

OZ DIVER

AUSTRALIA'S PREMIER DIVE MAGAZINE

GRAND
CAYMAN
ISLANDS

SIDE
MOUNT
DIVING

TIDES

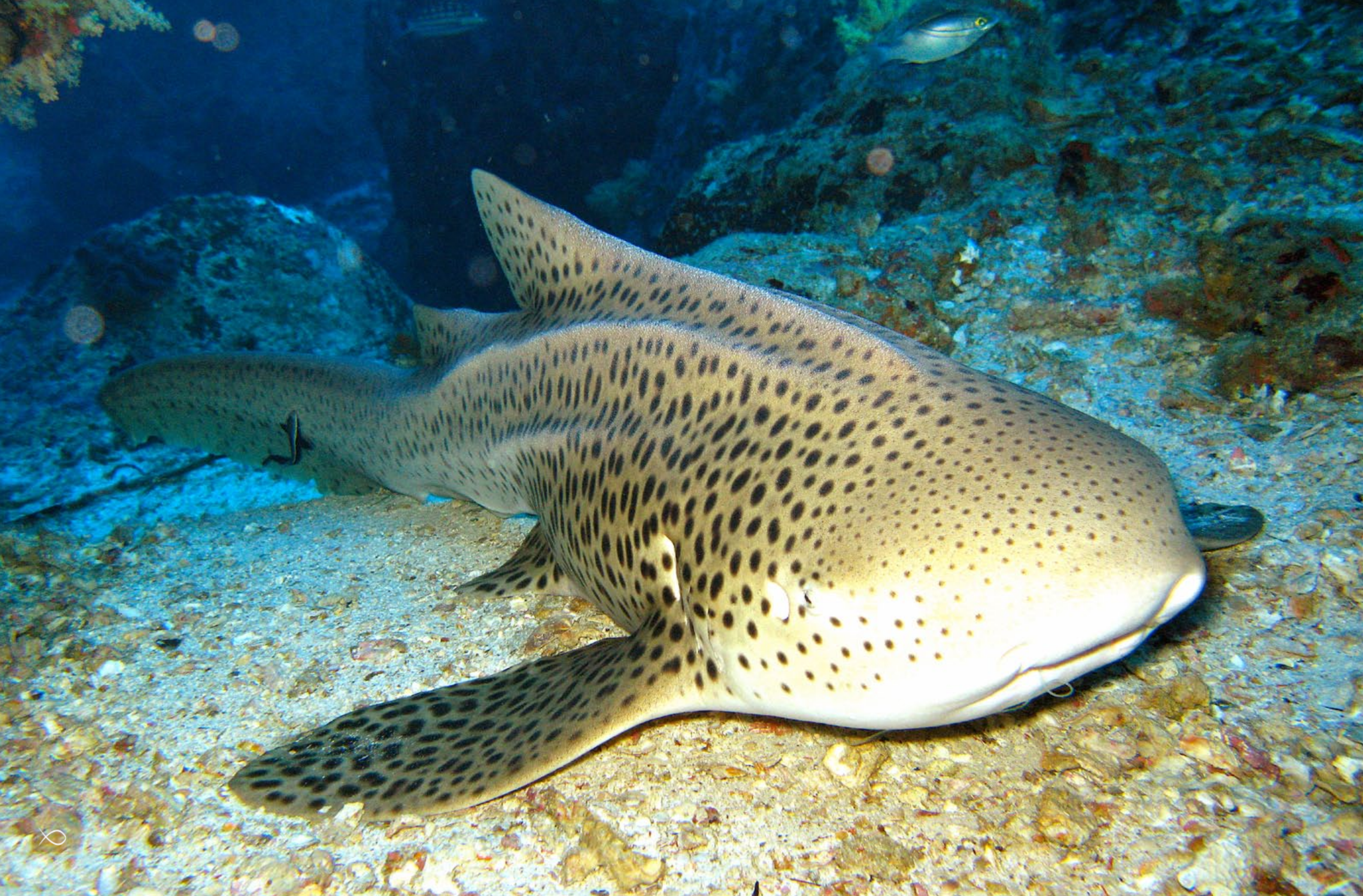
HERMIT
CRABS

THE
WORLD
HUMBOLDT

PAPUA NEW GUINEA
HISTORIC WRECK HEAVEN



FREE Digital Diving Magazine - www.ozdiver.com.au





Editor's Deco Stop

E-learning is a big thing in today's world, yet e-shopping is largely outstripping its popularity. With the wonder that is the internet, it is unbelievably easy to buy diving equipment and book scuba travel anywhere across the world. However, is this the right thing to do?

Many people think that they will save a lot of money when buying diving equipment over the internet in another country. And yes, sometimes it does look cheaper, but what exactly do you get?

The first point is that you will normally not have anyone to give you advice and to help you buy the correct equipment for your needs.

You don't know where they have saved money during the manufacturing process and what parts they did or did not use. Then as soon as you buy it you will be hit with hidden costs such as insurance and shipping, which is often the most expensive part of buying online.

And when the equipment reaches your country you may still have to make two further payments... The first is the GST. As soon as the diving equipment enters the

country you may have to pay your GST of the purchase price. Furthermore, in some cases you will also have to pay import duties which can be anything from 10% to 42% - it depends on what you bring in. At the end of the day, if you work everything out it will cost almost the same as when you buy it from your local store.

The important thing is that if you buy it locally, if a problem should arise, you can take it back. How do you do this over the internet? And if you need support, or if the equipment is under warranty/guarantee, do you know that most suppliers will not honour this? So is it really cheaper and better to buy over the internet?

It is the same with traveling. If you use a local travel operator, 99% of the time you will pay the same amount as when you book directly - typically travel agents receive discounts so you will end up paying roughly the same.

Yet the greatest benefits of using the local travel operator is that they know where and when is best to go, and they cover all the risks - you just have to sit back and enjoy your trip and it will not cost you anything more.

If we want to have a diving industry in a couple of years, we have to support the local diving industry or it will become extinct like everything else in this world.

The Editor & Publisher

Johan Boshoff

-it is all about the journey and not the destination

Matthew 6:33

But seek ye first the kingdom of God, and his righteousness; and all these things shall be added unto you. ☒

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In GOD I trust.

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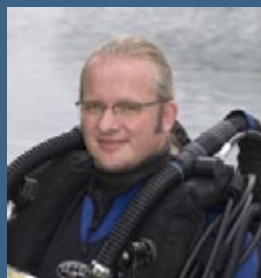
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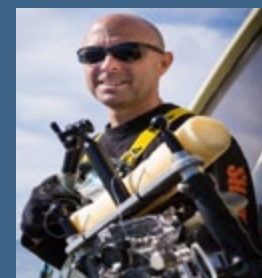
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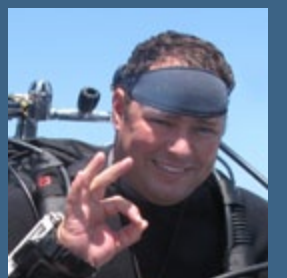
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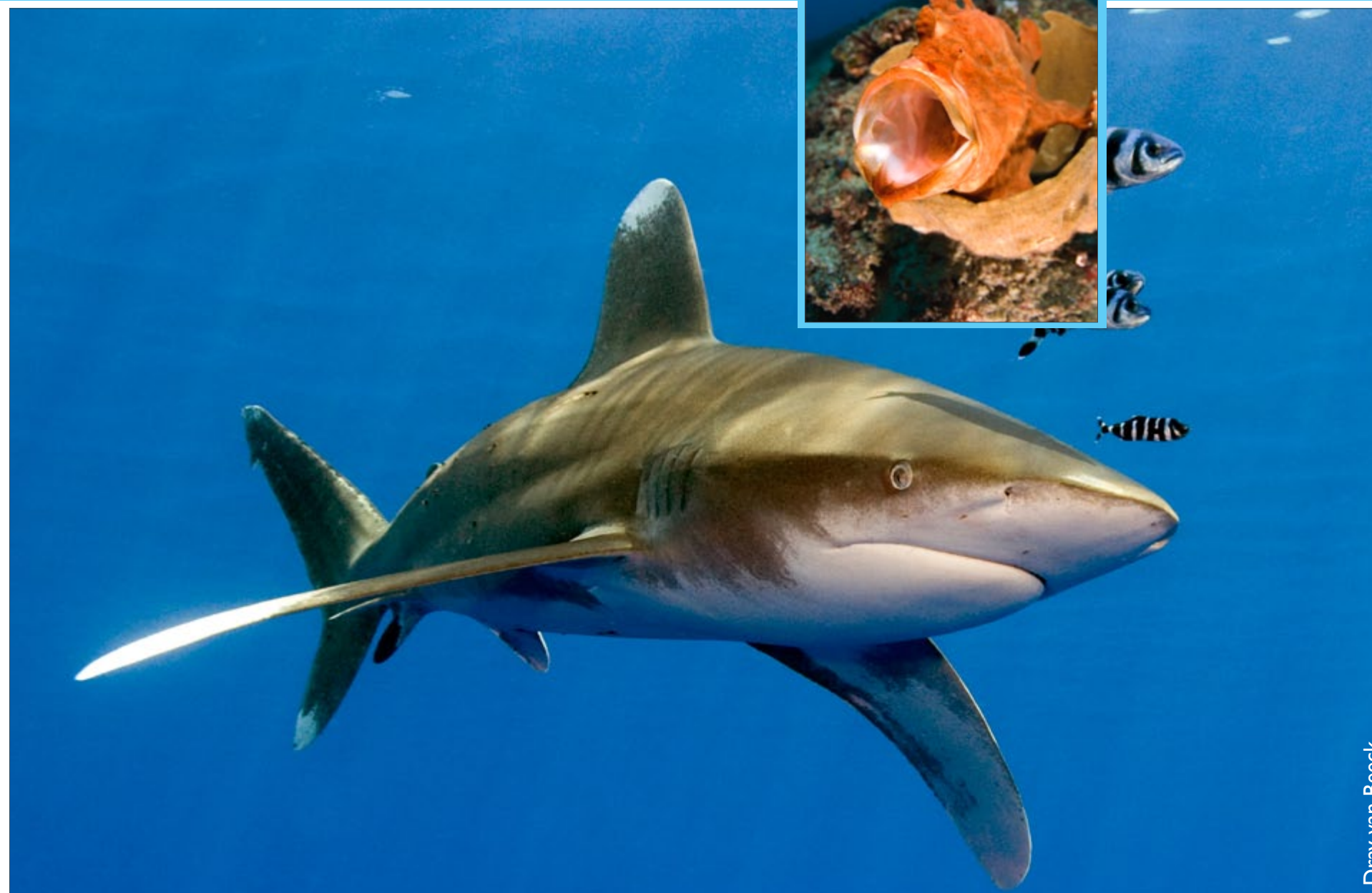
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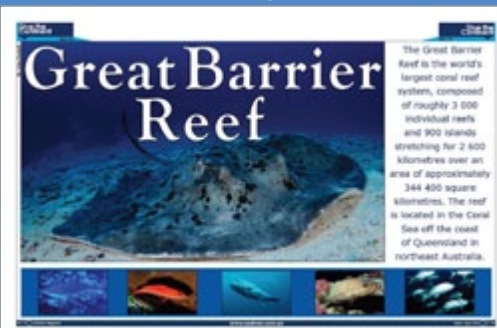
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FEATURE



Log Book

A few years ago I wrote to a friend of mine in America. We were discussing a potential business venture of mine and sagely he advised me to have patience. I wrote back, saying that I am too old to learn patience and too young to understand the consequences of not having patience.

