole. The eggs are incubated for seven to eight months, hatching in April, when insects are most plentiful. Young Komodo dragons are vulnerable and therefore dwell in trees, safe from predators and cannibalistic adults. They take 8 to 9 years to mature, and are estimated to live up to 30 years. They are protected under Indonesian law, and the Komodo National Park was founded to aid protection efforts.

Yet the best thing about these islands is the underwater world and it is definitely one of the best places that you will dive in your life.

And the main thing that makes the diving here so spectacular, is the currents where most dives are planned around the turn of the tides. The Komodo Ocean is not a tranquil ocean. It is constantly moving. In the northern section of the park the Pacific Ocean pushes in the warmer waters that bring in excellent visibility while in the southern section of the park the Indian Ocean brings a cold, plankton-enriched soup of nutrients. Between the islands of Komodo and Rinca a bottleneck forms with a passage between the Indian and Pacific Ocean currents to pass through.

During tidal changes, vast amounts of water move from south to north during rising tide and vice versa at falling tide. Limited numbers of passages exist resulting in peculiar currents with whirlpools, downwellings and upwellings and absolute calmness between tides.

All types of currents can be experienced here – sometimes all in one dive – and on the surface you can clearly see in some places where the water turns and swirls.

Most of the good dive sites are not accessible by day-boat and the best way to explore Komodo and its surroundings is on a liveaboard, and one of them is Sea Safari Cruises that operates in Indonesia. Sea Safari Cruises is one of the top operators in the area and has the largest fleet of luxury liveaboard vessels in Indonesia.

The diving with them is really easy with experienced dive guides and crew. There you will kit up once when you get on the boat and then they sort out your gear and equipment until your adventure is finished with them. They even use the ENOS satellite tracking system for safety for all divers, so if you lose the dive guides or group, the boat can find you wherever you are.

The boat is spacious and well-looked after with everything that you need to enjoy your adventure, while the crew are really helpful and friendly and always try to make your stay as pleasant as possible.

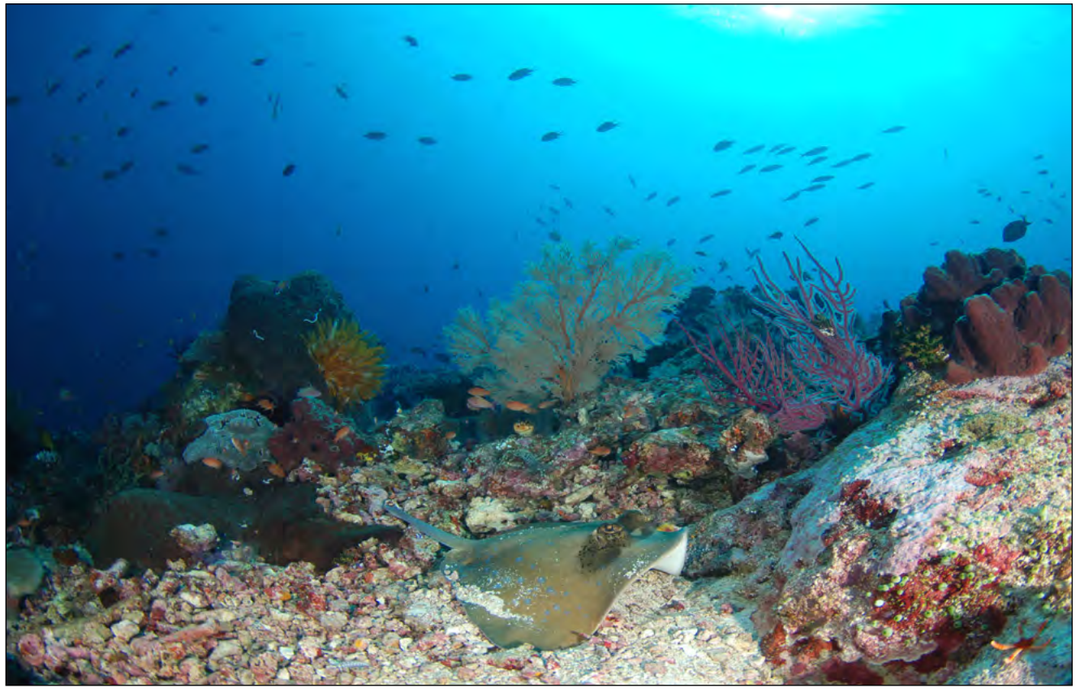
The itinerary for the week is really packed full with three dives a day and a night dive to finish off the day. There are also enough meals during the day; during our first briefing they told us that if you can't remember the itinerary, just remember, "if you hair is wet then it's time to eat, and if your hair is dry then it's time to dive."

Komodo supports a wealth of biodiversity – at least 253 species of hard coral, over 1 000 species of fish along with endangered, charismatic mega fauna such as dugongs, whales, dolphins, turtles and mantas. Sharks and dolphins predate on the vast schools of fish that thrive in these rich waters.

There are literally hundreds of dive sites around the park with many small islands with small bays and larger islands such as Komodo, Rinca and Padar. Some of the dive sites plunge down into the depths with steep walls and pinnacles covered with coral and marine life surrounded by schools of fish numbering in the hundreds of thousands, while some dive sites are muck diving and others are home to huge fields of sea grass where Dugongs can be encountered.

Diving around Komodo can be divided into

Dive the World
Komodo



By: Johan Boshoff

three sections, namely north, middle and south.

Northern Section
The northern section of the marine park, also known as Gilli Lawa Laut, experienced average temperatures between 27-28 degrees C and visibility of about 25-35 meters. Wall and pinnacle dives are mainly dived here where walls are covered with colourful combinations of hard and soft corals with schools of Anthias, Wrasses, and the majestic Angel Fish. In the bluer waters the larger predators and schools of big pelagics are to be seen, such as Reef sharks, Giant Trevally, Dogtooth tuna and schools of Barracuda.

These are the hunting grounds for the big pelagic fish, and at the precise point where the current hits the rock face, schools of reef fish congregate in small huddles. The marine-life is similar to that found in most tropical seas.
Generally speaking, the best season for diving conditions in the North is from April through to December and some of the well-known dive sites are Chrystal Rock, Shot Gun, Spanish Steep.
Middle Section

The middle section is between the eastern shore of komodo and Padar/ Rinca islands. This area creates a channel between the islands that is famous for its currents due to the daily tidal flow of the ocean pass. With this you get a perfect place for migratory species to move between the two oceans.

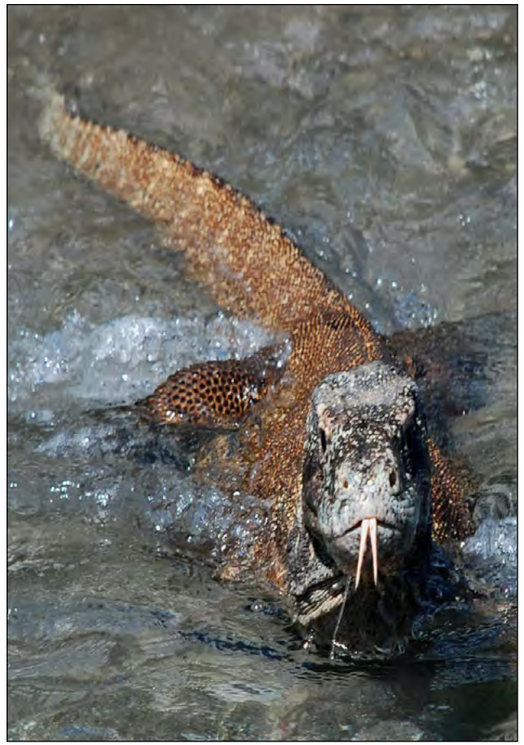
The reef is pristine and undamaged due to the strong currents that sweep over it. The sites here are one of the best in the park.
The pinnacles and walls plummet vertically into the depths below. Every inch of the exposed reef face is covered in hard and soft corals, sponges and invertebrate life. You can expect to see White-tip reef sharks, Grey reef sharks, Napoleon wrasse, Sweetlips, Dogtooth tuna and Rainbow runners with Giant trevally patrolling the sides of the pinnacles and reefs. Clouds of shimmering Goldie's and Dominoes hover in the shallows.

This area is also well known for manta ray and whale sightings.

Southern Section
The southern section of Komodo National Park is normally the colder section with plankton rich water upwelling from the depths of the Indian Ocean with average water temperature of 23-24 degrees and visibility between 10-20 meters.

The invertebrate life here is amazing with reefs filled with vibrant soft coral life, large branching corals and sea fans. Around Kode Island in the south the nutrient enriched waters are covered with lavish marine life. Hard and soft corals compete with anemones, squirts, sponges and tunicates for a foothold on the reef.

It is an explosion of colour; sea apples, pink and purple sea fans, orange and yellow sea whips, white, green and yellow bushy hard corals sway gently in the underwater breeze. Even the fire urchins

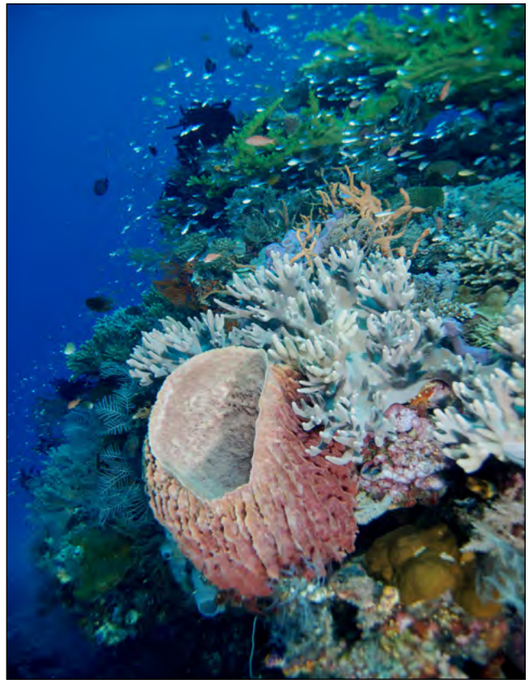


By: Johan Boshoff

are seen in vivid colours of lilacs, cerise, magenta and cobalt blues. Sunshine yellow cup corals cover the reef walls and a yellow Rhinopias scorpion fish is so confident of its camouflage within the yellow fields that it sits out on an open slope. Many of the thousands of crinoids are host to tiny crinoid shrimps, each matching the colouration of their hosts. Frogfish are aplenty, ranging from the funky coloured Clown frogfish to the drab grey Giant frogfish.

Then there are the goldies, glassies, wrasse and other colourful reef fish, all feasting off the reef.
Around Lang Koi is Manta Alley, a nanta cleaning station run by hundreds of Butterflyfish. Three small, rocky islands funnel turning tides through narrow gaps forming currents with sufficient strength to provide the manta rays with the lift they require to be stationary yet still have water flowing over their gills.

As the gentle giants hover at the cleaning station, Butterflyfish dart into action preening their expansive wings and



bodies. Mantas with white bellies, black bellies and dotted bellies materialise as if from nowhere, and are preened and cleaned, then tilt their vast wings and melt into the distance.

Komodo diving is unlike anything you've ever encountered with a drift dive faster than any you've ever experienced! It is one incredible adventure.

Extra
How do you get there?
For Denpasar (Bali) it is just over an hours flight to Lebuan Bajo, also known as Komodo Airport.

How to see the Komodo dragons?
On the trip, Sea Safari Cruises will organize two interactions with Komodo dragons. First you observe the wild Komodo from the boat and the second one is a trip to Rinca Island.

On Rinca Island you will be greeted by a group of rangers, who divide you up into groups of no more than 5 people who are assigned two rangers, one to walk ahead of you and one to walk behind. The rangers are armed only with a long wooden stick, which they use to bop the dragons on the nose if they get too close as the nose is the most sensitive part of the dragons.

There are a few different hikes you can do on the island, of varying lengths and difficulties, where you will have many encounters with wild Komodo dragons.
Best time to visit

Komodo is an all year dive destination where the rainy season is from December to March.

April to June is the end of the rainy season, when you'll find the mountains alive with lush greenery. The weather is a bit cooler and the scenery on point after all the wet weather, though you may still get the odd rainy day.

July and August is the high season, where you'll find it hot and packed with tourists. From September to November is the best time to visit as you're still spoilt with great weather and warm days.

Dive the World
Komodo

By: Johan Boshoff

Electricity
2 pin standard plugs, 220v in every cabin, in the lounge, dining area and dive deck. 110v sockets are available at the tables/ counters in the restaurant area.

Minimum requirements
Because of the currents, Komodo is considered an advanced diving destination.
Average depth: 10-25m
About Sea Safari Cruises

Sea Safari Cruises provide leisure expeditions to all of the out-of–the-way islands to the east of Bali.

From the very moment that you step aboard one of their wooden schooners you will know that you made the right decision.

There vessels are luxurious 35+ meter Phinisi style wooden schooners.