Well, on this beautiful day, out in the Indian Ocean, bobbing on the water with 8m of crystal clear water beneath me – its beauty, colour and life just waiting to be explored – I'm not too young anymore. This is what happened...

Two days before, 10am in the swimming pool: "This is stupid!" "Aha," came the reply. "This is abnormal and unnatural! Who does this?" A resounding, "Mmmm." I go down again, probably my tenth attempt. "No, no... I can't get used to this. I should be used to it! Why am I not doing it by now?" The reply, "Just be patient, you'll get it right. I know you will. Just concentrate on the basics. You know how."

It's the eve of my 40th birthday, and someone e- a very affable, capable and experienced someone – is attempting to teach me to breathe under water. And enjoy it... I have sailed on oceans in 50 knot winds. I have river rafted and almost drowned – happily. I have traversed tree-top canopies and have

taken stomach-turning helicopter rides. I have stroked a hippo. I worked my fingers to the bone in banana trees on a Kibbutz. I have climbed Masada in the moonlight and I intrepidly travelled all over Europe alone at the age of eighteen. So how can this, this, be my nemesis? After all, most of my friends do it.

I go down, breathing slowly, trying to understand the idea of breathing through my mouth – anathema to everything my dance training taught me. As I submerge myself, I intellectually understand the notion that I have to throw away everything I am conditioned to know about breathing. The thing is, it's not quite translating practically... It feels artificial and unnatural. Eventually, with loads of patience and gentle support from my diving instructor, I find enough confidence to check out the bottom of the pool – and to swim the length of the pool and back. Major achievement!

The following day is my birthday. The sea is a

tad upset, with winds blowing at 20 knots, but there's a favourable forecast for the following day, so they suggests we go to sea to dive then.

I breathe an internal sigh of relief. Instead we go to the tiny deserted island of Quisanga. The feeling of being a cast-away and practicing the fine art of doing nothing is unbelievably liberating; sitting still on the beach with the sounds of quiet waves lapping under an enormously blue sky, watching my friend trying to catch crabs (or rather crustaceans), listening to the singing of the wind in the palm trees... this is how every minute of every life should be, I think to myself.

The next day we go to sea to dive. I'm nervous. I constantly peer over the side of the boat asking – "Is this it?" We eventually come to a halt where the water is gin clear with the reef only at 8m deep.

Everything in the beautiful undersea world is visible from the surface. I get into the space garb with the heavy, unusual oxygen tank-type thing on my back and then that's it. We go over the side like they do in the movies. I was told to hold onto my mask and go backwards, and before I could give it another thought, I'm in the ocean. Before I go any further I have to tell you that we saw dolphins along the way, swimming with the boat, and that it was one of the most glorious days the Quirambas has to offer – you'll see later why I stress this.

The water is a gorgeous 26°C and there's nothing wrong. Nothing amiss, awry or in any way encumbering this adventure. All I have to do is go down to explore the beautiful world beneath me. My instructor gestures to me to do just that – just as I had done in the pool. But something is the matter...

I cannot. I try. But I cannot. I try again. I can do the breathing thing fine. "You're snorkeling," he says to me in jest. The most I can do is go down about one metre beneath the surface.


My head is going in all directions. I want to do this so badly, but everytime I go down further, I get a feeling that my ears are going to explode, even though I know I have been taught this in the pool and I can do it; I know how to equalise. I did it before! Dutifully and patiently my instructor comes up with me every time, which is every 10 minutes or so, and enquires about the problem.

The thing is, I can't really tell him what the problem is – apart from Jacques Cousteau of course. I'm bereft of all my clever little quips, garbs and rationales and I'm struggling with the fact that for some things there are no proper, neat analyses or explanations.


After about two hours of snorkelling in scuba equipment, according to my instructor, we pack it in. "I will do this!" I say to him vehemently with a mixture of guilt and disappointment. "Yes, you can and you will," he says with a sanguine smile. "No, but really, do you think I really can?" I ask him in a weirdly insecure mood.

"Yes. But first get your head around the fact that in the ocean the only thing you really can control is your own breathing. Then relinquish any thought or logic.

If you can do that, you'll see the magic, the world that opens up before you under the water."

Patience is a virtue far more practical and profound than I ever realised... 

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



Australia International Dive Expo (AIDE) 2018

The 2018 instalment of the Australia International Dive Expo (AIDE) will take place once again at the International Convention Centre Sydney as part of the Sydney International Boat Show from 2-6 August.

- New Marine Program for Schools
- Presentations by Industry Experts
- Dive Try Outs in On-site Pool

For the second year, AIDE will feature in the largest recreational boating event in the Southern Hemisphere, taking up prime positioning again in the main hall.

2017's collaboration between the two Shows proved a huge success in bringing together water-lovers, while opening up a host of new opportunities to both exhibitors and visitors. With interest in scuba diving on the rise, the organisers of AIDE have shared that a marine program for school students will debut this year.


AIDE Director Ness Puvanes says the decision to start a school program as part of the Show is to not only get the next generation excited about the underwater world, but importantly, inspire them to take up scuba diving and also to learn about and get involved in marine conservation. The marine program will cover the key topics of scuba diving, photography/videography skills and ocean conservation.

Other highlights in this year's show include three on-site pools for dive try-outs and product demonstrations, dive gear maintenance workshops and a series of presentations by marine experts.

Visitors will also have the opportunity to shop for their next dive holiday, sign up for new dive courses, check out the latest scuba gear, photography equipment and get updated on new underwater gadgets and gizmos.

As per every year, there will be prizes to win including dive holidays, equipment and courses. There will also be a kids' corner for families with young children and for young photographers, there will be video and photography competition for registered schools.

Registration will open in June, when visitors can purchase their tickets online to avoid queues. The Australia International Dive Expo will be running from 2 – 6 August 2018 as part of the Sydney International Boat Show. Opening times will be 10am to 8pm in the halls, with the adjoining marina display closing daily at 7pm.

For further information about AIDE including the list of exhibitors, presentations, activities and workshops will be updated from time to time at www.australiadiveexpo.com. To find out more about the boat show, visit www.sydneyboatshow.com.au. 

Create Your Own Custom Master Scuba Diver Program

PADI Master Scuba Divers™ are an elite group of respected divers with a wide range of training and experience, but your path to this ultimate scuba achievement can be customised according to your interests. Here are a few ideas:

'Eco' Master Scuba Diver

Whether you're an aspiring marine biologist, fish geek, or passionate environmentalist, an 'Eco' Master Scuba Diver program can greatly enhance your knowledge of underwater ecosystems. You only need five specialties for the Master Scuba Diver rating, but there are several courses to consider including: Peak Performance Buoyancy, Underwater Naturalist, Fish ID, Digital Underwater Photographer, Project AWARE Shark Conservation, Coral Reef Conservation, and/or Dive Against Debris specialties.

'Photo/Video-Focused' Master Scuba Diver


Shooting underwater photos and video has never been easier. That said, obtaining professional-quality images requires both training and experience.

A Master Scuba Diver program that includes the Digital Underwater Photography online course (which also includes a section on video), Peak Performance Buoyancy, and Underwater Naturalist specialties will give an aspiring photographer or videographer the basic skills required to capture underwater images. The Enriched Air Diver specialty allows for longer, deeper dives.

Another course to consider would be PADI Rebreather Diver. By eliminating the noise and bubbles of an open circuit scuba system, divers can experience closer, more natural interactions with underwater life.

'Cold Water' Master Scuba Diver

Some of the world's coolest climates have some of the most spectacular diving – and fewer crowds. Whether you're preparing for an epic trip to Antarctica or a winter diving hotspot, the Dry Suit Diver, Ice Diver, and Full Face Mask specialties will help you go places other divers can't. Add Altitude Diver, Enriched Air Diver, or Wreck Diver depending on your diving destination.

Use the ideas above as a starting place for your Master Scuba Diver journey. Talk to your PADI Instructor about what specialties they would recommend, and ask about any distinctive specialties your PADI Dive Centre or Resort may offer. In 2018, complete your training at a PADI Dive Shop in the Asia Pacific region and the usual PADI Master Scuba Diver application fees will be waived. 



The Underwater Tour 2018

Four world-class photographers. Four cities. Four events. Underwater inspiration, adventure and discovery!

"An Australian 'first', the Underwater Tour presents a stellar line-up of world-class underwater photographers, hitting the road together across Australia for a series of entertaining, inspiring evening events 9-12 May 2018" says joint founder Juliette Myers.

'Each photographer has their own specialist niche, and all will share enriching stories of exploration and discovery from behind the lens'. Tim Hochgrebe, joint founder, adds.

•Jürgen Freund, a Senior Fellow of the International League of Conservation Photographers, will take us on his personal journey sharing stories of The Coral Triangle, The Great Barrier Reef and The Great Sea Reef.

Jürgen's imagery has brought recognition to the extraordinary biodiversity, unique cultures, and environmental challenges facing our connected waters and has helped visualize the significant marine work of one of the world's leading conservation organisations, the WWF resulting in the book The Coral Triangle.

•Jason Isley, based in Kota Kinabalu, has filmed across the globe on productions including the recent BBC Blue Planet 2 series, Emmy award winning Life series and the Disney IMAX production Sacred Planet. Jason's stories will cover his behind-the-scenes view as an underwater cameraman, photographer and publisher of a collection of stunning books.

With tales from 'Small Blue World' and his most recent leatherback turtle project, Jason will show us how, through his images and passion for marine conservation, he connects people with our underwater world.

•Darren Jew is a five-time Winner of the Canon/AIPP Australian Science, Environment and Nature Photographer of the Year Award. Darren has spent the last 30 years capturing imagery and sharing the marine environments of the world, partnering with WWF, Tourism Australia and more recently with Canon and National Geographic in an underwater episode Tales by Light.

From delightful, surprising underwater time-lapse photography in the warm waters and reefs off Lady Elliott Island, to cold water adventure with orcas in Norway, Darren will co-present with Jasmine Carey to share with us their photography, inspiration and journey towards developing a personal style.

•Dr Richard Smith, flying in from London, is a marine biologist by training with a PhD in syngnathids. Richard is recognised as a global voice for these enigmatic fishes through international organisation the IUCN Seahorse, Pipefish Stickleback Specialist Group and is the appointed global pygmy seahorse expert for citizen group iSeahorse.

Combining science and photography, Richard will talk about his marine discoveries and provide insights into how learning about the underwater environment can greatly improve a photographer's experience. His zoological perspective, as well as tips and tricks, will show you how to see the underwater world in a whole new light.

Meet and chat with the photographers. Mix and mingle with representatives from our world-class touring partners, SEACAM, Wakatobi, Walindi, Solitude Liveaboards & Resorts, Christmas Island, Tourism Malaysia and DAN Asia Pacific and like-minded ocean lovers.

TOUR DATES
Brisbane Wednesday 9 May
Perth Thursday 10 May
Melbourne Friday 11 May
Sydney 12 May

Tickets are selling now www.underwatertour.com.au



OZTek2019

Australia's only bi-annual one-stop adventure into the dynamic world of diving, OZTek Advanced Diving Conference brings the world's underwater heroes and heroines right to our doorstep in the centre of Sydney.

Impossible to replicate online, come and absorb the excitement, discover new adventures, destinations, learn new possibilities and have a load of fun. And not just awesome presenters ... the OZTek2019 Dive & Travel Show will be bursting at the seams with diving equipment, travel, toys and training. A must-visit event for divers keen to learn, be entertained, inspired and kept abreast of the latest diving trends, equipment innovations and travel destinations.

When: March 16-17, 2019

Where: International Convention Centre Sydney, Darling Harbour

What to expect ...

The OZTek2019 Conference - All about the Adventures

Every two years, over 40 Diving Giants arrive down-under to share their discoveries, adventures, achievements, personal journeys and blow us away with what's possible. Each presenter brings unique, exciting (often sobering) topics heard first at OZTek. These extraordinary divers, at the peak of their careers, provoke awe, provide knowledge, improve methodology and above all, entertain.

As well as the Conference and the Dive & Travel Show, the OZTek2019 Image Centre has been improved with more photographic workshops - more to learn and admire from our talented professional photographers and videographers. Plus, the Underwater Photographic Competition Winners Exhibition from 2018 & 2019. Underwater inspiration to get you in the water.

OZTek Advanced Diving Conference & Exhibition is much more than just another dive show; it's a dynamic event focused on excitement and tomorrow's diving possibilities.

For all up-to-date information go to: www.oztek.com.au

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



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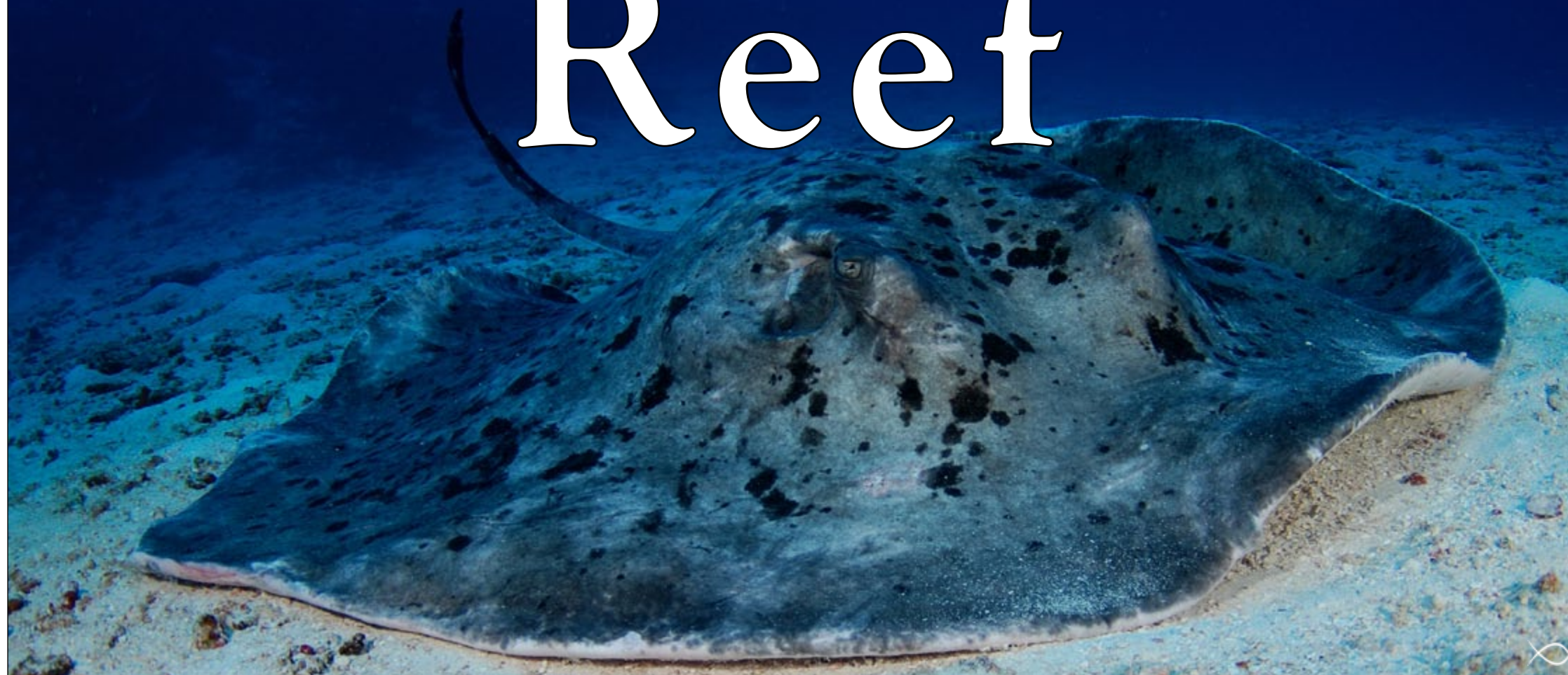
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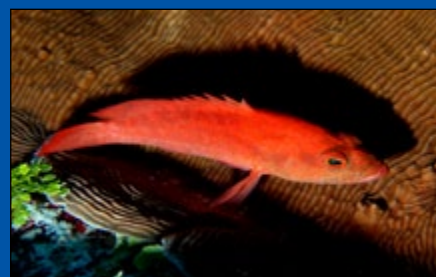


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Great Barrier Reef



The Great Barrier Reef is the world's largest coral reef system, composed of roughly 3 000 individual reefs and 900 islands stretching for 2 600 kilometres over an area of approximately 344 400 square kilometres. The reef is located in the Coral Sea off the coast of Queensland in northeast Australia.





To get to this amazing reef you have to depart from the city of Cairns which is the closest harbour to the Great Barrier Reef.

Cairns is one of the most diverse places in the world and a great place from which to explore 'Down Under'. If you ever visit Cairns, you can dive the Great Barrier Reef, explore lush tropical rainforests and visit the beautiful rugged outback regions – all of which are located within a short distance of the airport.

There are an incredible number of activities in Cairns, ranging from full adrenaline to full relaxation, all in some of the most scenic locations in Australia. There are also a variety of places to stay, from four-star resorts to youth hostels. The gentle tropical climate makes for the perfect holiday and helps to make nearly any activity enjoyable. This area of Australia thus has something on offer for everyone.

Cairns is also home to the world's biggest single structure made by living organisms. This reef structure is composed of, and built by, billions of tiny organisms known as coral polyps. It is so big that it can be seen from the moon with the naked eye, and in area, it is bigger than Ireland and Great Britain put together. However, it's not just one reef, but it is rather made up of thousands of different reefs. Some of these on their own are humungous in size and measure many kilometres in length.

Each reef is separated by a vast, vivid blue sea. The brilliant blue color of its water comes from the fact that there are minimal particles floating around in it. These seas are relatively lifeless, but the reef itself is an oasis of life in an otherwise marine desert.

The Great Barrier Reef has the highest diversity of life of any reef system in the world. With its 1 500 different species of fish, 350 different kinds of coral, 6 000 species of crustaceans, 5 000 species of mollusks and numerous reptiles and marine mammals, the reefs are a kaleidoscope of animal life and colours.

The Great Barrier Reef falls under the supervision of the Great Barrier Reef Marine Park Authority and is protected as a marine park, an agency of the Australian Government, and is split in to four main reef regions.

These are the Cairns/Port Douglas Reefs, Northern Ribbon Reefs, Coral Sea Reefs and Far Northern Reefs

Cairns/Port Douglas Reefs

These reefs lie offshore of Cairns and Port Douglas and are within range of the one-day dive trips that leave these towns.

There are an enormous number of reefs here and an equal variety of reef trip operators, with the combination resulting in a great variety of diving and snorkelling opportunities. There are trips just for snorkellers, trips



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BUOYANCY &
NIGHT DIVER**

Ever wondered what happens underwater after the sun goes down? Or looking for a way to perfect those buoyancy skills?

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Contact your local PADI Dive Shop to start your PADI Peak Performance Buoyancy course or PADI Night Diver course today.

just for divers, and still other trips that visit islands or large pontoon decks moored on the reefs – a perfect place for families with young children. There are also many liveaboard boats operating in the area which offer 1-4 day trips and a chance to experience the thrill of a night dive.

The trip out to the reef from this area takes between one and three hours, depending on the speed of the boat and which reef you are visiting.

The diving and snorkelling in this region is equally varied. The reefs here are known for having lots of hard corals, a variety of colourful reef fish and for the wonderful surprise appearances of sea turtles, Humpback whales, dolphins and other remarkable creatures.

Northern Ribbon Reefs

The Northern Ribbon Reefs lie 40-60 miles north of Cairns and Port Douglas.

This long chain of narrow reefs extends all the way up to Lizard Island, and offers some outstanding diving and snorkelling. The most well-known dive site here is Cod Hole, famous for its resident population of large (up to 350 pounds) Potato cod, which are joined by groups of large Maori wrasse and other fish that have become accustomed to the presence of divers.

These reefs offer a range of great diving sites as the Skippers have a lot of options, enabling them to choose the best diving available based on the tides, winds and weather. Due to their greater isolation from large rivers, agriculture and coastal developments, the visibility on these reefs can be better than those off of Cairns and Port Douglas.

The northern reefs are out of the range of one-day reef trips – most trips out this way range from 2-5 days.

Coral Sea Reefs

The Coral Sea lies outside of the Great Barrier Reef to the north and east of Cairns. There are a few small coral atolls and surrounding reefs set in the Coral Sea some 60-100 miles offshore. These reefs – Holmes, Osprey, Horn and Bouganville Reefs – are visited by just a few dive boats and offer some amazing diving opportunities – well worth the long overnight trip that is required to reach them.



By Johan Boshoff
Being so far away from shore, the visibility at these reefs is consistently amazing. Typically, visibility is between 25m and 35m but during June, July and August it can be as high as 60m.

These reefs are known for their populations of large pelagic fish – if you like big fish, this area will be one of your favourites. Sharks are common in the area, especially Reef sharks and Silvertips, with Hammerheads and other shark species making appearances according to their annual migration patterns. Other pelagics are also abundant, including Dogtooth and Big-eye tuna, Mackerel, Potato cod and various species of trevally. At Holmes and Osprey Reef, dive operators have been holding shark-feed dives for a number of years, so you will see these pelagics at a very close range.

Far Northern Reefs

The Far Northern Reefs are aptly named – they make up the northernmost portion of the Great Barrier Reef, over 200 miles from Cairns and Port Douglas. This is a huge region with over 600 reefs and spectacular diving, but due to the remote location, it sees very little diving.