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Destinations Sea Safari Cruises Offers Komodo, Raja Ampat, Nusa Lembongan, Labuan Bajo, Lombok, The Gili Islands, Sumbawa, The Spice Trail, Ambon, The Forgotten Islands, Flores, Alor or suggest an itinerary and they will work on it for you.

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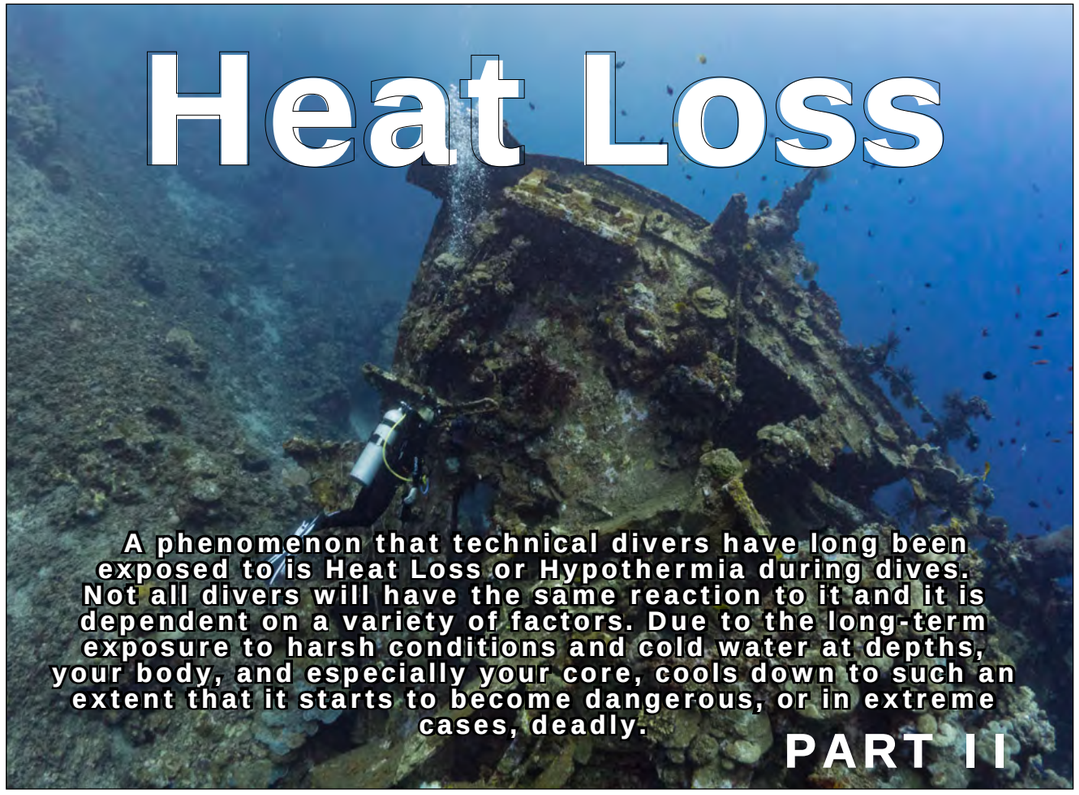
Dive the World
Komodo

By: Gerrit Maritz Photo: Christopher Barlett

Heat Loss



A phenomenon that technical divers have long been exposed to is Heat Loss or Hypothermia during dives. Not all divers will have the same reaction to it and it is dependent on a variety of factors. Due to the long-term exposure to harsh conditions and cold water at depths, your body, and especially your core, cools down to such an extent that it starts to become dangerous, or in extreme cases, deadly.

PART II

There are various stages of hypothermia, from mild cases to serious and life threatening, and these types are classified according to the amount of heat lost:
Stage 1 Hypothermia: Body temperature drops by 1-2°C below normal temperature (down to 35-37°C).

Mild to strong shivering occurs. The diver is unable to perform complex tasks, extremities such as hands become numb and breathing becomes quick and shallow.

Stage 1 of hypothermia: can be treated through first aid and by keeping the affected person warm.

Stage 2 Hypothermia: Body temperature drops by 2-4°C below normal temperature (33-35°C). Shivering becomes more violent and the diver becomes disoriented or un-coordinated.

The body becomes pale, lips, ear, toes and fingers become blue as the body diverts blood to the vital organs.

Stage 3 Hypothermia: Body temperature drops below approximately 32°C. The body's metabolic processes shut down as organs begin to fail. The patient's co-ordination is impaired and he/she will have difficulty speaking and organ failure will eventually lead to cardiac arrest and death.

NB: Stage 2 and 3 of hypothermia will require immediate hospitaliaation and medical treatment.

It is important for divers to be aware of the symptoms of hypothermia; just because the water is seemingly warm, many divers ignore the symptoms and continue to dive.

A person can still fall prey to it. If you or your buddy begins to shiver vigorously during a dive, be on the safe side and terminate the dive to re-warm – even if you are not feeling that cold – to ensure that your symptoms do not worsen.

After such a dive ensure that you spend enough time warming up, even if it requires you to extend your SIT (surface interval time) as consecutive dives over a short period in cold water can lead to hypothermia.

How do you combat the onslaught of cold water on your body? We always seem to think that it is funny when a diver dresses like an Eskimo before a dive, yet there are reasons for it. Some divers are used to warm conditions, and as soon as the conditions change they need to protect themselves against the cold. Some divers carry around their own barrier against the cold in the form of fat, but I hope that after you have read this article you too will think twice before you get too cold during a dive. Here are some basic things that you as a scuba diver can do to keep yourself from getting too cold or losing too much body heat whilst in the water:

1.Stop the flow of water over your bare skin by wearing a full length wetsuit that will trap a thin boundary layer of water between your skin and the neoprene suit, resulting in little loss of heat. Ensure that your suit fits properly as a loose fitting suit will not protect you against excessive heat loss.
2.Wearing a hood in cold conditions will keep you from losing between 20-35% of your total heat loss because the blood vessels on your head do not constrict, allowing heat loss to continue at full speed 3.As mentioned earlier, your torso is one of the areas where you will lose most of your body heat. Wearing a neoprene vest under a full length wetsuit to protect against cold is a good idea and you will not sacrifice the free movement of your arms and legs.

It is also important to stay warm between and after dives. Wearing your wetsuit between dives is not a good idea because it acts as a radiator, cooling you down as it dries.

Rather get undressed and put on a jacket or a windbreaker. Drying your hair and wearing a hat will also stop you from losing heat through head. Lastly, keeping yourself warm by wearing long sleeve T-shirts and pants, even in warm conditions, will conserve heat and energy and make your diving experience more enjoyable and safe.

Hypothermia is a very real danger during diving and care should be taken to not get exposed to excessively cold conditions. Rather terminate the dive when the cold gets the better of you or take precautions against the cold – it will make for a more enjoyable dive and a more memorable diving experience. Remember that the colder you get the more you become a danger to yourself and those around you.

Rather be safe than sorry and remember that there is no shame in aborting a dive, only respect.

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Exploration
GBR

By: Nick Ingelbrecht

Great Barrier Reef

Sailing into the Sunset

“Why” I fatefully asked the skipper, “would you build a dive boat with sails?”





By: Nick Ingelbrecht

Sailing is a more romantic way to travel, of course, but divers these days are inured to the roar of marine diesel engines for hour after deafening hour: Just scuba commuters, crashing across the oceans to get to the next job as fast as possible.

Sails, it was explained, keep a vessel trimmed, even while under power, provide extra propulsion and arguably, make for nicer boats to live on, since they are designed for human beings rather than time-starved passengers in transit.

The other big advantage of sails is when the engine stops working: That is what happened to us the very next day after I posed the fateful question. So, there we were, 70km offshore on the open ocean, cutting through a 2m swell, when our gear box sprung a massive oil leak and gave up the ghost.

What happened next? Nothing really. The engine was shut down and the boat continued to sail on autopilot.

After a swift evaluation, however, it was decided to sail back to the reef we had left two hours earlier rather than continuing further out to sea without a functional engine.

Despite the oil leak, it was discovered that by judicious top ups, the gear box could be temporarily revived, but only for four minutes at a time, before it ran out of oil and conked out again. With the wind now somewhat against us, we were struggling to get back to where we had come from – now some four hours earlier.

Every spare drop of oil on the boat and some other stuff as well went into lubricate the gearbox. Finally, we could see the mooring tantalizingly near,

By: Nick Ingelbrecht

but not close enough. Our last drop of oil had gone into the gearbox and the engine had been running for a few seconds shy of four minutes. With the mooring just yards away, we had time for one pass. With the wind now head on, it needed one final push.

Just a few inches short, however, the last drop of oil gave out and the gearbox died. But…it was close enough to snag the mooring rope and with a collective sigh of relief, the boat was parked.

What to do next? Well, go diving – obviously – that's what you do when you are in the middle of the Great Barrier Reef. And go diving we did, for that day and the day after, as the skipper worked out how to get us back to civilization. He radioed for a few gallons of oil to be delivered by the only passing tour boat, so that we could motor off the mooring, hoist the sails and amble back to our home port at Airlie Beach in Queensland.

Simple. So, on our day of departure, everyone was up and on deck at 5am: An early start, since it was going to take a while to sail back to port, which we had departed 5 days before. It was a beautiful sunrise and calm.

We motored off the mooring, hoisted the sails, cut the engine and then… nothing. There was no wind and the sea had completely glassed off. We were stuck on the open ocean without an engine and no wind for sailing. Having run out of options, the anchor was dropped and the Whitsundays Sea Rescue Service was radioed for a tow.

This drama took place a few weeks ago, an old dive liveaboard. Although it was a bit of drama for the passengers, there was never any question that our skipper had things well under control. Boats and oceans are unpredictable environments and no matter how well

By: Nick Ingelbrecht

you plan and maintain things, the lottery of the sea means something bad is going to happen someday.

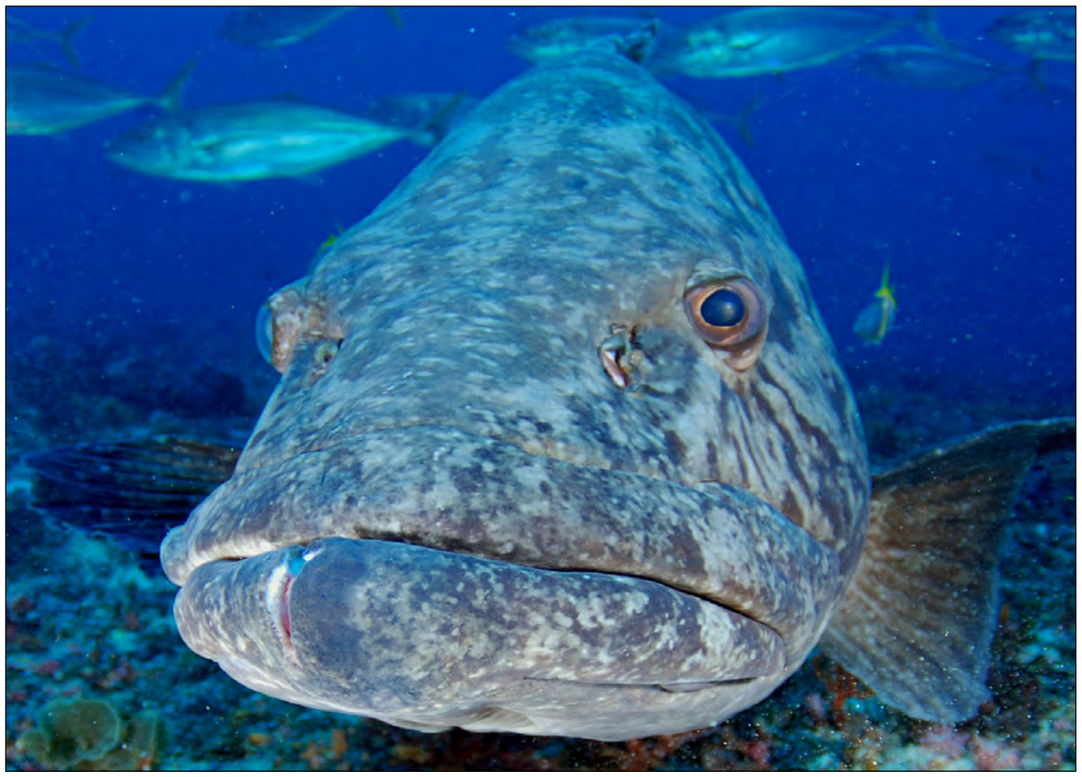
How you deal with problems when they come out of nowhere is the mark of excellence.

In the old days, you would sit on your sailing boat and wait for the wind to change direction and blow in the right direction to get to where you wanted to go. On this occasion, though, we needed to get back for our flights. Fortunately, the sea was now so flat that the lifeboat out of Airlie Beach was with us within two hours.

At the end of the day, we arrived back at port half an hour earlier than expected and none the worse for the experience. In fact, we had a fantastic time exploring the extensive reef we had been stuck on for three days. We had two GBR master reef guides on the boat surveying the coral and pegging the fauna. We had time for a good look at the seafloor cages set up to re-established coral growth.