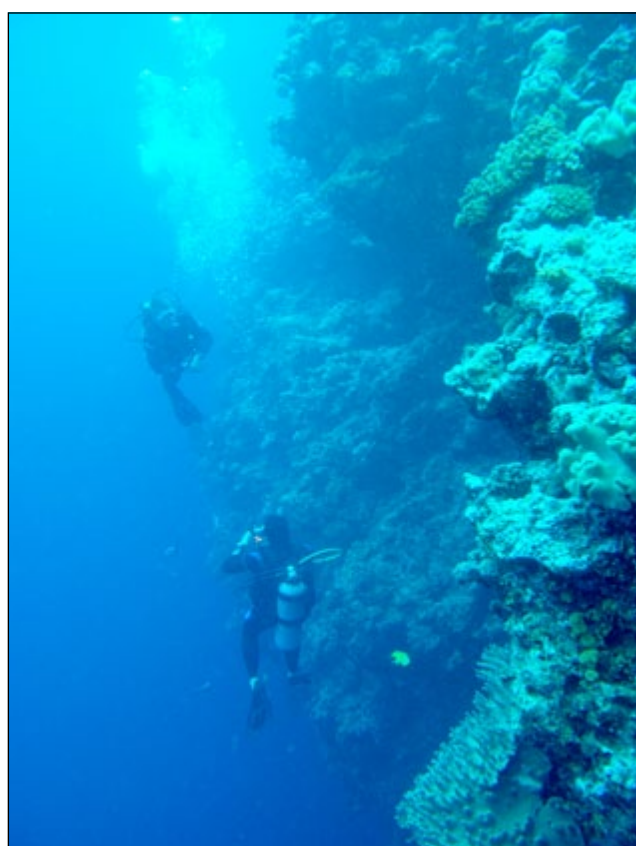
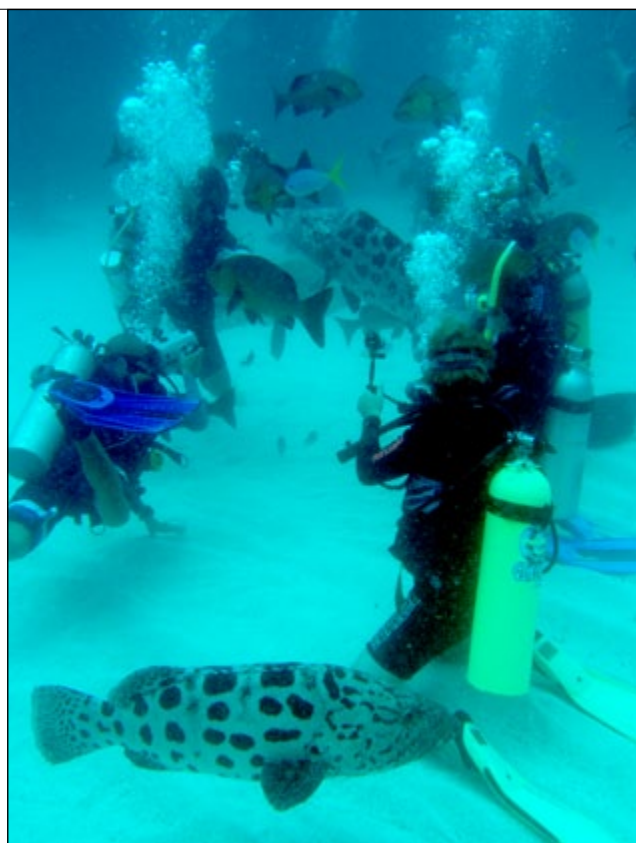
The diving here is largely exploratory, with just a few 7-10 day trips when dive conditions are at their absolute best. This time of year is when much of the reproduction occurs on the reef, so along with a huge diversity of life, the diving is also rich and varied.


Given the huge size of the Great Barrier Reef and the thousands of dive spots available, there are a large number of dive operators that could be used. Anything from day trips to 10-day trips are available, but if you want to see the best of the reef, a couple of days on a liveaboard is the way to go.

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locations on its dive trips. A highlight is adventure diving at Osprey Reef in the Coral Sea where you will see an exciting shark feed with amazing drop-offs and 30m plus visibility. Add to that sightings of giant Potato cod and Maori wrasse at the Cod Hole and you have a truly exceptional diving experience.

I was really lucky to fulfill a lifelong dream on board this top class liveaboard with food and service that was out of this world. On the first day I was picked up from my hotel and checked in onboard by one of the experienced and friendly crew members. That evening we travelled 150km overnight to the Cod Hole. During this time we organised our dive gear and were given a briefing on the trip.

The next morning when I awoke and walked out of my cabin, I was surrounded by the Great Barrier Reef. We started our day with two dives on the Cod Hole where the dive master fed giant Potato cod.

Seeing the 2m cods fighting over the food was something that I had never before witnessed. In addition to the huge cods, we were also treated to sightings of the Maori wrasse, which gets its name from the unique patterns evident on its face. If you get a chance, head over to Shark Alley where you might be able to find a couple of sleeping Whitetip reef sharks.

After lunch we dived a small pinnacle of coral that rose up from 30m to just below the surface. Although it was only 7m across, the small dive site was full of aquatic life such as Anemone fish, Anthias fish, Lionfish, Gorgonian fan coral, Peacock grouper, Nudibranchs and Soft sponges.

To end off the day we did a night dive, where, for the first time in my life, I saw Giant kingfish hunting in schools. The kingfish, which measured up to a metre, followed your light wherever you shone it. As soon as you shone your light on any other fish they attacked – what an amazing site!

That night the weather was good and we went to an outer reef known as Osprey Reef – a small piece of reef with wall dives up to a 1 000m and visibility as far as you can see. Here we did four dives where we could see almost everything. One of the dives on Osprey is the shark feed – the highlight of the

trip comes after everyone is seated on the wall and shark feed is dropped down a line. Whitetip reef sharks, Grey whaler sharks and Silvertip sharks tend to fight over the food for anything from five minutes to 20 minutes – you can't afford to forget your underwater camera for this extraordinary experience. Hammerhead sharks, giant Potato cod, Moray eels and huge Soft corals can also be seen here.

From there we started our cruise back to the mainland. On the way back we stopped at four different sites where we did dives on walls, pinnacles, ledges and swim-through's. Some of the reefs had large pinnacles surrounded by a variety of pelagics, while others had metres and metres of swim-through's and gullies to keep divers entertained. We ended the day off with a very nice night dive.

The next morning we had two dives before we got back to Cairns. This was probably the most diving that I had ever done in such a short space of time, and on top of that, some of the best dives in my career. Importantly, this was also one of the safest places that I have ever dived, with the crew caring for each and every diver.

Before you take your last breath you have to take one underwater on the Great Barrier Reef.

Did you know?

- The Great Barrier Reef Marine Park is the size of 70 million football fields.
- It is the world's largest expanse of coral reef and is still growing after more than 10 000 years.



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- By Johan Boshoff
- It is the only living organism that can be seen from outer space.
 - 1,6 million people visit the Great Barrier Reef Marine Park each year.
 - It is home to 1 500 of the world's 13 000 species of marine fish.
 - Within the Marine Park there are about 2 900 reefs which include 760 fringing reefs and 300 coral cays, including 213 unvegetated cays, 43 vegetated cays and 44 lowland wooded islands.
 - Approximately 3 000 Humpback whales will migrate this season between Antarctica and the Great Barrier Reef.
 - Six of the seven species of marine turtles in the world are found in Australian waters.
 - The female Green sea turtle lays its eggs in the same place as it was born.
 - 30 species of whales, dolphins and porpoises live in or visit the waters of the Great Barrier Reef.
 - Some of the largest populations of dugongs in the world live on the Great Barrier Reef.
 - Over 200 species of birds, including 40 species of seabirds, live on the Great Barrier Reef.
 - 14 species of sea snakes are found in Australian waters.
 - Many wrasse, parrotfish and basslets living on the reef started life as females and later changed to males.

Information given by the Cairns Tourism Board, Dive Great Barrier Reef and Dive the Reef. 



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Hermit Crabs



Like shrimps and lobsters, crabs belong to the order Decapoda. In Greek, "deka" means ten and "pous" means foot. The suborder Reptantia derives from the Latin word "reptans", which means crawling, and the infra-order Anomura is made up of the Greek words "anomos", meaning irregular, and "oura" which means tail.

These crabs use the empty shells of other dead animals as their own mobile homes. They do not restrict themselves to shells of one species only, but will use an assortment of shells.

As the hermit crab grows in size, it must find a bigger shell in which to live. It acts very much like a man going to buy a new car, thoroughly inspecting all available vehicles. He will look inside, outside and underneath, and take a test drive.

If he finds the car unsuitable, the search will continue. Similarly, the crab thoroughly inspects a shell. First it has a good look with its eyes, and then it handles the shell with its nippers, feeling inside to make sure no one else is living there.

A hermit crab seldom evicts or kills an existing resident. If an empty shell looks and feels good, the crab hastily scrambles out of its previous shell and

backs into the larger one. It then goes for a test run. If the fit or the weight is incorrect, the crab returns to its old shell and continues to look for a more suitable one. The changeover must be done quickly, as the lower half of the crab's body is soft. Exposed, it could soon be eaten by an enemy.

Besides changing its shell house as it grows, the hermit crab also changes its own shell skin by moulting every so often. To grow in size, it sheds its shell and the soft body expands rapidly, before another shell skin has time to harden. The soft bottom half of the crab's body is twisted and the crab screws its body into the twist of the shell.

Most of the shells one finds on the beach have a right-hand twist. This means that if you hold the shell with the pint up and the mouth towards you, the mouth of the shell will be on your right side at the bottom. The rare

left-handed shell will have the mouth on your left-hand side. A hermit crab's body has a clockwise or right-hand twist.

Like other crabs, the hermit crab has five pairs of legs. The front pair has nippers that are used for picking up and manipulating food. One of the nippers is usually much larger than the other and is slammed shut as a shield to protect the animal when it feels threatened.

The next two pairs of legs are extended out of the shell and used for walking, and last two pairs of legs cling to the shell. The hermit crab also has other limbs growing from the back part of its body.


These are not paired and there are more of them on the outside of the twist than on the inside. The female uses these to hold her eggs. At the end of the soft body, a tail fans out which is used as an anchor to prevent the shell from slipping off the crab.

If you try to pull the hermit crab out of



its shell to examine it, it will break in half at the "waist", before it will let go of the shell.

Hermit crabs are scavengers and eat scraps of flesh from dead marine animals.

A few species also have the ability to filter food particles from the water with their feathery feelers. 



Tides Simplified

From very early times, man has puzzled over the tides. It is no surprise that even in the Middle Ages men of repute thought the tides were due to the "Earth's breathing". Long before this, though, the Ancient Greeks thought that the passage of the moon was related to the movement of the tides.

They noticed that the time of high water was 50 minutes later every day, and, coincidentally, the passage of the moon through the sky was also 50 minutes later.

They also noticed that the highest tides occurred when the moon was full or new. They were quite right – we now know that tides are due to two forces of nature.

The gravitational pull of the moon and sun

All objects exert an attractive force on objects around them. The moon is a satellite of Earth, held in orbit by a force called gravity. The moon exerts a pull on the Earth, too, resulting in movement of the atmosphere, the molten core, and, more importantly, the water of our planet. Simplistically put, the attraction of the moon causes a bulge of water on the side of the Earth facing the moon, as does the sun.

The sun is huge, but it is 400 times further from Earth than the moon, which causes a lesser attraction and therefore a smaller tidal bulge. The opposite side of the Earth

also has a tidal bulge, which is due to another force of nature.

Centrifugal force

The next time you are on the beach with your scuba gear, pick up a cylinder (an empty one!) and swing it around you a few times. Then look at your footprints and you will notice that they have made a circle in the sand. In other words, the cylinder is not really being revolved around you; instead, you and the cylinder are revolving together around a centre of mass, which is a spot in the middle of the circle.

The moon spinning with the Earth also has a centre of mass, which is about 1600 km below Earth's surface, on the side facing towards the moon. The outward force throws out a tidal bulge on the side opposite the moon.

Now remember, the Earth revolves around its axis every 24 hours, so a point on Earth would pass through two high and two low tides each day. But, the moon revolves around the Earth every 28 days, so every

day the high tide is 50 minutes later.

Remember, too, that the moon and the sun both create a "gravity bulge". If they are in line i.e. a full or new moon, the bulges superimpose, creating extra high and extra low tides, which are called spring tides.


At the first and last quarter i.e. one week before and after full moon, the sun and the moon's gravity bulges are perpendicular to each other, cancelling each other out and reducing the tidal bulge. This results in lower high tides and higher low tides, called neap tides. Clear as mud, I am sure? It can get far more complicated.

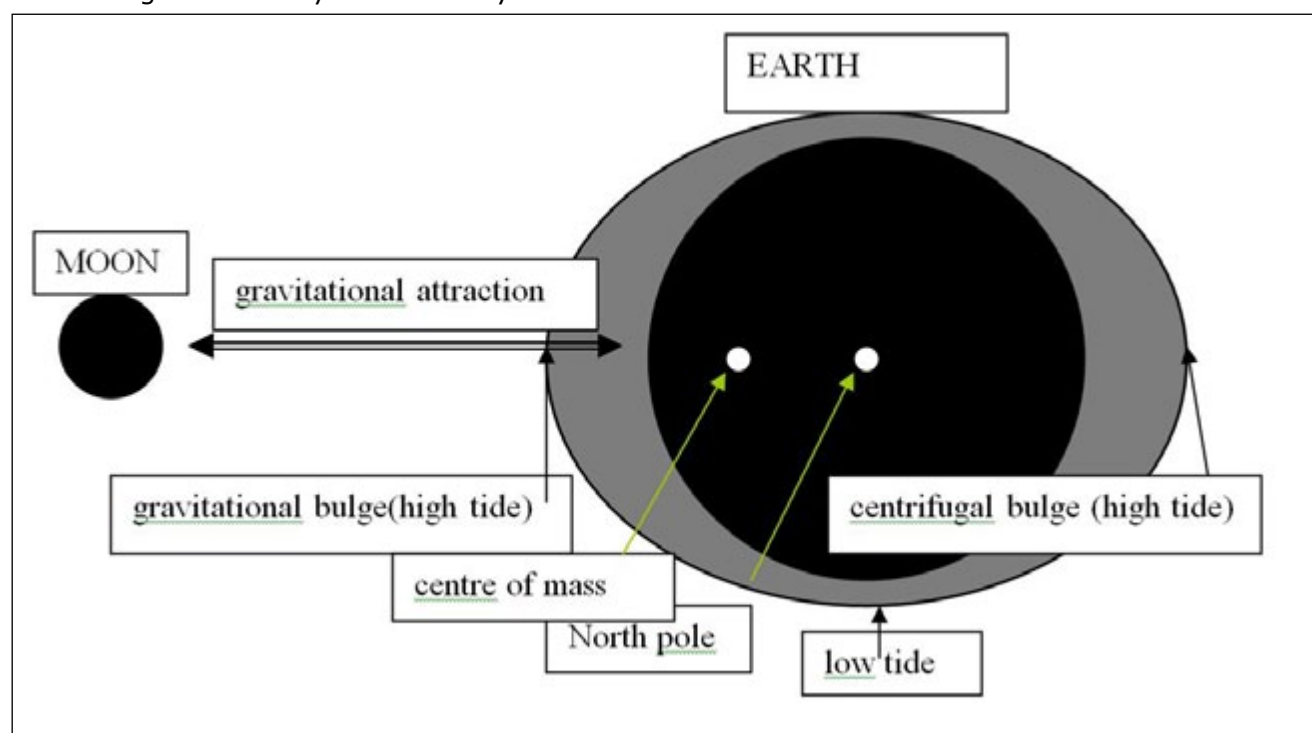
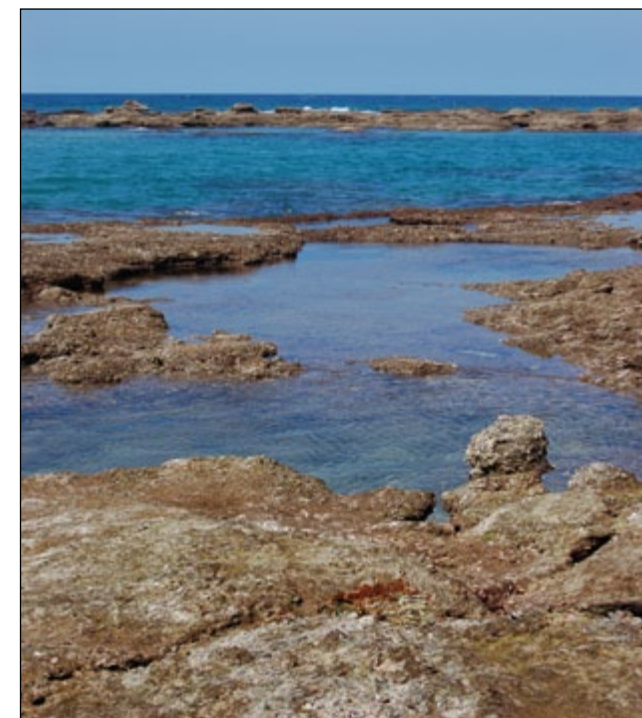
Tidal ranges vary, ranging from almost nothing in the Mediterranean – allowing the romantic canals of Venice to exist – to as much as 20 m in the Bay of Fundy in Nova Scotia.

How do tides affect us?

A very important role played by the tides is the distribution of eggs and larval stages of coral reef animals and plants. As members of the plankton community, these organisms may drift for days and

weeks before finding a suitable place for settlement.

These animals also serve as food for corals and filter feeders. Perhaps, the life-giving tides should be called the "breath of the ocean!" 



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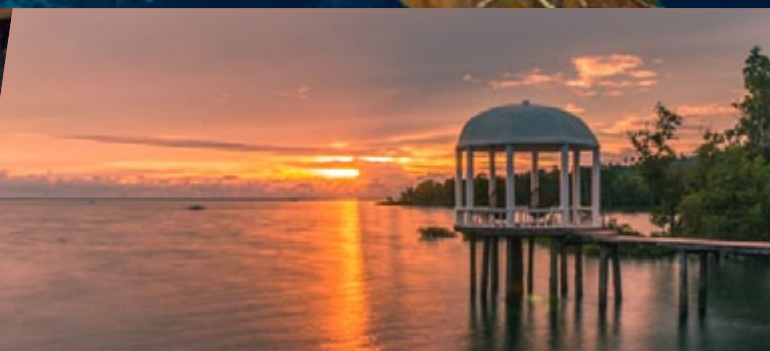
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Marine Pollution

While we typically picture marine pollution as large oil spills by ships, these events in fact only form a small fraction of the total pollution entering the ocean.

A broader definition of marine pollution includes the introduction by man, of any substances which are harmful to the living resources or water quality of the ocean. Polluting substances commonly include oil, inorganic minerals and hazardous chemicals, radioactive substances, sewage, plant nutrients and garbage (like plastic).

Of all the pollutants which enter the ocean, only 23% actually originate from activities conducted on the sea itself (like shipping), while the vast majority of marine pollutants have a land based origin (44%; the remaining 33% of pollutants enter the sea from the air).

When considering oceanic pollution as a whole, it is important to keep perspective. The massive volume of the ocean means that on long time scales, if all pollutants were fully mixed or dispersed, that the water quality at any point would hardly be affected. I.e.: the ocean could handle our pollution (Of course this does not suggest that we should simply excessively pollute without worry). However, the fact

that the majority of pollution enters the ocean from the land means that pollutants are preferentially concentrated in the vulnerable coastal zone, thus posing a potential threat to local water quality.

The coastal zones' importance as an economic (fishing) and recreational area makes the prospect of poor water quality particularly undesirable. Here then, we are most interested in the pollution entering the ocean from land based sources, and not from the typical oil tanker spill idea.

Along many coastlines around the world, there are pipelines which are licensed to discharge effluent. Of these, about half discharge industrial wastes, while a further third discharge municipal sewage.

There are also of course pollutants which enter the ocean through storm water runoff, and river runoff. In fact it is these runoffs, containing used engine oil, as well as municipal and industrial wastes, which globally act as the major source of oil discharged into the ocean. Another

example is plant nutrients which enter rivers near agricultural land (fertilizers), and are discharged into the ocean.

These together with other sources, such as sewage, encourage 'excessive' algal growth in the coastal ocean, and when these algae die, their break down by bacteria causes oxygen to become depleted, which is in turn harmful to other marine organisms (low oxygen causes crayfish walkouts for example). This effect is known as eutrophication.

As we saw earlier, the critical factor with oceanic pollution is that it becomes mixed up, or diluted to a stage where it no longer negatively impacts water quality. Now let us reconsider the effluent pipelines.


The desire for the pipelines is that the effluent which is discharged is mixed as thoroughly as possible, and there are two principal ways of achieving this. The first, and most obvious is to discharge the effluent into the surf zone, where the energy of the waves will mix the effluent with the surrounding water.

Of course this is undesirable in places where the beaches are used for recreation, and additionally, wave conditions do not always ensure thorough mixing of the contaminant.

The second, often more effective method of mixing effluent is through the creation of a so called 'buoyant plume'.

In this approach an underwater pipeline releases effluent which has a lower density than the surrounding waters (i.e. the effluent is warmer, or less saline). The buoyancy of the effluent causes it to rise towards the surface, which in turn results in turbulence.

This turbulence then serves as a very efficient way to mix the contaminant with the surrounding water.

Even with dilution measures, the discharge of harmful effluents into the ocean is concerning. Regulation of this type of pollution is guided internationally by treaties, such as the UN Convention on the Law Of the Sea (UNCLOS), and MARPOL. 



DRUGS AND DIVING: DON'T TAKE THE PLUNGE

From over-the-counter and prescription drugs to popping partying pills and slugging booze, we give you the lowdown on the adverse affects. Put your beer (and decongestants) down – now!

These days there are thousands of medicines available and many have unpredictable or dangerous side effects while diving. The problems arise from their effects on consciousness, awareness and the body's response to hyperbaric stress.

These effects include impaired response to an emergency situation, increased susceptibility to nitrogen narcosis, sudden epilepsy, irregular heart rhythms, high or low blood pressure, mental clouding, vertigo, fatigue, impaired muscle tone and power, and susceptibility to hypothermia.

Some drugs are often used by divers, for example, oral decongestants, nasal sprays, antihistamines, anti-seasickness preparations and antimalarials.