There was an abundance of inquisitive black and white tip reef sharks that came to check us out on just about every dive, tawny nurses and a leopard shark. The rays were impressive too, including good sized marble rays and a spectacular encounter with one Giant Guitar fish, an endangered species, as well as mantas, hawksbill turtles and magnificent macro fauna.

On successive dives, we got to know the local residents on Bait Reef pretty quickly: Two monster Maori Wrasse called George and Fat Albert and a black giant trevally named Darth Vader. Night dives get pretty wild on the reef as the aggressive GTs and well-fed potato rockcod hunted mercilessly in our dive torch beams. Rainy season



Exploration
GBR

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By: Nick Ingelbrecht

(November through May) in Queensland brings with it the risk of jellyfish stings including the dreaded Irukandji and Box Jellyfish, but the risk can be managed through stinger suits, that are cheap and comfortable and provide additional protection from coral scratches.

Nevertheless, my dive buddy Katie got a face-full of lion's mane stingers at the end of a night dive, followed by a face-full of vinegar administered by the skipper. Her lips swelled up like one of Kardashians on botox, a dubious and painful benefit, at least until the swelling subsided the following morning.

While the GBR is big rather than particularly biodiverse, we encountered a great diversity of big sharks and rays, testimony to the health of the reef we were diving. For those interested in diving on the GBR, it is well worth making the investment in a three or five day liveaboard trip: The one-day dive trips out of Cairns and Port Douglas are fun, but the dive options are limited and the dive sites loved to death and a poor example of what the GBR is officially supposed to be: One of "the richest and most complex natural ecosystems on the planet".

It is no secret that the GBR is under threat, not least from the prospect that the 2,300 km reef could be placed on the endangered list, with the prospective loss of its status as a UNESCO World Heritage site, due to pollution, climate change impacts, poaching, over-tourism etc.

Australia is in the process of producing yet another status report on the health of the reef for UNESCO. The GBR has become something of a political football in the run up to the 2022 federal elections, with both the major parties pledging buckets of money to (somehow) save the reef.

Whoever wins the election, it looks like the GBR might come out a winner. However, UNESCO won't decide just how endangered the GBR is until July 2022: Safely on the other side of the election.

Exploration
GBR

By: Karlien Euvrard

Photo School

Black and White

Prior to 1935 when Kodak introduced colour film, photographer had no choice but to take picture in black and white. Today we have sophisticate digital cameras which can even do some editing on the camera itself, so how will converting your pictures to black and white enhance your photography?

Black and white photos are still considered by some as the purest form of photography because it emphasises lines, forms and shapes. It is at the very least one of the most expressive forms of art, classical yet unpretentious. Leonardo da Vinci said that simplicity is the ultimate sophistication.

Taking black and white photos
Most photographers do not go out to shoot black and white picture, but try visualising what your picture would look like in black and white. Not all subjects will look good in black and white, so take pictures of objects with definite and easy recognisable shapes such as dive buddies, sharks, turtles or fish.

In the absence of colour, contrast is more pertinent, therefore pay attention to lighting. Light becomes a key element because it influences patterns, textures, shapes and contrast.

You will find that most often those overcast days are the best for black and white photography.

Remember when shooting in mid-day or with artificial light such as strobes, shadows and highlights will become a critical feature in your picture. Always shoot with the lowest possible ISO to prevent a grainy effect.

Shooting in black and white highlights the creative side of a picture as oppose to the technical side, therefore you need to focus on your composition and be creative. The same rules which apply to normal photography also apply to black and white photography. When it comes to choosing a lens, any lens can work, but wide angle shots make some of the best black and white photos.

Fixing exposure errors and distracting colours
Photos which may be considered flops can become some of the best black and white photos. For example, if your ISO was too high and you have a picture with a grainy effect, converting these into black and white will give the picture and old, nostalgic effect.

Some exposure problems can also be fixed by converting pictures into black and white and playing with the contrast.

Getting colour combinations right in underwater photography can be a difficult task. The deeper you go, the more colour tense to fade away. Another advantage of black and white photography is that it can emphasize the object by removing distracting or dull colours.

Converting to black and white
Some cameras have the option to take pictures in black and white should you wish to see the photo in black and white immediately after taking the picture. Alternatively, make use of editing software to convert pictures in black and white.

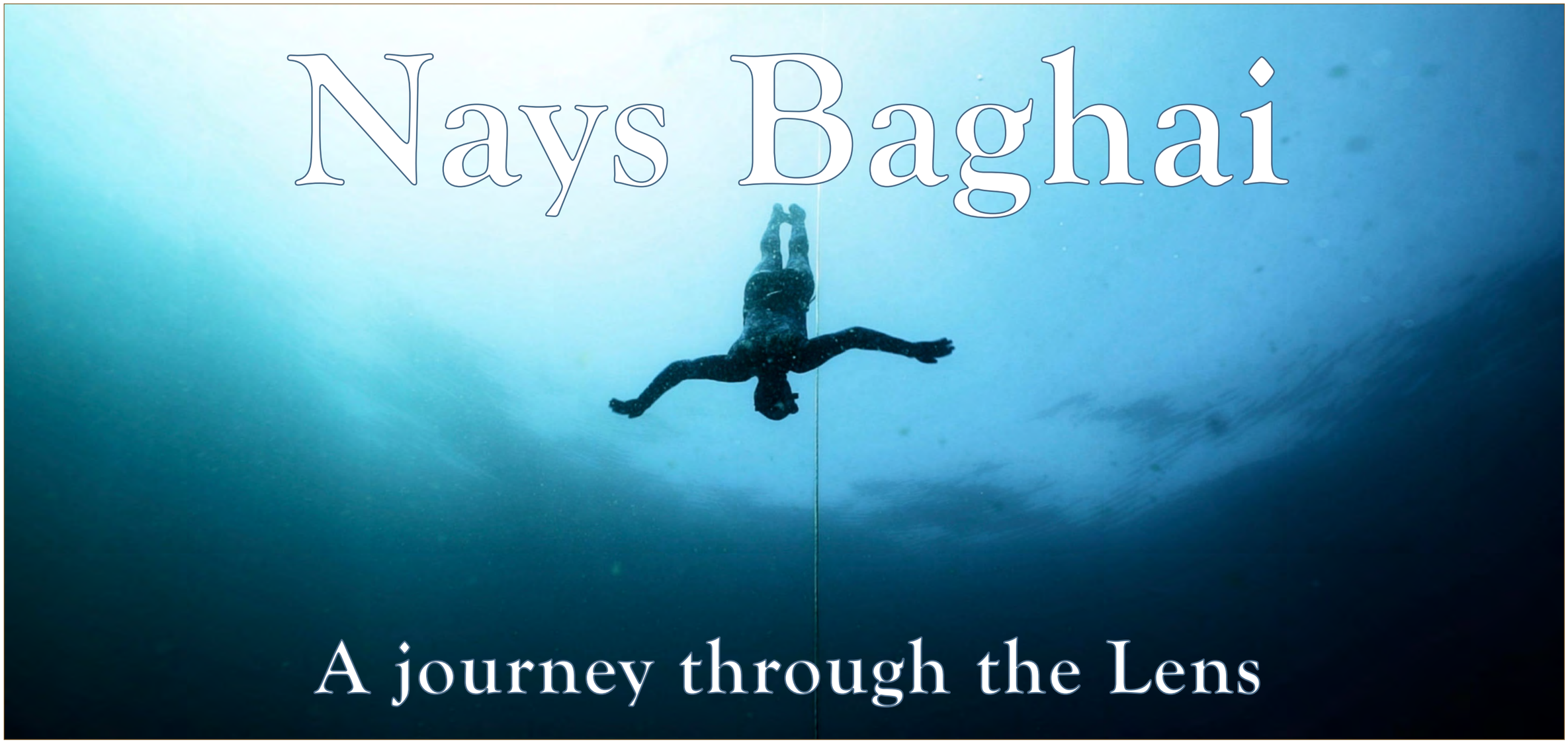
If you are using an SLR camera, try and take picture in RAW to convert to grayscale command in your photo editing software.

Next time you are playing around with your photos on your PC, convert a few into black and white and learn to recognise photos which will have the best effect with this technique. Black and white prints are still hanging on the walls of many galleries, households and corporate companies because of the timeless yet modern look and feel it can create.

It will never go out of fashion.

Through the Lens
Photographer

Nays Baghai



A journey through the Lens

Nays Baghai

When I saw The Blue Planet for the first time as a kid, I immediately knew I wanted to combine diving and cameras for a living after seeing the image of rebreather-clad divers filming massive hammerhead shark schools. I had no idea how to combine the two until a decade later while I was a film school student, shooting the underwater sequences for a short film.

I will never forget the moment when the the click of my GoPro's shutter reverberated into a much bigger click throughout my mind and body; I had found what I wanted to do with my life, and I wasted no time enrolling in every scuba diving and freediving course I could find. At the time, there were no educational programs on becoming an underwater creative, so I created my own program that complemented what I was learning at film school.

What do you love the most about underwater photography?
So many things. The weightlessness and silence of the water. The astonishing marine life and locations that few people get to see and the environmental awareness that comes with it. The yin- yang relationship between creativity with a camera and technical precision with gear. The rich psychological side of it and the mentally beneficial habits you pick up.

What are your favourite subjects?
Given I shoot exclusively on wide-angle lenses, my typical subjects are either freedivers or big animals, both of which I adore working with. Sharks are easily my favourite animal, but I also love gloomy octopuses and giant cuttlefish.

Where's your favourite dive site?
Within Sydney, it's easily Shelly Beach, but if we're talking about New South Wales as a whole, I'd think the Ex HMAS Adelaide and Fish Rock Cave are both all-timers. Outside of Australia, the Galapagos Islands easily takes the cake as the best dive destination I've ever been to.

What was your most memorable dive of all time?
Being in the middle of a 200+ school of hammerheads whilst diving at Wolf Island in the Galapagos and capturing it on camera. It was the moment I had finally accomplished my childhood dream. The final cherry on top was riding the underwater currents and flying past the massive cliffs like I was Iron Man.

What camera equipment do you use?
I use a Sony A7SIII with a 16-35mm F2.8 G-master lens inside an Isotta housing. It's the most versatile setup I've ever owned, especially in terms of the 16-35mm focal length and alternating between photos and videos at whim. I also own RED Gemini and a GoPro Hero 8 with their respective housings, as well as a pair of Weefine Smart Focus 2300 video lights.

Do you prefer freediving or scuba diving to get the shot?
I deeply love both equally, but it depends on the shot. For deeper dives or working with benthic animals, I will insist on scuba. Whereas for shallow water dives or documenting freedivers, I prefer to freedive for greater manoeuvrability.. I also use a JJ-CCR rebreather in case I need longer bottom times, absolute silence, and flexibility for deeper dives.

Who are some of your clients that you're most proud of working with?
Rolex, Sony Alpha, Tourism Australia, Destination NSW, DeeperBlue, Molchanovs Freediving, Rodney Fox Shark Expeditions, TUSA, Dive Spear Sport, the Pressure Project, and my alma mater, AFTRS.

What's on your post-COVID travelling bucket list?
Too many places! Socorro, Norway, Japan, Truk Lagoon, Tasmania, Greenland, Bahamas, Y-40, French Polynesia, and many more!

Where can people see more of your work?
I'm on both Instagram and Vimeo as @naysbaghai.

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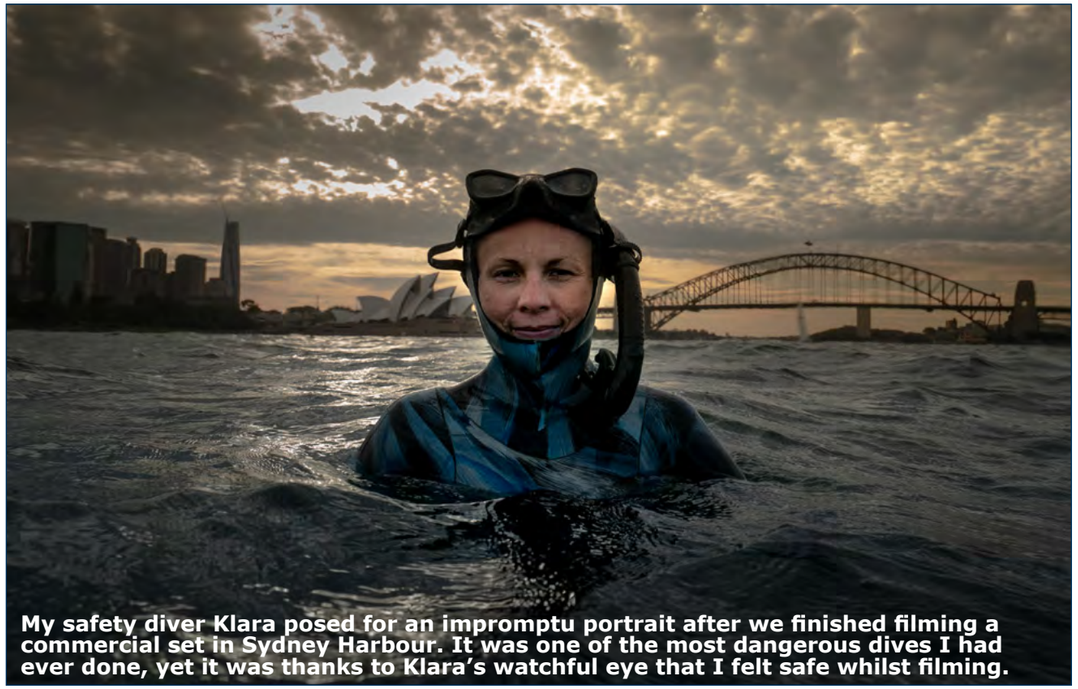
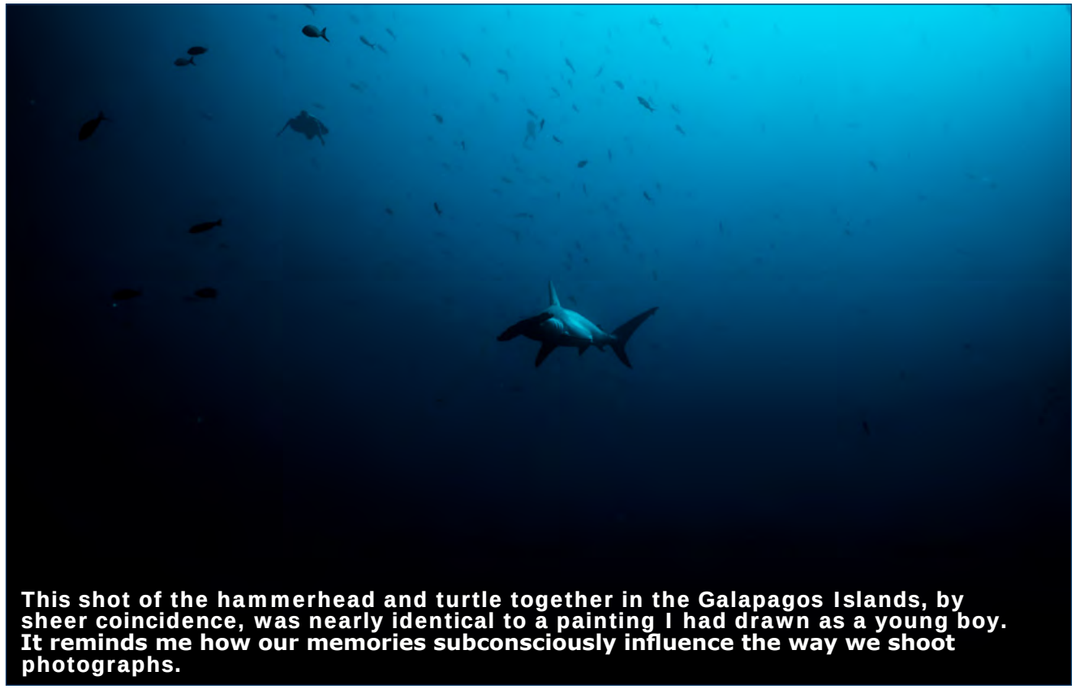
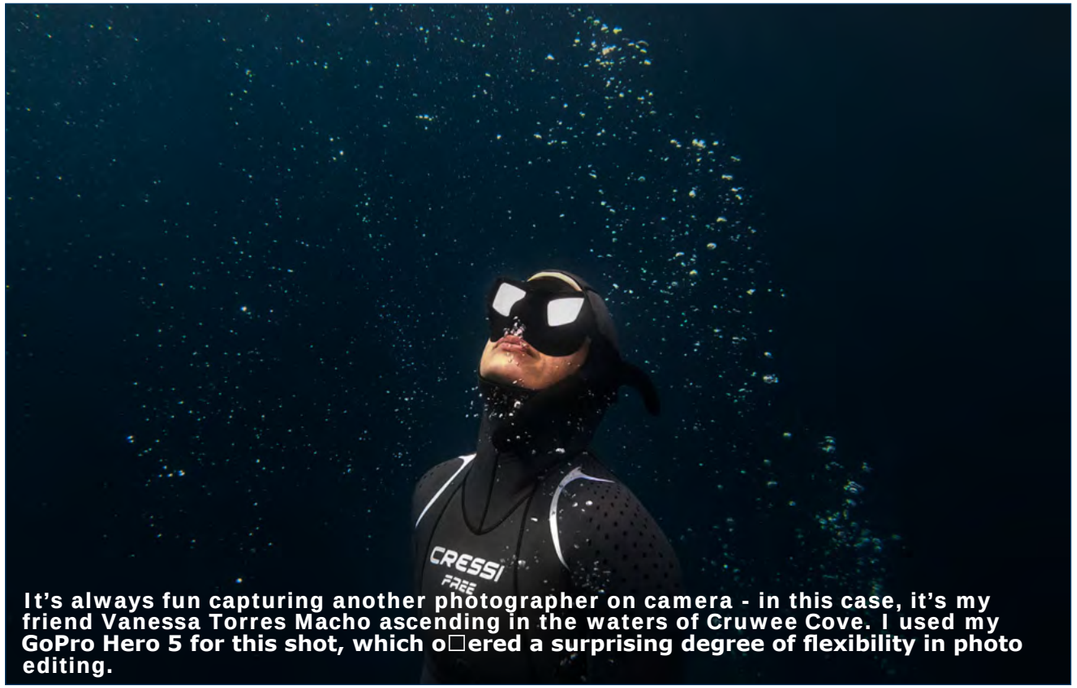


My safety diver Klara posed for an impromptu portrait after we finished filming a commercial set in Sydney Harbour. It was one of the most dangerous dives I had ever done, yet it was thanks to Klara's watchful eye that I felt safe whilst filming.

Freediver Alexey Vlaskin descends to a depth of 30m without fins into the cold, dark, murky waters a kilometre o□ South Head in Sydney. I was hovering at a depth of about 10m battling my own seasickness underwater as Alexey passed me.

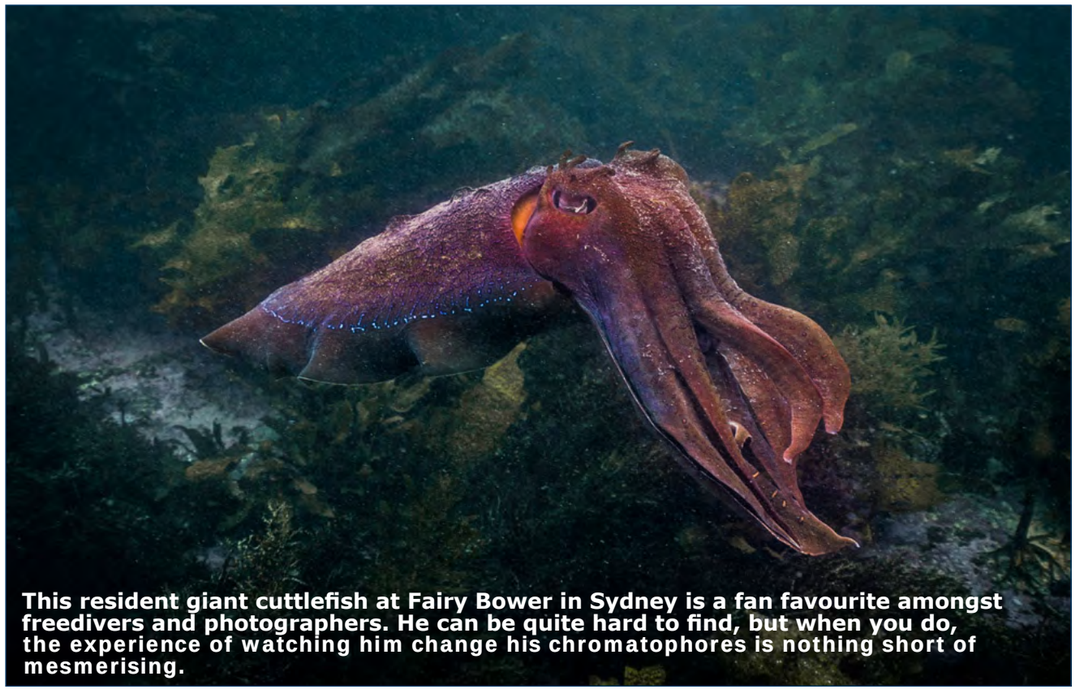


This shot of the hammerhead and turtle together in the Galapagos Islands, by sheer coincidence, was nearly identical to a painting I had drawn as a young boy. It reminds me how our memories subconsciously influence the way we shoot photographs.

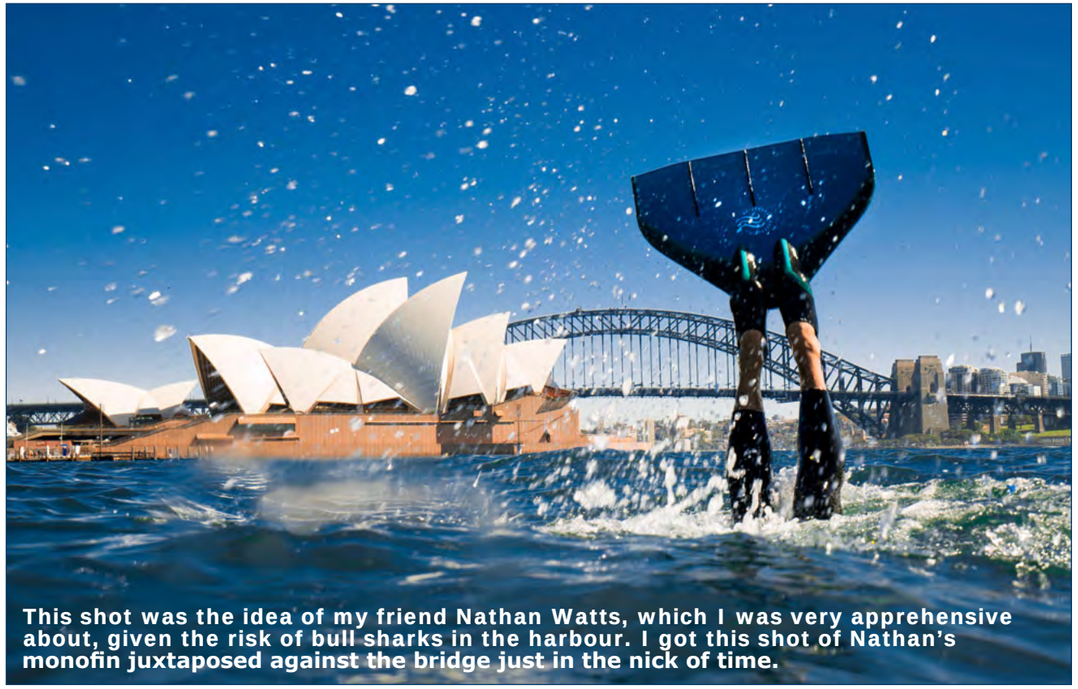


It's always fun capturing another photographer on camera - in this case, it's my friend Vanessa Torres Macho ascending in the waters of Cruwee Cove. I used my GoPro Hero 5 for this shot, which o□ered a surprising degree of flexibility in photo editing.