Other commonly used drugs which can cause problems include: sedatives and tranquillisers, thyroid drugs, antidepressants, antihypertensives, antihistamines and decongestants, coronary vasodilators, hypoglycaemic agents, narcotics, adrenergic blocking

agents, antituberculous agents, steroids, chemotherapeutic agents, anticonvulsants, antipsychotics, alcohol, central nervous system stimulants, hallucinogenic drugs, appetite suppressants, and anti-gout preparations.

SSRIs

The use of Selective Serotonin Re-uptake Inhibitors (SSRIs), such as Fluoxetine, Citalopram and Paroxetine, is common in managing mixed anxiety/depressive problems and they are openly or secretly used by many divers.

But as with any mood-altering drug, even a relatively minor challenge, such as a loose mask, can escalate rapidly into an uncontrolled, and even fatal, panic situation.

These drugs can also precipitate epileptic seizures as a side effect and divers are then certainly at risk because normal hyperbaric conditions can also precipitate epilepsy.

ORAL ANTIHISTAMINES AND DECONGESTANTS

Many oral antihistamines and decongestants

induce sleepiness and fatigue.

Pseudoephedrine, the commonest ingredient in most decongestants, has been reported to cause central nervous system side effects, as well as high blood pressure and even strokes, a rapid heart rate with palpitations, angina, breathlessness, precipitation of an asthma attack, alterations in glucose metabolism and retention of urine. Despite this, many thousands of divers use oral decongestants to assist them in equalising.

It becomes a playoff between the primary effectiveness of the drug in assisting equalising and its possible side effects. In most cases the diver finds that equalising becomes easier. But, should the side effects occur, the dive then becomes very hazardous.

Be very careful in the use of oral decongestants. Consult a diving physician. A few minutes of positive training in the numerous equalisation techniques often resolves the problem without the need for any oral medications.

HIGH BLOOD PRESSURE

High blood pressure is an extremely common disease in the general population. In the diving environment a number of cardiovascular changes normally occur, including slowing of the heart rate.

Should the diver be taking beta-blockers to control blood pressure, a profound fall in heart rate and blood pressure may occur.

Diuretics, also commonly used in the management of high blood pressure, can cause relative water depletion in the diver leading to reduced dilution of absorbed nitrogen in the body and decompression illness in an otherwise normal depth/time dive.

It is essential that every hypertensive diver consult with a diving physician to discuss the potential problems of the condition and the possible hazards of any therapy taken.

ANTIMALARIALS

Falciparum malaria is a hazard to all divers

in subtropical and tropical Africa. The choice of antimalarials include Mefloquine, Chloroquine in combination with Paludrine, doxycycline and very recently, Malanil.

Mefloquine has a major disadvantage in that it can cause central nervous system problems including vertigo, an extremely dangerous condition under water.

The efficacy of oral contraceptives up to three months after the last dose of Lariam is also listed as a special precaution. I have found doxycycline to be useful but it must not be taken by children or pregnant women and can also cause skin photosensitivity and worsen sunburn.

Malanil has been used by many divers but its safety under hyperbaric conditions is not yet medically confirmed. I would urge all divers to consult a diving physician before entering a malaria area and always to use nets, repellents and insecticides as preventative measures.


CONTRAINDICATED DRUGS

Central nervous system stimulants and appetite suppressants can cause racing of the heart rate, nervousness and irrational behavior as side effects.

Sedatives, tranquillisers, alcohol, hallucinogens and antipsychotic drugs reduce awareness, speed of recognition and rapidity of appropriate response to a potential hazard under water. These drugs are all totally contraindicated.

It is not only the medication, but also the condition for which it is being taken that is relevant. This alone may also prohibit safe diving.

Discussion with a dive doctor and annual diving medicals become essential if any chronic medication is used.

As a general rule, divers who are taking medication should consult with a diving doctor to ensure that their therapy is safe under hyperbaric conditions. 

Global News

Accessorise Your Dive

Quality dive accessories exist to make diving not only safer but also simpler and more enjoyable. Whether it's an easy-to-use signalling device to get your buddy's attention, a rugged cutting tool to get you out of a sticky situation or a bright light to illuminate a dark place, an effective accessory might be just what your gear bag is missing.

Less is more

While a few handy accessories can enhance your dives, carrying too many may do the opposite. Looking like a Christmas tree underwater with countless shiny gadgets hanging from your BCD might make you a hit around the holiday season, but it will also make you work harder while swimming and limit how quickly you can reach what you need.

More dangling gear also increases your risk of being entangled in loose line, nearby buddies or innocent marine life. Thoughtfully consider what tools or gadgets you'd like to take with you on each dive.

Cutting Devices

Few problems in diving can be as stressful and dangerous as underwater entanglement. Even when you're not in immediate danger, having a cutting device – or better yet, more than one – within easy reach will put your mind at ease and let you focus on having fun.

Whether you use it to trim a few inches off your weight belt before you gear-up, or to free your buddy from some fishing line he swam through during the dive, a cutting device is one of the most important accessories you can have on hand. Trauma shears and fully serrated knives can make quick work of thick lines and wire, while hook-shaped cutting devices are most useful for cutting thin lines with one hand.

Corrosion resistance is an important factor when choosing a cutting tool, and devices made of titanium or high-quality stainless steel will generally last the longest. Any device that is simple, robust and easily accessed can be useful in an entanglement and will make dealing with problems that arise underwater minor annoyances rather than emergencies.

Attention-Getting Devices

Whether you need to let your buddy know you're running low on gas or you want to show her the elusive albino frogfish you just found, attention-getting devices such as tank bangers and underwater maracas can be incredibly useful. These accessories come in a variety of forms, from elastic bands with hard rubber balls you use to strike your tank, to waterproof containers filled with metal beads that you shake.

Other types of noisemakers can be attached to your regulator's low-pressure inflator hose;



Wherever I am diving,
I take DAN with me.



these use gas from your cylinder to make duck calls or whistling noises that are hard to miss. These accessories are particularly useful in good visibility when your buddy can see you but needs to be reminded to look in your direction. In areas of limited visibility, noisemakers can still be helpful, but their usefulness is limited by the visibility. This underscores the importance of maintaining viz-appropriate proximity to your buddy.

Lights

Essential on night dives but often overlooked for deeper dives, wreck dives and dives on certain reefs, dive lights make for excellent signalling devices and bring colour back to the depths of the ocean. The water column filters out many of the brilliant hues of the ocean's flora and fauna – even on sunny days in clear water – but by providing your own light you can see the creatures of the deep in their full glory.

Dive lights can vary greatly in power, burn time and cost. The majority of recreational divers are best served with a compact handheld dive light. John Brigham, vice president of Ikelite, contends that a good dive light should be "small, simple and easily accessible", adding that advances in LED technology have made LED lights almost universally more powerful while also having longer burn times. Because they draw less power than halogen bulbs at a similar light output, LED-powered dive lights also burn less hot, so they can generally be used on the surface as well. That low power draw also means that LED lights can be brighter than similarly sized halogen lights.

The increased performance of LED lights comes at a cost, however, both literally and in the fact that owners often cannot replace the LED themselves like they would with a halogen bulb. Other considerations for light choice include travel concerns, ease of operation and whether the light is user serviceable. Some lights come with batteries that are too large to fly with or are made of materials that aren't allowed on commercial aircraft. Features such as beam width, rechargeable batteries and multiple power settings are available, although Brigham notes that "a light is a light" – it's best to keep lights simple and easy to use. It is important to realise that accessories are just that: accessory to the dive.

Even the best tool can be a hindrance if it takes up time or mental bandwidth that a diver could be using elsewhere. Whilst accessories can make your dive easier, safer and more fun, they should never be used to compensate for skill or equipment inadequacy.

For more diving health and safety content, visit Diving Safety at www.danap.org
By DAN's Reilly Fogarty



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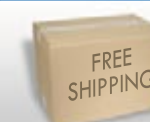
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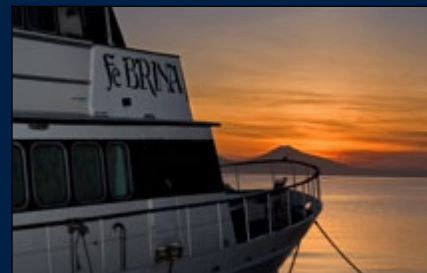
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DISCOVER YOUR NEXT DIVE

Papua New Guinea

Krackafat. If ever a dive site deserved an innuendo-laden name, and there are quite a few in PNG, this is it.



You know you are about to dive somewhere really special when the normally already very enthusiastic crew are like kids on Christmas morning with an Easter egg sugar rush. Digger was buzzing around like he'd had four double espressos, and Josie giggling and bouncing around through her pre-dive briefing.

It was 6 AM and they were itching to get under the tree and rip off the wrapping paper. Digger had had a sneak preview when he dropped down to tie on the mooring line. "Looks amazin' down there!" he said, grinning like the Cheshire cat.

Briefing done, we stride of the water-level dive platform in the balmy 87C water and fin into the gentle current. The FeBrina is hanging off the back of the underwater seamount, moored to the top through a permanent pin some 45 feet down. As I look forward, I can already see why the dive guides were so excited.

The far side of the top of the reef is covered by a silvery black cloud. In 2500-odd dives I have never seen anything like it. Horse-eye jacks in their thousands, a giant swarm

of them swaying back and forth gently, facing into the current. The top and sides of the mount, the result of the volcano whose crater forms nearby Witu Island, are an explosion of color. Countless crinoids, multiple magnificent anemones, delightful dendronephthya, and clumps of red whip coral adorn the reef.

Several species of schooling fusiliers dart to and fro, yellow and white Pyramid butterflyfish flutter by the hundreds, swarms of anthias loiter around the barrel sponges and black coral trees, as a couple of grey reef sharks patrol in the distance. The is even better than the 90 to 100-foot conditions we'd had the day before in Kimbe Bay, probably 140 feet plus. It's hard to judge with all the fish getting in the way.

It's hard to know what to take a picture of. The school of jacks is so big I can barely get a fifth of it in and lit up. The closer I get the larger the school. As I get to the current side of the reef, I descend deeper to try and get under the cloud, and three dogtooth tuna cruise below me. Hanging ay 90 feet, I let the camera hang down and just gawp in wonder. On a fan a longnose hawkfish



watches me.

60 minutes later, back on the boat, I ask skipper Alan Raabe what the name means. "Did you get a woody, mate?" he asks in his Australian brogue. I must look non-plussed. "Krackafat, to get a hard on, good old Aussie slang."

Krackafat is one of a number of reefs around the Witu Islands, about 8 hours' steam north of Kimbe Bay, off north the coast New Britain Island, in the Bismarck Sea. Very few people live out here, as an afternoon run ashore to visit the village attests, there is no commercial fishing in the area, and the locals fish from dugout canoes. The bottom of the ocean is several thousand feet deep, creating perfect conditions for a superb reef in a country full of them.

The colors I'd guesstimate that there are over 300 known dive sites in the country, I've dive around 100 of them and not found more than half-a-dozen that weren't a great dive, most I would rate between "excellent" and "Can I live down here please?". And Krackafat is probably my favorite of them all.



As Prof Charles Veron, former Chief Scientist, Australian Institute of Marine Science said "These coral reefs take me back forty years, to a time when corals grew in lush profusion, untroubled by the problems that beset them today. I am hard pressed to think of anywhere on earth that has this combination of vibrant health, diversity and beauty."

The Witus are dived as part of the 10-night Signature itinerary from April to June and September to mid-November, along with Kimbe Bay and Fathers Reefs, altogether forming a triangular tour with an overnight steam between each area.

Kimbe Bay has 40 dive sites on its own, Witus close to a dozen, and Fathers around the same. Kimbe Bay's outer seamounts are also pelagic fish magnets, and Fathers reefs have yet more barracuda, tuna, batfish, sharks and possibly the world's friendliest turtles at Jayne's Gully, a few of whom seem to have formed a particular bond with Digger.

Shaggy Ridge and its Silvertip sharks are also at Fathers Reefs, and multiple sites are great for grey and white tip reef shark action.

Dive the Globe

PNG

By Christopher Bartlett

From January to March the rain fall on the north coast of New Britain, but the mountain range along the spine of the island keeps the south coast dry, and the FeBrina operates out of Rabaul for three months, steaming round to the south coast on nine-night trips. The South coast itinerary takes you diving in the Solomon Sea, just off the 29,988 feet deep New Britain Trench. The nutrients from the uber-deep seem to create a wonderland of rare and unusual critters as well as pelagics.

In March, the 12-night Rabaul to Milne Bay and the subsequent Milne Bay to Rabaul itinerary includes diving in the Milne Bay area, Tufi, the d'Entrecasteaux Islands of Normanby and Goodenough and along the southern coastline of New Britain at Lindenhaven.

Whilst the boat is certainly not the most luxurious vessel by 21st century standards, the individually air-conditioned cabins do the job, and the FeBrina is a great dive platform with ample room for camera equipment and battery charging. I've done four trip son her now, and am itching to go back as she goes to what I consider to be the most beautiful, unspoiled dive sites on the planet.



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5 Reasons to Dive MV FeBrina

1. Photography ops. The variety of subjects is almost unlimited. From schooling jacks and barracuda in superb viz every day, turtles and sharks, to the plethora of macro subjects including rarities like Coleman’s pygmy sea horse, Lacy scorpionfish, at least four species of ghost pipefish, more tiny crustaceans than you can shake a stick at, with undescribed species to be found (I found two on one trip in 2013). You could shoot macro on every dive, and wide angle on all but a few dedicated muck dive sites.

2. The guides: Josie and Digger have been guiding here for a couple of decades and they know where to find whatever it is you want to see. Digger also has an excellent eye for composition and is always willing to show you the optimal spot for a killer shot.

3. The people. New Guineans are the friendliest people on the planet and their good humor is infectious. Local kids paddle out to the boat to sell fruit and veg and fish (and to look at the funny people with all the crazy gear on) and are happy for their

picture to be taken.

4. The locations. Whether you are diving the outer reefs of Kimbe Bay, Fathers Reefs, the Witus, you will be in the middle of nowhere, stunning volcanic silhouettes on the horizon, or even moored in an extinct crater at the Witus.

On the South Coast you are close to local villages, making for some more topside photo ops.

5. The dive site variety. It’s the best reef diving I have done anywhere. It doesn’t have the manta action of Raja Ampat, but the size of the fish schools are unparalleled and the reef shark action is good. There are pinnacles, sea mounts, black sand dives, swim throughs, arches, overhangs, and passes. And there are four different itineraries to choose from.

Need to Know:

When to Go —The 7 and 8-night itineraries run mid-June to early September, mid-November to end of December, The 10-night signature itinerary runs April to mid-June



and September to mid-November. The New Britain South Coast itinerary is on in January and February, and the trans-Solomon Sea 12-night trips run in March.

Travelers Tip — Fly from LA direct to Brisbane direct in 14.5 hours, change planes for a three-hour flight to Port Moresby, the capital of PNG, clear Customs and Immigration and then change again for the 90-minute flight to Hoskins. The road transfer from the airport to the boat takes approximately one hour.

Divers get an extra 15kg hold baggage allowance on top of the standard 15 kg for domestic flights.

Good chocolate is hard to come by, as are the latest DVD releases. Take a few large bars and some downloaded movies on a memory stick for the crew.

Using a PNG specialist agency like Best of PNG (www.bestofpng.com), it is easy to combine a Febrina cruise with cultural land tours or some resort diving at one of the five dives resorts elsewhere in the country.

Dive Conditions — With temperatures are between 28 and 31 C, only a light wetsuit or rash suit is required. Visibility between 30 and 40 metres. With mild currents on pinnacles on rising and falling tides, a weighted line runs under the boat to the mooring pin on all sites. Almost all dives are from the rear duckboard and back onto the rear duckboard.

Most days there are four day dives and a night dive, unless there is a long stretch of navigation.

Operator —www.febrina.com: With a 73-foot long steel hull and steel/aluminium superstructure, MV Febrina's classic design and 7 below deck en suite cabins with individual air-conditioning house 12 divers.

Two of the cabins, those closest to the engine room and generators, are single occupancy only. With a crew of 8, there is always someone to help out. She sails out of Walindi Plantation Resort, near Kimbe, West New Britain Province.


She's not a luxury boat – only the lower deck



PNG

By Christopher Bartlett

and main deck are accessible to guests, there is no sun deck or hot tub – but the crew provide five-star service and the food that comes out of the galley is excellent, lunches especially.

Contact the PNG dive travel specialists, Best of PNG at cb@bestofpng.com or visit www.bestofpng.com. 



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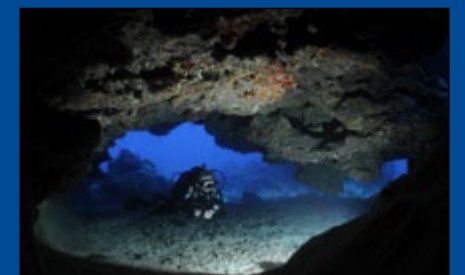


SMART

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Grand Cayman Islands

As soon as you leave the plane and your feet hit the runway, you are greeted by a steel drum band. Can you imagine any better way of getting into the island spirit? ∞



By Peter de Maagt
The Cayman Islands are a British Crown Colony in the West Indies. Although Grand Cayman is the largest island it is still only 35km long and 11km wide. Tourism is a huge business on Grand Cayman – it offers a heady mix of all the creature comforts and luxuries you could ever dream of.

Just add crystal-clear blue water, environmentally protected reefs, friendly locals, basically no crime and you can imagine that you have a winning combination.

Most people who visit Grand Cayman stay on the west side of the island in one of the many tourist resorts or in George Town. The capital city in the south west corner is also the place where the cruise ships anchor and send their passengers ashore, making its streets crowded when the ships are in. Many of them will do some duty-free shopping in one of the many trendy shops, but the majority will flock to the beautiful Seven Mile Beach and will not resist the overwhelming temptation to just

relax.

Generally speaking, that side of the island typifies the diving found. Whilst the west side offers good diving it can be more crowded and one should consider moving to the East End in order to experience some of the very finest diving that the Cayman Islands have to offer.

The atmosphere on this side is also markedly different – the beaches there are the place for chilling and there are no crowds. With this in mind we quickly picked up our rental car and drove off towards the other side of the island, a scenic 45 minute drive away.

As diving is such a major part of the tourist industry, diving in the Cayman Islands has become highly organised and very professionally run. Our diving was organised with Ocean Frontiers who provided an excellent all-round service from the booking through to the great dive guides. After depositing your



gear with them on the first day they will maintain it after every dive. Each evening they dismantle and rinse your gear and then hang it up to dry. The next day, when you get to the boat, it is close to being set-up: the only thing left to do is to check your nitrox level. Ocean Frontiers is intimately linked with Compass Point Resorts which offers a range of luxurious oceanfront self-catering condominiums with their own private patio. So you can imagine that after a long flight, we just unpacked and enjoyed the view of our first brilliant 'Caymanian' sunset on the patio.

We spent a whole week boat diving using the Eastern Skies, a 45 foot powerful mono-hull and did two dives in the morning and one shallower afternoon dive. I dove nitrox 32, which is the standard nitrox mix on the island and which is ideal for the depths that we had planned.

To set the scene: blue skies, 27oC outside and water temperature of about 25oC. The visibility was reliably consistent, averaging between 15-25m. The typical reef has two steps: a mini wall starting at 5m, dropping to 12-15m and then a vertical drop to the ocean depths.

Many of the dive sites feature drop-offs, stunning walls and canyons. A series of permanent mooring buoys and very strict guidelines were laid down some years ago and the benefits are clear to see – the reefs are in a remarkably good condition in most areas.

One of the largest tourist attractions in the Cayman is Stingray City, whose fame has grown to iconic proportions. It may be that stingrays began gathering in the area about 15 years ago when fishermen came to the calmer, shallower waters just inside the reef to clean their fish.

Soon they noticed stingrays hanging around the boats waiting for the leftovers. As this practice turned into a tradition, some dive masters realised that the stingrays could be fed by hand and before long they had capitalised on this and the



stingrays became a pet attraction.

The current Stingray City dive is actually not the original location, a largely unknown fact to most visitors. The depth of the original site was 3-5m which was considered slightly too deep for the average snorkeler, so a second site was created named Stingray Sandbar.

The depth of this 'dive site' is only about a metre. If you want to visit this site, it is best to get out of bed very early and make it an early dawn trip which will probably give you about one to two hours all to yourself before the many cruise ship passengers, novice snorkelers and families arrive.

This also has the advantage that at this time of the morning the stingrays form large groups of 10 to 20 individuals circling over, under and around you. This behaviour stops as soon as they get fed when their behaviour transforms into a literal 'bun fight'.

So, as soon as other boats started arriving

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we decided to leave and headed over to the harbour for a nice beachside lunch at the local Kaibo Beach bar.

We did also 'dive' the original Stingray City. Normally I am not a fan of the tourist-type dives but this one was a blast! We could watch our dive instructors 'rodeo' the rays around for their piece of squid.

There was a constant flow of rays moving in and out and at the beginning we simply spent time watching this impressive parade of freewheeling acrobatic rays. Until the moment that I was allowed to feed them and noticed that it takes some practice to feed them elegantly... When I was feeding them the ray simply looked like a vacuum cleaner, trying to suck the food out of my hands. Another one bumped into me, rubbed against my leg and was trying to snatch the food away.

They were very excited and I was told it is quite common that they will give you a hickey if you hold onto the food too long. As the dive takes place at such a



shallow depth on a sandy bottom, the water quickly gets filled with particles but it is still a spectacular sight. At the end of the dive, our guide had a nice surprise. While we had been enjoying ourselves with the rays, he had placed a tube with squid some distance away from us.

The reason for this became obvious when he opened the tube and a large yellow moray eel came shooting out. Initially it was focused on the guide, but it then darted towards me with mouth open, apparently going for the reflection in my domeport.

Afterwards we were told that they had nicknamed the eel 'Psycho'. Even though I'm sure the moray is used to divers, I didn't mind having my camera in between myself and his teeth!

One of Cayman's best 'real' dive sites is considered to be Babylon whose reputation has grown steadily. Babylon is on the North Wall, half way between Rum Point and East End. Despite its location, Babylon is a very easy dive as the top of the wall starts at around 10m. At the very beginning of the dive we found a large, single barracuda just below the boat. The first few minutes were spent exploring the sandy bottom and the shallow reef.