Nays Baghai

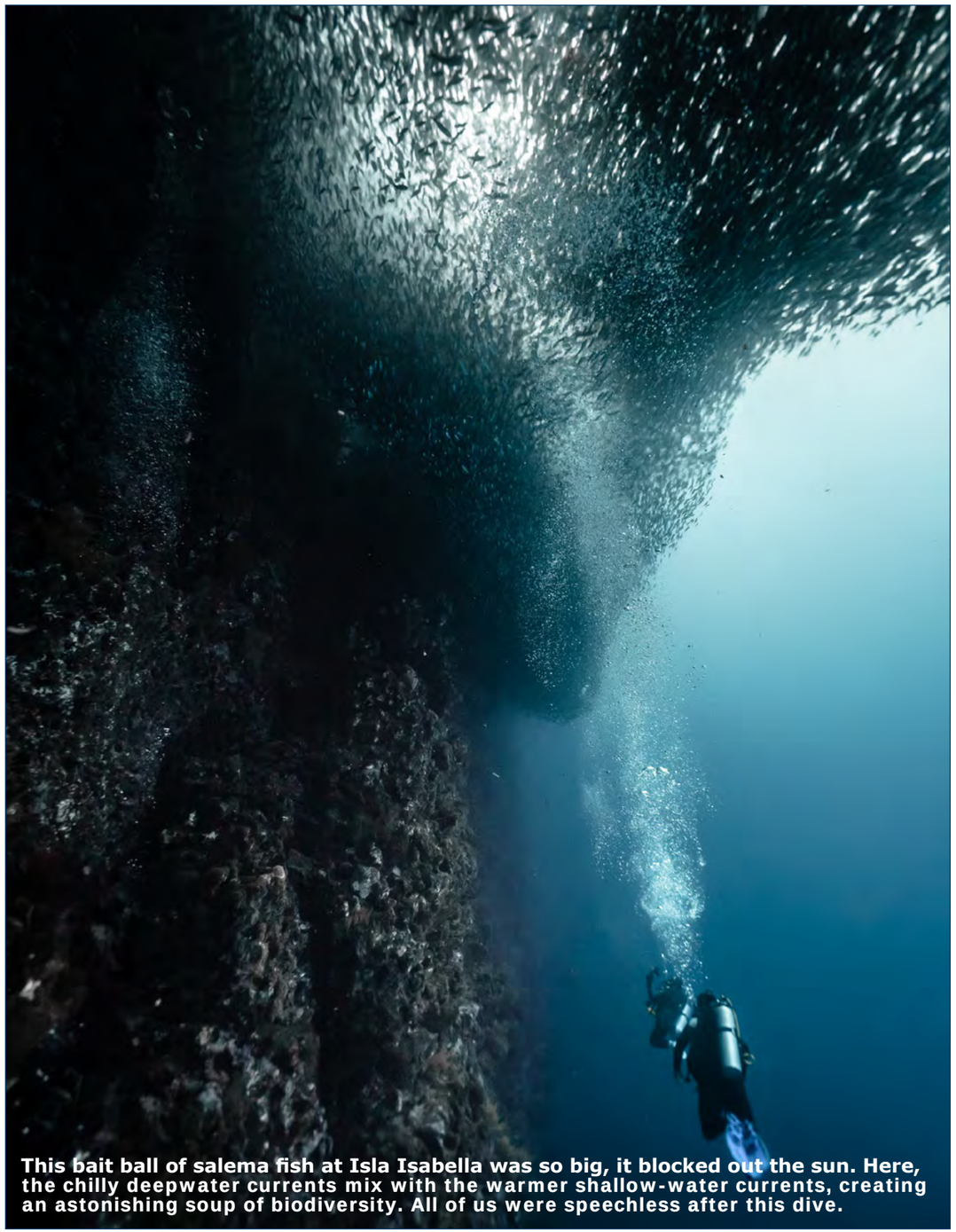


This resident giant cuttlefish at Fairy Bower in Sydney is a fan favourite amongst freedivers and photographers. He can be quite hard to find, but when you do, the experience of watching him change his chromatophores is nothing short of mesmerising.



This shot was the idea of my friend Nathan Watts, which I was very apprehensive about, given the risk of bull sharks in the harbour. I got this shot of Nathan's monofin juxtaposed against the bridge just in the nick of time.

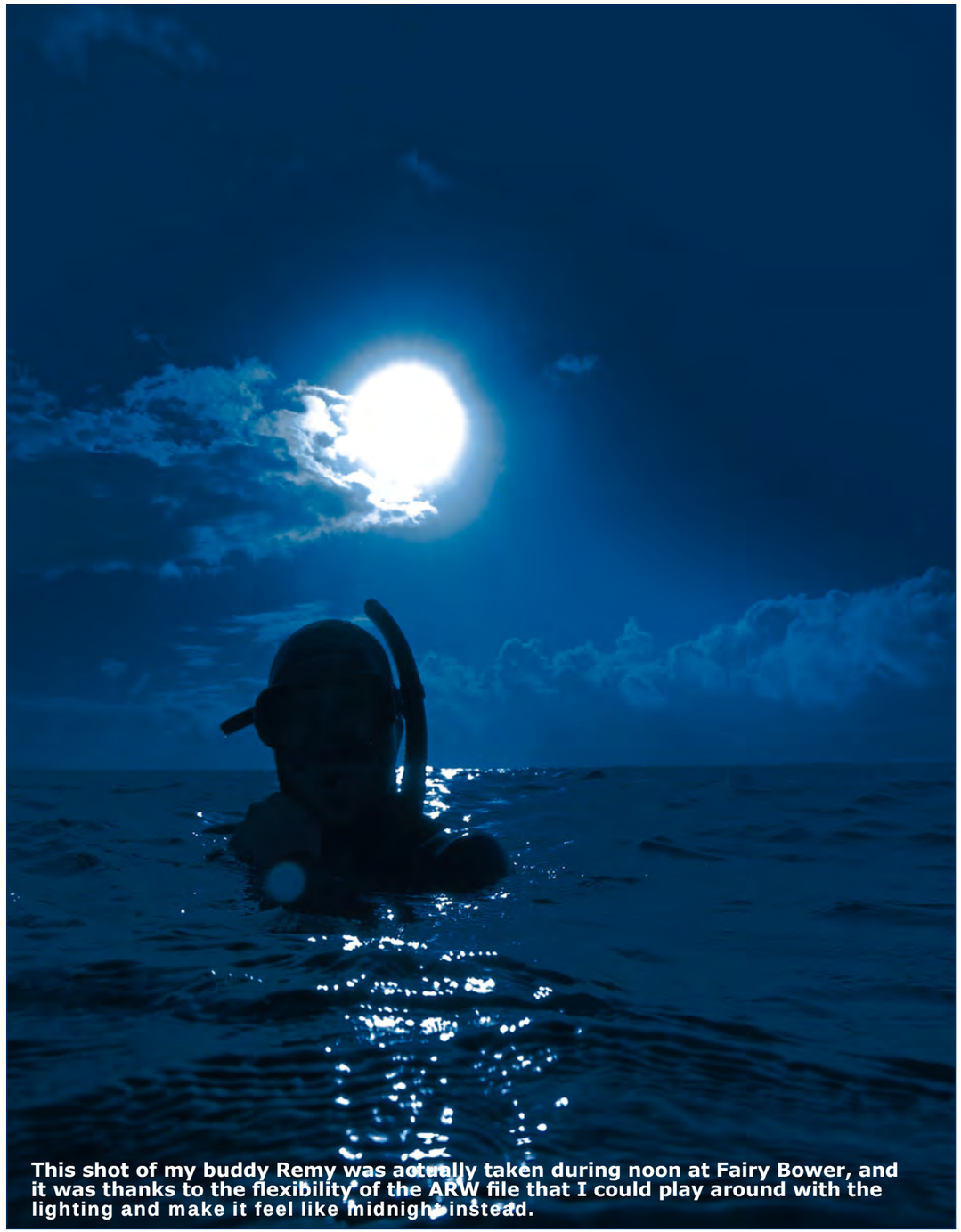
Nays Baghai



This bait ball of salema fish at Isla Isabella was so big, it blocked out the sun. Here, the chilly deepwater currents mix with the warmer shallow-water currents, creating an astonishing soup of biodiversity. All of us were speechless after this dive.

Nays Baghai

Before all the other freedivers arrived, Kim had just finished setting up the buoy and kindly performed a shallow dive for me to figure out how to capture the light. Ironically, it ended up being better than most of the ones I got later that day.



This shot of my buddy Remy was actually taken during noon at Fairy Bower, and it was thanks to the flexibility of the ARW file that I could play around with the lighting and make it feel like midnight instead.

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Giant Stride
Scary Shark

The Scary Looking Shark

By: Jamie Watts & Malcolm Nobbs (Photos)

The first one made a delightfully dramatic, silent entrance. It's an impressive form, even by shark standards. It's properly big, much bigger than I am, thick-bodied yet sleek and tapering from the nose and to the tail, an elegant spindle.

By: Jamie Watts & Malcolm Nobbs (Photos)

The cloud of sweepers just eased apart in the middle, like curtains framing the rock gully. And slowly, smoothly, with the vaguest sweep of that long tail, the front of the shark pushed through to give me a magnificent view as he aimed for a spot half a metre to the side of my shoulder.

The cone snout, the small, pale eye watching me as he slid past, and the mouth, bursting with row after row of slender, curved teeth. The classic fly-by, perfect for a photographer.

Gorgeous. A wobbegong squats off to the side, managing to look slightly grumpy, as wobbegongs do, but this big beast, one of half a dozen I can now see as we move into the gully, exudes calm.

You can see where the South African common name 'raggedtooth' came from, although the pedant in me can't help noting that they don't have any more side cusps than other sharks, it's the whole mouth that looks ragged, not any individual tooth, so 'raggedteeth' would be more accurate.

Their other common names don't make sense; Australians call it Grey Nurse, but these sharks are bronze to reddish brown, certainly far less grey than many other sharks, and they are not even vaguely related to the nurse shark family – and it's not clear where the nurse name came from anyway.

Americans call them Sandtigers, but they're nothing like the unrelated Tiger Shark in either form or habits, and they don't have stripes as several sharks do.

You can see instantly why they are sought after by both aquaria and by underwater photographers.

They look wicked, built how a scary predatory shark is supposed to look, that nightmarish mouth bursting with sharp pointy death - yet they are widely known to be extremely docile and laid-back, easy to care for in an aquarium and easy

By: Jamie Watts & Malcolm Nobbs (Photos)

to interact with as a diver. I've never got to the bottom of exactly what the cause is of the hunched back and spine curvature that invariably happens with raggies kept long term in aquaria, but it doesn't look healthy. Because of how they look and their nature, some of these aquaria offer shark diving experiences with them.

Most shark species are fussy eaters of a surprisingly small range of smallish fishes or squids. The raggies, though, eat both larger prey and a much wider variety than most sharks.

They don't seem to often if ever try to attack the sweepers that shoal here at Broughton Island off the New South Wales coast, partly because they are too small or too agile, and partly because the sharks seem to eat less and rest more when we see them in these shallow sites during the day. Raggies generally forage a little more at night, heading offshore and a little deeper to do so.

The few divers visiting these shark at night describe them as very different animals than by day.

They also become perhaps a little less docile during breeding season, when males get a bit more aggressive and almost territorial around females. And there have been instances when spearfishermen with struggling prey have earned themselves a nibble.

But in most circumstances these sharks seem to be just about the most inoffensive of just about any hundred kilo shark.

We see many sharks trailing hooks and line, not always from the mouth – they frequently seem to get foul-hooked by passing gear. Observations from local divers and researchers suggest it may only take a small hook lodged in their throat for at least some sharks to get septacemia, stop eating and eventually starve to death.

Raggies will take static bait throughout the day and night, although seem far

By: Jamie Watts & Malcolm Nobbs (Photos)

less keen on trolled bait and lures, which makes sense – they're not really built to chase moving prey for much more than a quick lunge.

Whether intentionally or by accident, fishing has had a big impact on numbers in Australian and US colonies in recent years. We don't really have a good idea of what the natural populations were, but based on their feeding reasonably high in the food web, and their habitat, global populations may have naturally once been in the hundreds of thousands.

Today on Australia's east coast they are listed as critically endangered, down to perhaps a couple of hundred animals, on the west coast as vulnerable. Worldwide the order of magnitude may be a few thousand to a couple of tens of thousands.

Evolutionarily they're odd beasts. They are lamniform sharks, which means they're closely related to only a handful of unusual large sharks, including the Basking shark, Megamouth shark and the warm-blooded predatory Makos and Great Whites. Not really built like any of their cousins, if anything raggies are most similar in body shape to the unrelated lemon sharks.

They're rather sedentary compared to their closer cousins, and the flat tailstock and long upper tail hint to animals that aren't built to travel either particularly far or particularly fast.

They are also more sociable than most large sharks, and whether off South Africa or Australia, these sharks are usually encountered in groups, spending time at a handful of sites in each area they occur, apparently at least partly segregated by gender.

There are only three members in the Sandtiger / Raggedtooth family. The most commonly seen by divers, mainly in cooler tropical and subtropical seas, is the Spotted Raggedtooth or Grey Nurse shark.

This is very much the inshore, shallow

water member of the family, conveniently spending the day in shallow, diveable depths close inshore, heading out a bit further and deeper at night to forage.

The other two longer-snouted, smaller-toothed species are less frequently encountered, found much further out, over deeper water and apparently live deeper as well as being rarer, probably less sociable and hunting smaller prey. All three species seem to mature at about the size of a large man, the size they reach at five years old in the case of the Spotted Raggedtooth.

All three species can exceed three metres in length by the time their growth slows to a crawl in their early teens, possibly more. These are big sharks.

Raggedtooths are infamous for uterine cannibalism. The first youngsters hatching inside the mother will eat their siblings and slower-developing eggs. Nine months or so after mating, two survivors are normally born. Because they are quite mature before having any young and then have at most only two young per year, recovery rates and population growth are slow even by shark standards.

Like many sharks, raggies seem to have a temperature range where they are at their most comfortable, which in the case of the Spotted Raggedtooth is the 18-24oC sweet spot in the subtropics, where water is just cool enough for vertical mixing to provide a richly productive plankton bloom with the seasonal changes – a necessity for a large predator with a healthy appetite for largish fishes.

So the sharks move along their coasts a little towards the equator in their local winter, mainly breeding in the late winter and spring in places like South Africa's Aliwal Shoals, before following the cooler water away from the tropics to feed and give birth when it gets too warm in summer.

There are places, though, like Wolf Rock in Nelson Bay, and some of the shallow

By: Jamie Watts & Malcolm Nobbs (Photos)

sand banks off Malaysia and Indonesia where they can be found year round in warmer water.

These sharks seem to change their preferred socialising areas over time. Eastern Head off Broughton Island, New South Wales, Australia was their preference in 2005 before they moved a short distance to Elephant Rock where they stayed there for 5 years before relocating again, this time to nearby North Rock where they have remained since.

Protected areas need to be revised from time to reflect these movements. Aggregations of large predators inevitably have an impact on the local food resources, and it makes sense for animals foraging this high in the food web to shift around periodically.

We'll be back, and the diving community here keeps a concerned eye on the numbers from season to season. For now, though, after a very pleasant hour drifting about the canyon with these big, slightly dopey sharks and through the clouds of sweepers, it's time to head up and leave them to their down time.

Giant Stride
Scary Shark

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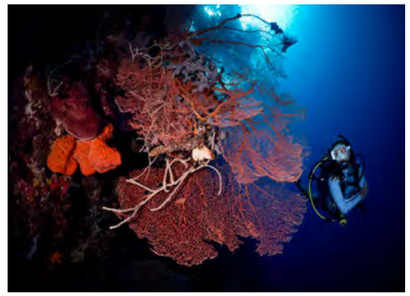



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Giant Stride
Wildcard-Sue

By: Graham Willis

Wildcard-Sue

What do you get if you mix a conservationist, a diver, and an artist?

Giant Stride

Wildcard-Sue

By: Graham Willis

Wildcard-Sue (Sue Liu) creates intricate, realistic illustrations of Australian native wildlife from the land, sea, and sky, but it's her love for marine animals and the sea that means much of Sue's work is in our world…under the seas.

Sue is an active conservation and wildlife advocated and educator, using her art and community networks for good! She's committed to raising awareness of lesser known and appreciated marine animals, with an aim to engage and educate a broader community about issues that impact animals and their environments.

A dive buddy of mine, Mathew, adorned his dive shack with some of Sue's artworks, so I was familiar with her style, but not the range of work…nor the person.

Six months later, I met Sue for the first time in February 2021 whilst volunteering at community clean-up event at popular dive site Clifton Gardens, in Mosman, NSW. It's a great muck diving site covered in Johan's and my book Dive Spots of New South Wales https://ozdiver.com.au/product/new-south-wales-the-dive-snorkelling-spots-of-new-south-wales/

The Clifton Gardens dive site is in an area called Chowder Bay, which is a bit of a magnet for fishers and, through the summer months, it is a very popular picnic and partying spot which attracts crowds of visitors from around Sydney.

Sue, a passionate diver, was confronted by this escalating problem of rubbish and its subsequent impact on Clifton Gardens' precious wildlife and environment. She decided to go beyond casually picking up rubbish and sharing her photographs with fellow divers and friends on social media. But that's a story for another day.

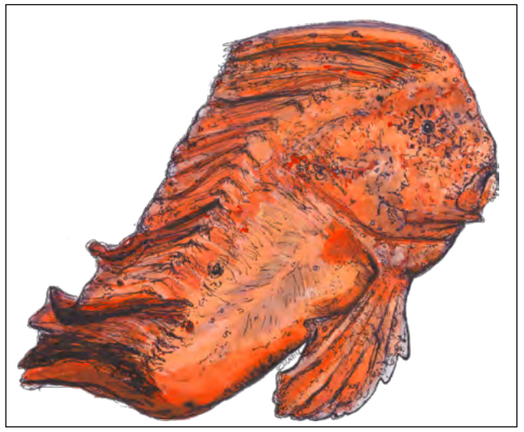
Having spent time diving and talking with Sue over the year, I am better acquainted with both, and think her art, and the story behind it, should be shared with OzDiver's readers.

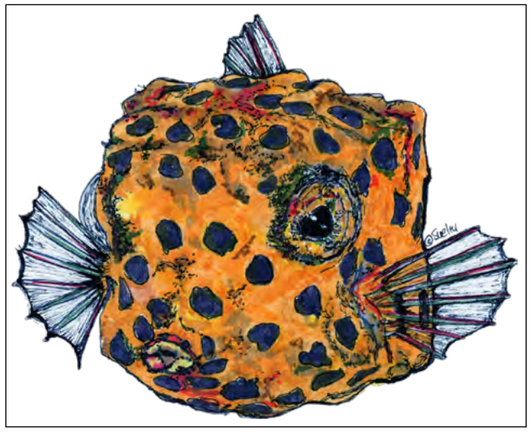
I recently caught up with Sue at her artist's workshop (ok so it's really her garage) in Sydney's Inner West, to get a better understanding of her art, the journey she is on and where she hopes it will take her.

Sue is a self-taught illustrator and observational artist, who creates intricate, realistic illustrations of Australian native wildlife from land, sea and sky. She's also an author, communications, and marketing consultant and a Divemaster who has been diving for around 30 years.

Sue has only put her passions around the environment, art and diving together in the last 2 years. COVID has been a rough ride for many, in her case, losing her contract work in Papua New Guinea allowed her time to concentrate on developing her newly found skills as an illustrator, artist and conservation advocate.

I asked Sue when she 'knew' she might have a gift as an artist, and she was very specific. On 30th of September 2019, Sue picked up a pen and simply started drawing things around her. Her first attempt, a half-peeled banana, was not quite what she was looking for…nor the lime that she tried next.





By: Graham Willis

Carl the Leafy Sea Dragon
She then found out about 'Inktober' (created by Jake Parker in 2009), a daily drawing challenge running throughout the month of October. She didn't even know if she would be any good…but she gave it a go. Inktober gives everyone a word of the day as inspiration, and one day the word 'Dragon' was the prompt.

Sue remembered seeing some stunning photographs of Leafy Sea Dragons from South Australia posted on Facebook by fellow diver and friend, Steve Jones. Steve agreed to send Sue some photos to draw from, and her creativity was 'unleashed'. Carl and Steve, the Leafy Sea Dragons, were her first drawings of note. After that, she knew she was onto something special. The rest, as they say, is history…

Steve the Leafy Sea Dragon
For the first 12 months, Sue drew exclusively in mono using black ink and grey colour markers. After persistent badgering from people to draw in colour, at the beginning of 2021, Sue introduced colour into her drawings. Now she draws a few versions of an animal in different poses and in mono and colour. Each approach highlights different details…the results speak for themselves.

Mia The Magnificent
The drawings are often named after the photographer, or they have 'naming rights'. Sometimes the drawings are named for friends or in memory of loved ones, which is a rather special way to remember someone.
Sue tries to draw on a combination of first-hand experience and photos. On scuba, Sue studies animals, photographing and filming them. The environment and in-person experience adds context to any photograph and allows Sue to see how the animal moves in the water adding depth to her art. The process of creating a piece of art can take anything from a few hours to several days or even weeks. Sometimes Sue keeps coming back to a drawing over several weeks to add texture or capture a certain nuance.

Sue makes all her illustrations (100 at the time of writing) available around the world with a wide range of products such as t-shirts, hoodies, stickers, homewares, stationery etc. via popular print on demand site Redbubble. She also selects particular drawings to be part of her artisan range which are made locally, and available on her website, Artisan markets, and soon, hopefully, select gift stores. Sue also draws live at markets and has educational sheets for kids available, to bring interest and start conversations.

Lisa the Octopus
Sue said "The biggest thrill for me is seeing people loving my animal art, wearing them or appreciating them in their daily lives gives me a buzz!! It's a joy to have conversations with people about Australia's amazing native animals that they or their friends adore. I also enjoy introducing them to quirky sea creatures they never knew existed. I love talking to divers and, encouraging people back to the water, and to give diving in Sydney a go! Most of my conversations are around the fear of sharks, where to dive (in Sydney) and what we see. It's also amazing how many people are obsessed with octopuses, weedy sea-dragons and seahorses!"

Sue is committed to raising awareness of lesser known and appreciated marine creatures, to reach and educate a broader audience about issues that impact animals and their environments. With COVID limiting travel, Sue honed her focus to diving Sydney and studying the fascinating and abundant marine life whilst combining it with her art, products, and wildlife issues in local areas.

Nancy the Grey Nurse
Sue believes that, if she can capture animals as well as their story and then get the word out, others might also become more aware and perhaps, care more and be interested in their survival and protection. This belief informs Sue's approach, which is to "engage, not enrage".

In June 2021, during Sue's first Artist in Residence and exhibition at Bendigo Bank Leichhardt, Sue developed an activity sheet focusing on the friendly and protected (in NSW) Eastern Blue Groper. The activity sheet was offered to a local primary school group as optional homework. Sue was astonished at the uptake and interest by children and their parents, and showcased their creativity alongside hers. You can see the children's work and download the Blue Groper, Cuttlefish and Sea Horse sheets for free from https://wildcard-sue.com.au/pages/education.

Sue also collaborated with University of Wollongong and SeaSide Scavenge on several awareness and in-person campaigns and will be doing these again in May for World Ocean Day (8 May) and National Bio Diversity Month, in conjunction with her 2nd solo art exhibition at Bendigo Bank in September 2022.

Sue is also keen to collaborate with researchers, scientists and educators around utilising and developing Wildcard-Sue's creativity and research resources for campaigns. Alongside developing her education sheets, Sue has a long-term plan to publish a series of unique creativity books. She feels that if she can help get the environmental message to children today, some of them will become active conservationists in the future.

If you want to explore some of Sue's work the easiest way is to visit:
•Wildcard-Sue.com.au
•wildcard-sue.redbubble.com
•Facebook & Instagram Wildcard-Sue @ wildcardsue & @zuluchiefette
•Facebook – Sue's Diving Movies and Ocean Matters @suesdivingmovies
•Youtube - https://www.youtube.com/user/zulucommunications/

Sue donates 5% of profits from her artwork sales to conservation projects. I asked Sue where she wanted to go with her art and environmental education and in short, she wants this to be her future… her purpose for diving and a driver for her art and creativity. This includes art and product commissions and sales, education, and awareness campaigns and more! If this all supports, her diving 'habit' and have something to live off…then job done! Sue said, "I don't have 35 years to become an overnight success…I am on a mission to make art, native wildlife conservation and marine advocacy my life - I'm going WILD - NOW!"

We are going to leave you with Donald the Red Prowfish… see if you can figure out why 'he' is called Donald (he's even the right colour)!

By: Kurt Storms

Emergence du Ressel

Divers : Kurt Storms, Caroline Massie, Jo Croimans

Emergence du Ressel is a renowned cave in southern France's Lot department, and its furthest reaches have been explored by many noted divers. But you don't need to go 4km in to appreciate its magic. Kurt Storms reports

Finally, we're all vaccinated and can go to the Lot again, this time for a week of training students and then a week's diving holiday with my wife.

The two students will be kept busy for the next few days. They have already done their theory so that we can get the most out of our dives. This part of France has become famous because so many European scuba-divers take their cave-diving classes here as a way of avoiding having to travel all the way to Mexico or Florida.

One of the most famous caves in the region is Ressel, and most of the photos you see online, showing huge, dramatic blocks of white rock, flat structures and shafts, are of this cave. The facilities are good; we have plenty of parking space, toilets and so on. From the car park it's a 100m walk to the entry-point on the River Célé, where we can kit up by the water's edge.

The Ressel was first dived in 1968, by two divers from the Auvergnat caving club who penetrated to 150m. It was another five years before the line was extended to 300m, with a maximum depth of 30m. Then in 1975 Jean-Louis Fantoli and Claude Touloumdoian reached Pit 4 and went as deep as 45m. Jochen Hasemayer in the early 1980s was 1100m into the system when he planted a knife in the rock to which to attach his line. The knife is still there.

On 12 August 1990 Olivier Isler was the first diver to cross Sump 1, taking 10 hours 35 minutes to make it there and back. The end of this 1850m sump, which descends to 83m, is named Lac Isler, and from there you can continue to another four shorter and shallower sumps. The deep section starting from Pit 4 can be dived only using trimix. In the following years the further sumps were explored by divers including Rick Stanton, Martin Farr and Jason Mallison. In 1999 the end of Sump 5 was reached, giving a total length on the main line of 4415m.

One aspect that makes the caves so impressive is the spectacular visibility of more than 10m all round. This contrasts dramatically with the 5cm visibility in the Célé at the start of the experience. As soon as you reach the entrance to the caves, the water clears like snow in the sun. The first thought that ever crossed my mind here was: how on Earth did they ever find this cave?

How, considering the visibility in the river, did anyone notice that small hole 6m below the surface on one bank? Talking to local people reveals that when the cave is full of water, you can even see a geyser form in the river – another impressive detail. If you want to admire this phenomenon, you have to visit after a few days of rain, though there is no way you can go diving in the cave at that time.

A rope runs from the point at which you get into the river all the way into the cave, and it continues to the main line, so you don't need a primary reel there. It's really easy to find the entrance, at a depth of 6m. Then you find yourself in a huge tunnel, with impressively sized white boulders.The first dives with the students were only through the first tunnel, allowing the obligatory skills to be practised.

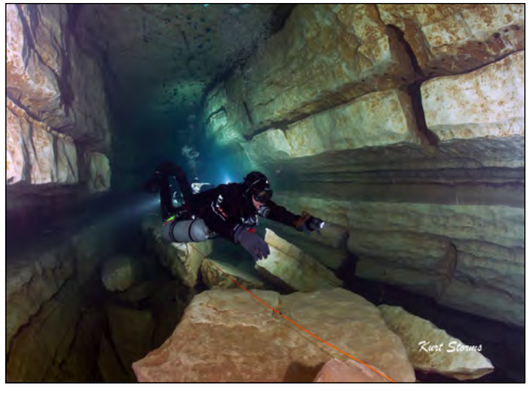
But the first tunnel is itself a beautiful part of the system, with the many huge blocks lying around. Two of them consist of white rock each marked with a large black spot. You won't find these black spots anywhere else in Ressel. Now we were ready to start widening the comfort zone by penetrating further into the cave.

On side-mounts we explored the first tunnel on the left, and in the next tunnel went further towards the shaft to take a look to a maximum depth of 30m. It is so impressive – you feel as if you are descending into the abyss. Now the students were even more curious about the famous Pit 4. I did the first dive with Jo, who had a side-mount configuration with an extra 7-litre cylinder, while I dived with my Divesoft Liberty SM rebreather. It took 28 minutes to reach our objective, and along the way I showed Jo the shunt that goes to the deeper part of the first loop.

Enjoying the ride, we continued until we reached the point of the shaft, where I checked with him that everything was OK before we descended to a depth of about 40m. I could see in Jo's eyes that he was enjoying himself, but we didn't have too long before we had to set off back again. If you're into deco, you can do it all on the way back on nitrox 50. Advanced divers can take oxygen to use at 6m and finish any decompression on O2.
It's a great dive. The Ressel allows for a wide variety of dives to be planned, choosing different depths in the tunnels to provide a range of perspectives.

Once we got back to the top, Jo was unstoppable talking about the beauty of the cave, and especially of Pit 4, making my wife want to take a look too. We did this dive a few days later, when both gentlemen had gone home, and this time we took a scooter, which does make a big difference.

Within 13 minutes we had reached the shaft, and again I enjoyed seeing my buddy's happy face. How nice it is as an instructor to be able to pass on your passion – that's why we do what we do.Last year, I did the Deep Loop (1160m and 73m deep) with two friends and we still enjoy talking about it. We've promised to come back to do the rest of Sump 1 when we can. Ressel remains one of the most beautiful caves in Europe.



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Good Tech Instructors

Nuno Gomes

To start with, you need a good diver who has all the necessary theoretical and practical knowledge and has mastered the required skills and techniques.

The other important points for a good dive instructor are:

•The instructor must be able to deal with people

•They must have a lot of patience

•They need to have the ability to impart knowledge and make the subject matter interesting for their students

•The instructor should have a personality that gives them presence and allows them to come across as being a role model and mentor

•A good instructor will instil discipline without being authoritarian

•Last, but not least, the instructor should teach for the love of the sport, rather than for the money aspect.

Barry Coleman

I have one word that describes the most important aspect of being a good dive instructor – attitude. It covers all the areas and applies to all the situations that may be encountered.

The amount of time spent in the field is a good indicator of an instructor with "the right attitude". There is an old saying in the diving industry: "You get old divers and you get bold divers, but very rarely do you get old, bold divers".

A good indicator of an instructor with the right attitude will be the number of years spent as a full-time instructor and having been able to weather the storms.

Doing the maths will help weed out the good from the bad.

I'm not saying that a newly qualified instructor won't have the correct attitude, but only time will let them shine. The beauty of most of today's training programmes is that the "instructor" is more of a facilitator conducting a well-proven programme.

All the students need to do is make sure they follow the set course parameters, which are given upon enrolment.

If the instructor goes outside of these parameters, it's a sign that they have the right attitude and are willing to give more information than just the bare essentials.

Training is a vital part of being a good instructor, but it's not the only one.

A huge dose of patience, lots of humour and a touch of command would go a long way. Wrap these up, mix in some physical fitness, remove the expectations of a high salary, bake until ready and allow to cool.

The end result… a good dive instructor.

Pieter Smith

It's not about the diving school, agency or reputation, but rather about the individual instructor! Good leadership, coaching and communication skills, combined with a true love for diving is the recipe for a good instructor. A good instructor will lead by example – they love diving, otherwise they wouldn't be doing it in the first place.

A person becomes an instructor because they want to share their experiences with others and want to influence others in a positive manner.

Diving is a dangerous sport and doesn't come easy and natural for most; a good instructor must be able to "convince" others to take the brave step to go underwater – a very unnatural act to do – and must be there with the students when they take that big step! Instructors are role models for their students.

An instructor should act responsibly and ensure that their students acquire the correct skills and act in the proper manner when underwater.

Patience is key to being a good instructor.

This allows the students to form a bond and place trust in their teacher. Good instructors are unique and therefore quite scarce. When you find one, don't let go.

Pieter Venter

Twenty years ago, my SAUU 1 star course instructor was an ex-Navy PT instructor with bulging veins on his forehead. The course duration was six weeks – six weeks filled with fitness tests, drills, pool sessions, eight sea dives and two dam dives. Despite the toughness of the course and cold Atlantic waters we had to practice in, many of those students are still diving today. My wife's course was a half-hearted two weekend affair with the instructor only getting into the pool during the last pool session - very few of her group still dive today.

The telling difference was the instructor. A good instructor not only needs to be an experienced and knowledgeable diver, but must also know how to teach from the beginner level. Not all good divers are able to become good teachers.

The right instructor will understand how long it takes to get the necessary knowledge across to their students and will be willing to spend that time perfecting their students' skills and getting them to reach a comfort level in the water.

This will allow the students to learn to enjoy their diving and hopefully keep them in the water for many years to come.

These days, there are too many certified divers who are not properly qualified and who do not dive.

A good instructor will not be afraid to fail students who do not meet the requirements and will be in the water with the learners during the critical pool sessions. This will allow them a close-up chance to assess the students' comfort levels and skills in the water. While their students are in the pool, an instructor should not be catching a tan, parading around in a bikini or Speedo or feeling too important to join in for their 11345th pool session – this is not acceptable.

A proper instructor will also ensure that all aspects of the course are completed in the right manner – this includes the paper work and ensuring that registrations and certifications are completed on time.

80% of Balinese work in tourism so even if you don't book with us but want to support the Balinese.
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Menjangan Island, Bali

Slowly a dim glimmer of light appeared upon the horizon. It was international tourism slowly emerging in the East. After what seemed like an eternity, the first direct international flight has arrived in Bali. And while it is a start, we remain a long way off normality, but it's a start.

We'd like to take this opportunity to once again say, thank you. Thank you to all the Sea Rovers Brethren who have helped and continue to help us in our efforts to support our crew through these difficult times.

If you wish to join our global fraternity of Sea Rovers Brethren, then we ask that you please consider booking your Bali Adventure today. Big discounts, no fixed arrival date required. And your deposit will go towards supporting the crew and their families. Or purchase an open-ended activity voucher, credit it towards your next dive holiday. For every $50 purchased we'll throw in a bonus of $10 in credit.

The Captain, Commodore and Crew, thank you.

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By: PADI

Enriched Air Nitrox: 4 Reasons Why This Should Be Your Next Specialty

The PADI Enriched Air Diver Specialty is the most popular PADI Specialty for certified divers. From the age of 12, divers with a minimum of PADI Open Water Diver can take this course.

You'll learn all about the benefits of breathing oxygen-enriched air (and how to do it safely). And, it can be completed in just a few hours!

What is enriched air nitrox?

In recreational diving terms, enriched air (also known as nitrox or EANx) is breathing gas that contains a higher percentage of oxygen than regular air. Advantages of nitrox diving include longer dives and shorter surface intervals.

Three must-know terms:

Mix:

The percentage of oxygen. Regular air is 21%, and the most common nitrox mixes are 32% and 36%.

Maximum Operating Depth (MOD):

The maximum depth at which to use any given mix to avoid oxygen toxicity, and why nitrox divers should choose the optimum mix for the depth they plan to dive.

Analysing:

Nitrox divers need to know what mix they've got (and, therefore, their MOD). They'll use a nitrox analyser to check the percentage of oxygen in the cylinder before diving.

Breathe less nitrogen when you dive

The primary benefit of using nitrox whilst diving is that you are exposed to less nitrogen when you go diving.

The higher percentage of oxygen in the cylinder means you will be breathing less nitrogen.

You can use this benefit to your advantage in a couple of ways. One option is to extend your no stop time during your dives, so you get longer dive times, especially when completing repetitive dives.

Alternatively, you might prefer to continue to dive within the no stop limits for air, but use the reduced intake of nitrogen to increase your personal safety margin whilst diving.

Longer bottom times

Typically, when using enriched air, divers will get mixes that are either 32% or 36% oxygen. This makes it ideal for diving at shallower depths.

For example, when diving with air to 18m (59ft) using the Recreational Dive Planner, you would have a maximum no stop limit of 56 minutes on a single dive.

For the same depth, but using a 32% mix of EANx, you would have a no stop limit of 95 minutes. Potentially, this means you would have up to an additional 39 minutes' dive time on this profile compared with air. However, don't forget to check your gauges.

You will still be breathing through the gas in your cylinder at the same rate,

By: PADI

so your total bottom time may still be limited by your gas consumption rather than your NDL.

Work towards further qualifications and learn about your dive computer

On the PADI Enriched Air Diver course, you can learn about planning nitrox dives using dive tables or your dive computer.

Most divers these days will use a dive computer when planning their dives. Fortunately, the vast majority of dive computers are compatible for use with enriched air.

If you are thinking about purchasing your first dive computer, you might wish to speak with your dive center about the possibility of completing the PADI Enriched Air Diver course at the same time.

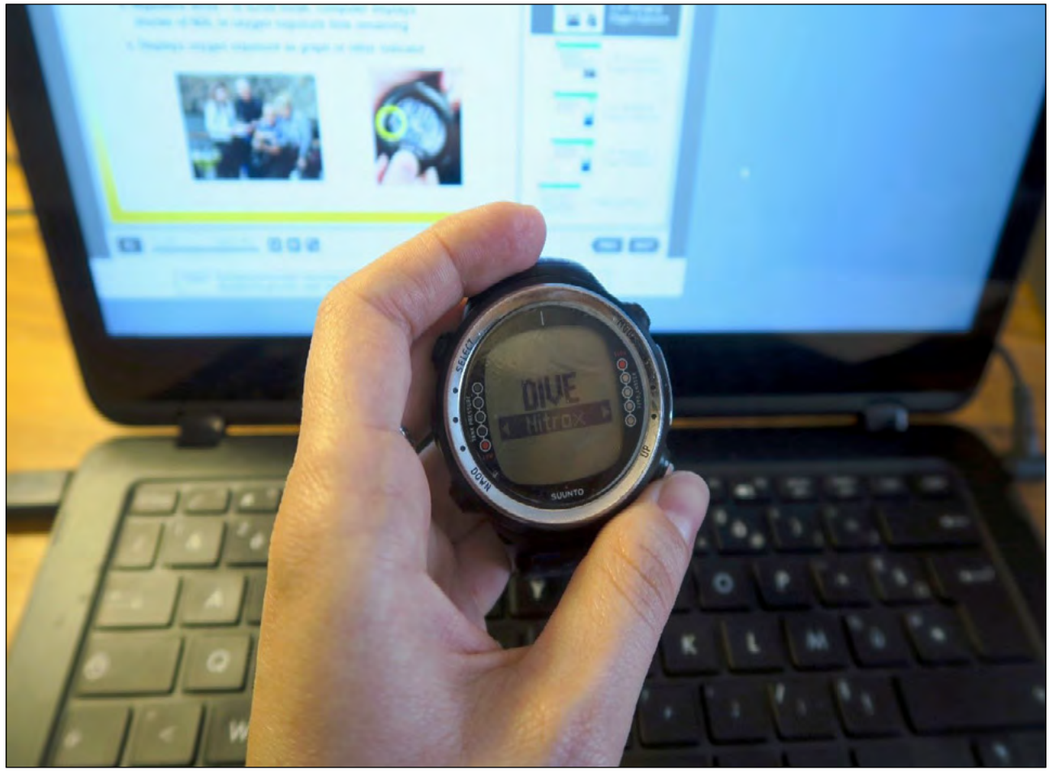
This will enhance your understanding of how your computer actually works.

Likewise, if you have ambitions to become a PADI Divemaster one day, completing the PADI Enriched Air Diver course will help you understand concepts that will develop your understanding of decompression theory and physiology.

The great news is that you can link the PADI Enriched Air Diver course with any other PADI certification!

Enhance your holidays

Divers who enjoy some of the biggest benefits of diving with nitrox are those who like to take diving holidays.



Now that the world is opening up, if you are planning a local holiday or booking a dive resort or liveaboard, you may expect to complete a lot of repetitive dives over several days.

If you are using enriched air to extend your bottom time, this could equate to hours of additional dive time over the holiday.

Imagine how many more critters you might see!

PADI Enriched Air (Nitrox) Diver course

The PADI Enriched Air Diver course teaches you everything you need to know about enriched air diving.

Firstly, you'll learn how to select the right mix for your dive.

You'll also learn how to use an oxygen analyser and how to set your dive computer. You can choose to study using eLearning or with a PADI Dive Shop.

The course is generally completed without dives, but there's the option to include two open water dives for extra practice alongside a PADI Instructor.

If you're ready to experience the benefits of diving with nitrox vs air, then sign up for the PADI Enriched Air (Nitrox) Diver specialty course.

Visit the PADI eLearning page or contact your nearest PADI Dive Shop for more details.

By: Michael Meller

Regulators

The scuba regulator provides the most vital element of all while diving, namely air. It makes scuba diving possible.

Simply put, the regulator as a unit transports air from the cylinder to all the other pieces of equipment that find themselves at the end of hoses.

The regulator consists of two main parts: a first stage and a second stage:

First stage:
The first stage is the part that screws into, or attaches on to, your cylinder. Its function is to distribute the air from the cylinder to the various hoses attached to the ports located around it. Some of these ports are low-pressure and others are high-pressure ports. The high-pressure ports are connected directly to a submersible pressure gauge (SPG) to indicate the pressure contained in the cylinder.

The low-pressure ports connect to the other pieces of equipment that are needed to breathe and inflate. Inside the first stage are pressure chambers that are separated by valves or pistons.

They ensure that with the varying depths associated with diving, the ambient pressure supplied to the second stage or inflator hoses will be adjusted, resulting in effortless breathing.

Second stage:
The second stage or demand valve (DV), is the part you put in your mouth to breathe from.

The air that is supplied from the first stage is stopped by the second stage by a diaphragm or piston, which is needed to open the valve. Only sucking or breathing from the second stage will cause the piston or diaphragm to release, providing air until the pressure is released (exhaled), when the valve closes again.

The second stage has a purge valve that is used to force air from the mouthpiece without any change in pressure.

Other second stages:
Any equipment that is connected to the first stage is regarded as a second stage. These include octos, inflator hoses (BCD and drysuit) and SPGs.

Cleaning your regulator:
Like all pieces of scuba gear, fresh water is the way to go when washing or rinsing it after use.

However, care must be taken to place the dust cap on the first stage so that no water gets in.

Likewise, when rinsing the second stage do not depress the purge valve, as this will allow water in.

Water inside these parts is difficult to remove and causes oxidation to the important working parts of the regulator.

The safest way is to rinse and purge the regulator while it is connected to a cylinder – this way you can be sure that no water gets in.

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Through extensive travel and diving, Johan Boshoff and Graham Willis bring you valuable information on more than 250 dive spots in New South Wales.

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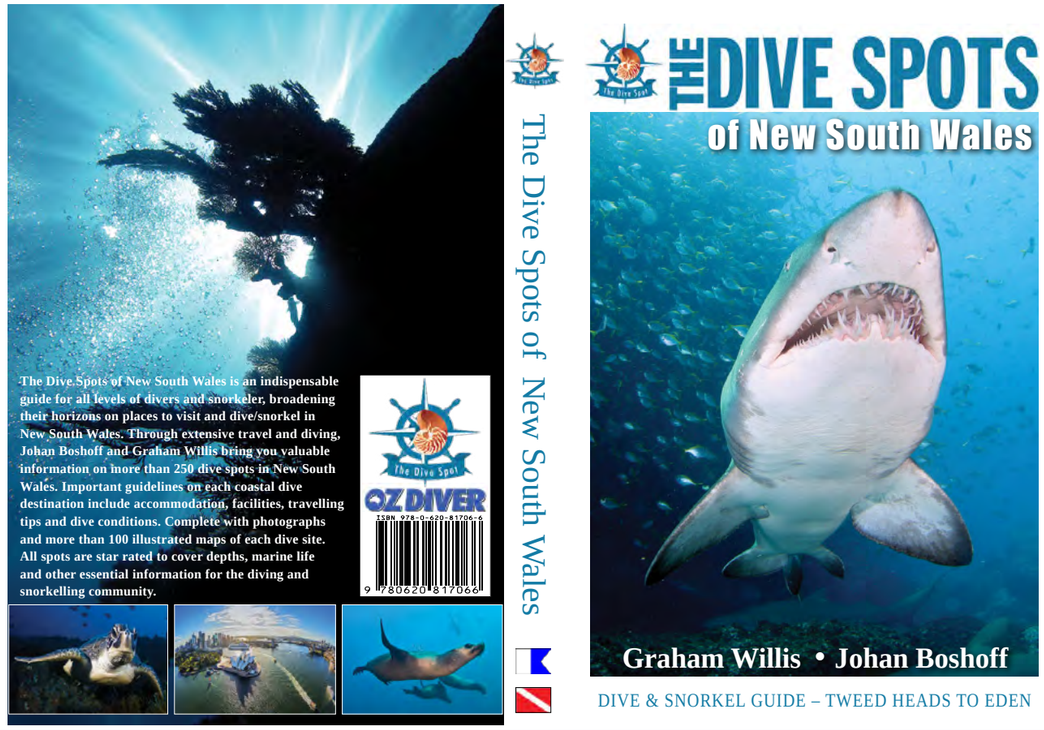

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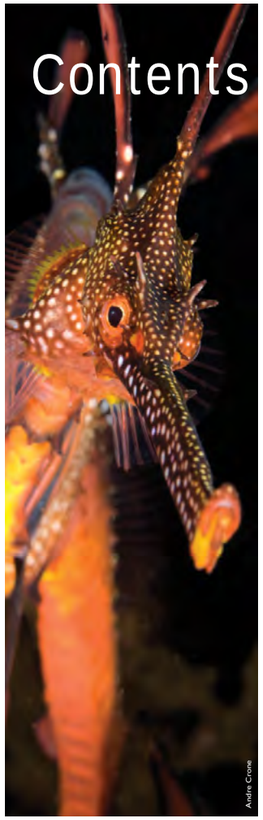

GENERAL

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Northern Beaches

Sydney Harbour

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SOUTH COAST

Marine Species Guide

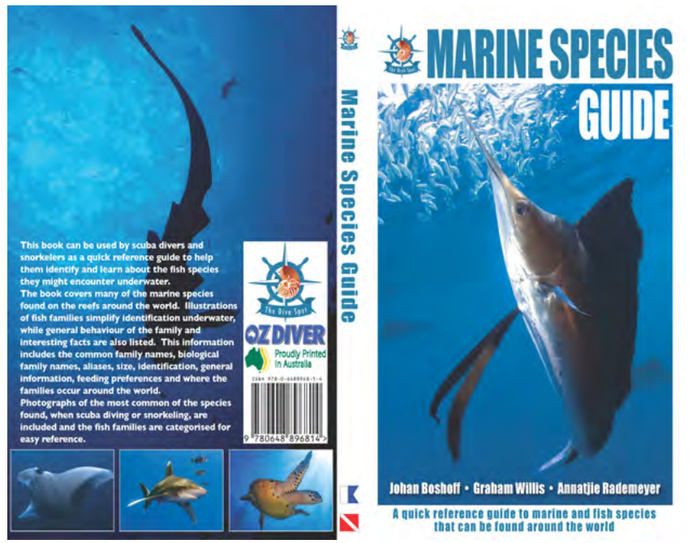
This book can be used by scuba divers and snorkelers as a quick reference guide to help them identify and learn about the fish species they might encounter underwater.

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.

The Eloquence of the Sardine

Humans have identified just a fraction of the 2.2 million species living in the sea. Roughly 91% of all marine species remain unknown: myths still to be written, discoveries still to be made, blank pages with room to dream . . .

In the book The Eloquence of the Sardine, already translated in 17 languages and released in August in Australia, french biophysicist and diver Bill François takes us on a global underwater tour to discover the secret life of fish, with a host of fun facts and amazing discoveries.

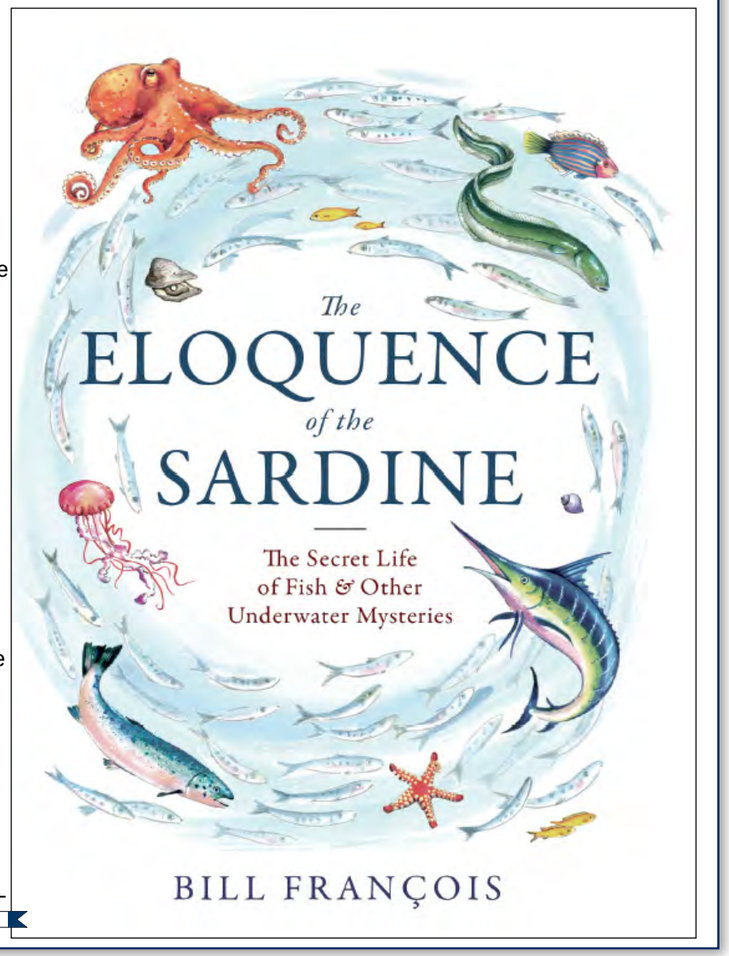
As a small boy, Bill François was frightened of deep water. Until a chance encounter with the elusive sardine set him on course for a life in marine science: a mission to better understand and preserve the underwater world, to find his place in that ecosystem and learn how to converse harmoniously with the ocean.
This is the beginning of a journey full of life and discoveries, vibrantly told in this small book of narrative nonfiction.

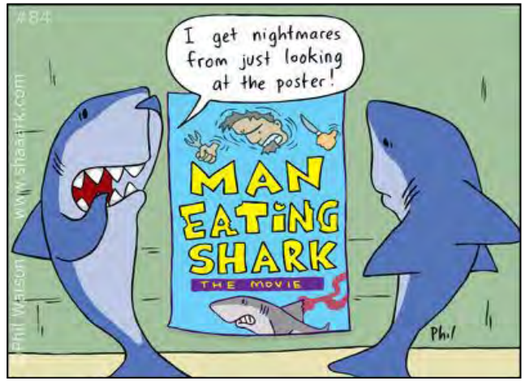
François unpicks the sound of the sea – an underwater symphony orchestra voiced by a choir of fish – and deciphers the latest scientific discoveries on the immunity of coral and the changing gender of wrasses. We visit the depths of underwater Paris as François delves into the mysterious world of the eel, and explore an extraordinary three-generational friendship between humans and killer whales, and the role a shoal of herrings played in Cold War tensions.

Drawing on history, myth and legend, but always grounded in science, The Eloquence of the Sardine will change the way you think about the sea in a poetic way.This book is aimed for all the ones who love the ocean and are curious about it : divers, sailors, fishos... Even experts in marine biology should find some original facts in it.

But it will also open the eyes of those who don't know this universe yet. It can thus be a nice present to introduce your friends and relatives to your passion for the underwater world.

The Eloquence of the Sardine – Bill François
Release date : Aug. 31st 2021
Editor : Little, Brown
https://www.hachette.com.au/bill-francois/the-eloquence-of-the-sardine-the-secret-life-of-fish-and-other-underwater-mysteries





"This sucks."

"I think maybe it's time to scale back on the amount of equipment you use."

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funnies to
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Web: www.perthscuba.com

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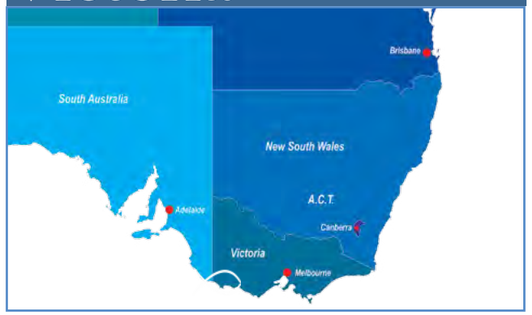

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