However, the reason for its reputation is the topography of the wall; a sheer plunging wall face interrupted by a stunning pinnacle that is impressively decorated. Actually, Babylon is a site that you might expect to feature in the Lord of the Rings trilogy – barrel sponge formations that could swallow a diver. The wall and pinnacle are abundant with black coral, purple sea fans, multi-colour rope sponges and huge barrel and orange elephant ear sponges together with a large variety of other tropical marine life.

This site is extremely colourful, and to top it off, a shelter for all kinds of fish like chromis, barracuda, parrotfish and beautifully coloured angelfish. The top of the reef makes for an ideal and very



interesting safety stop.

Perhaps the most fascinating site, certainly from an underwater photographer's point of view, is Grouper Grotto. This is a relatively shallow site and admittedly less colourful than some of the other sites, but it is a labyrinth of caves, canyons, tunnels and pinnacles that are all trying to get your attention and combine to provide some of the most interesting topography you are likely to see. I felt that this site was very characteristic of the rugged underwater topography on the east side.

The caves and tunnels are teeming with life. The typical cathedral light creates a special atmosphere inside the caves, while the tarpons guard the caves and patrol the tunnels in formation.

Some of the caves and swim-throughs looked a bit like a maze initially, but most of the time you could already detect faint daylight a few metres after entering

into the cave. In some of them you could find large schools of silversides followed by their ever-present companioning, the tarpons. Although absolutely harmless, tarpons do occasionally make you jump if you come round a corner and find one coming towards you. Towards the outside of the reef you find caverns filled with snappers, lots of small grunt and other small fish.

We also dived the latest attraction in the Grand Cayman. On January 5, 2011, the authorities sank the USS Kittiwake to serve as a dive attraction and an artificial reef. The wreck lies at the northern end of the famous Seven Mile Beach, virtually upright on a sandy bottom.

The USS Kittiwake is a former submarine rescue ship about 80m in length and she is best known for her involvement in the search for the black box after the space shuttle Challenger disaster. Some people will say that the wreck still lacks character, but I liked the fact that



Dive the Globe

Grand Cayman

By Peter de Maagt

everything was still relatively new and it gave you the feeling that you were diving in a big swimming pool of a film studio set.

The depth varies from 25m at the propeller to about a metre and a half at one of the masts. During the surface interval between dives we noticed a few snorkelers sticking their heads out of the water and mimicking di Caprio in the Titanic while standing on the crow's nest.

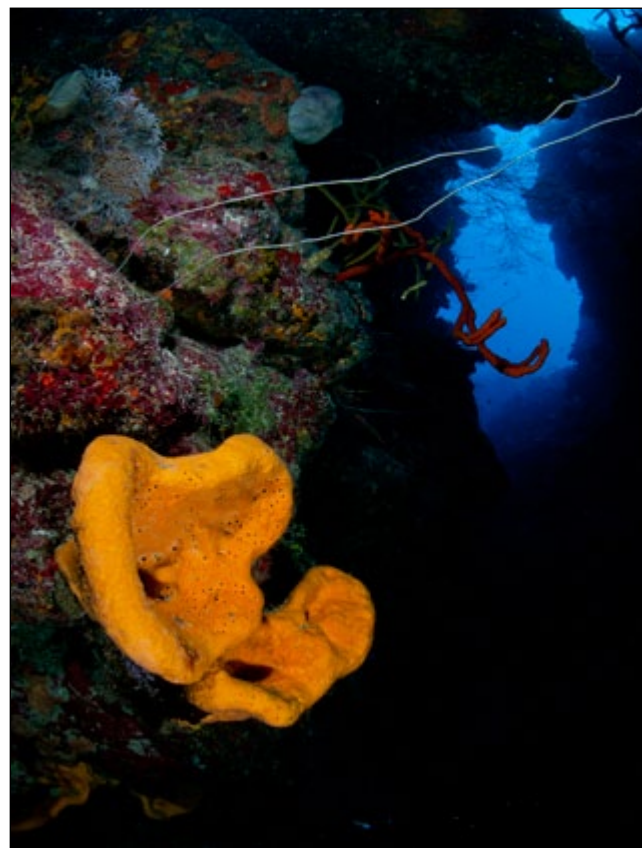
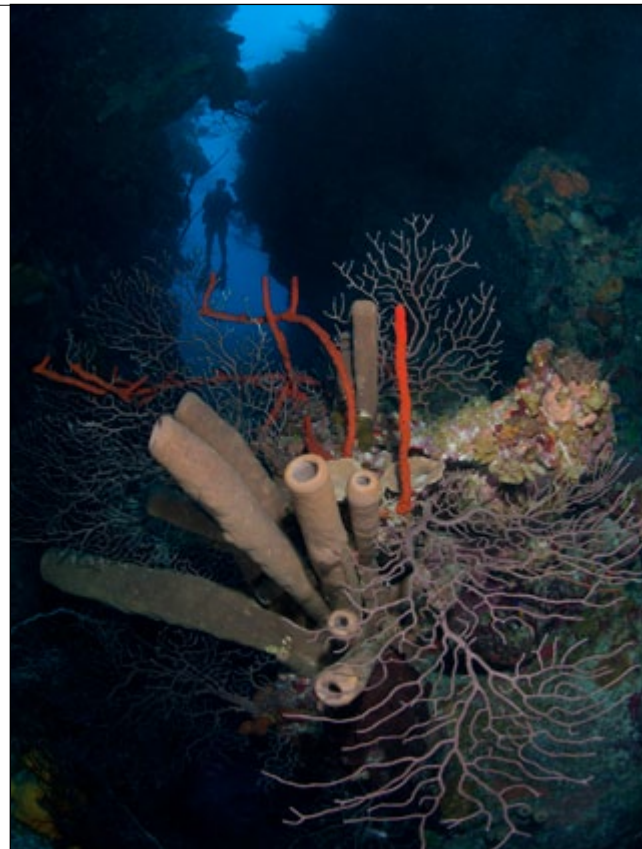
Although we didn't see too many big pelagics during the dives, there are groups of resident Caribbean reef sharks at some sites. You could assume that it's all about steep wall-diving in the Cayman, but there are also a few very nice macro sites. East Sunset Reef is a nice shallow reef area just a stone's throw away from the Ocean Frontiers base. They tend to use it as their standard training site and location for night diving because it is only about 6m deep.

At first glance it is not really spectacular as it only features a few coral heads that nearly break the surface. There is an anchor which is claimed to be from the 'Wreck of the Ten Sails' and the history seems to be linked to some famous pirates. Sadly it is not that photogenic and because of the shallow depth the visibility is not that great either. However, after looking a bit closer it turns out to be a Mecca for macrolife.

Gobies and blennies, shrimps, flamingo tongues, sea conchs and other small critters can all be found there. Having overloaded on all the dramatic underwater scenery earlier in the week, simply critter hunting was a welcome addition.

Time flies when you are enjoying yourself and our jam packed stay came to an end all too soon. We felt sad to have to pack up and leave, but reflecting back on our stay it had been fabulous and we loved every minute.

After all, the whole point of coming here is to enjoy life – and diving! 🐠



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Nacala Bay

Mozambique

If your idea of the perfect dive holiday is a tropical escape off the beaten track, check out Bay Diving.

This small, owner-run lodge is perched on the cliffs 20 m above a sandy beach in sheltered Nacala Bay, up in the north of Mozambique. Two hundred kilometres from Nampula, the nearest airport, Nacala Bay has not made it on to most tourists' itineraries – yet.

Independent travellers, however, return year after year to chill out on the beaches, go diving and snorkelling, fishing or dhow sailing. A number of regulars make quarterly or even monthly pilgrimages to this little-known diving mecca.

Divers are not alone in their love for the place. The restaurant is always filled with the foreign tongues of travellers who have found then holed up in this magical spot. Not for nothing is it also known as "Fim do Mundo", which means "the end of the world".

When I was there I left for a visit to northern Mozambique's most famous tourist site, the ancient town of Ilha de Mozambique. I was accompanied by two Spanish girls, who were planning on staying at Ilha for a week before heading south.

The fortress and the sheer weight of history

that you feel as you wander through this World Heritage Site impressed us all, but they clearly missed the relaxed atmosphere and hedonistic pleasures of Fim do Mundo, where they could happily wander topless on the beach. So it was no surprise when they rang the next day to say that they had changed their plans and were coming back!

Bay Diving is small and intimate and can accommodate a maximum of 26 people in palm-thatched wooden A-frames, one double room and one dormitory. Camping is also available and the ablution blocks are excellent. The restaurant, which serves everything from local seafood, is the best in the area and is packed on Sundays when it is open to non-residents.

Owners Arthur Norval and Sarah Hearn are passionate about the area, and despite their insistence that they are anti-social loners who would rather be sailing off on their own into the sunset, they are perfect hosts who make you feel like part of the family rather than a guest. They are also excellent instructors who teach people how to be divers, not just how to dive.

The bay is sheltered and warm and the house reef is one of the best I have dived.

Designated a marine reserve through a mutual arrangement with the local fishing association, it has wonderful shallow corals alive with morays, lionfish and even sea horses.

Then there are numerous other easy sites – from drop-offs to coral gardens – all within reach of a casual 30-minute boat ride. The dive centre is well-equipped and you do your skills training in the pool right in front of the restaurant, then toddle down the steps and into the sea.

What could be easier? Since couples and the odd single person usually sign up for courses and for diving, you are guaranteed of personalised instruction – and having the reefs all to yourself. As their website so rightly says, the diving is "hand-crafted not mass-produced".


Once you have finished diving, you can chill out, walk for hours along the beaches, snorkel, ride kayaks, fish, or visit the local sites, but do not miss out on a dhow trip. Arthur and Sarah are rightly proud of

Ietermagog, a 42-ft live-aboard dhow which they have built from scratch using solid teak.

Styled on a traditional Arab jahazi sailing dhow, it boasts an inboard motor, sleeps six guests and is perfect for extended dive or spearfishing trips, or day trips to secluded beaches within the bay.

They also use it for winter whale-watching, and tailor-made adventures to the pristine dive sites and islands in the open ocean. Master the ancient art of dhow sailing as you hoist the boom and pull the sails.

And then, if you really want to get away from it all, they have an unspoilt peninsula of land on the other side of the bay from the lodge. You can reach it by kayak or boat and spend the day on the beach, or take some food and spend the night under the stars.

The end of the world? Indeed – it is simply heaven 





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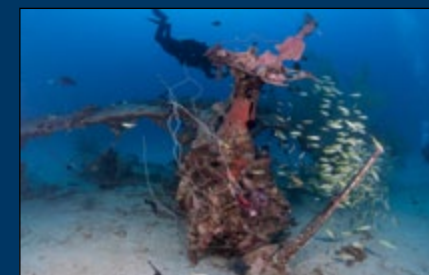
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Historic Wreck Heaven

Papua New Guinea is well known as being home the best reef diving in the world thanks to the abundance of top-drawer dive sites and the dearth of divers visiting them, but not many people know about its rich wreck diving heritage.



By Christopher Bartlett During the Second World War, the Imperial Japanese forces were determined to take the airport at Port Moresby to use it as a platform to isolate and possibly invade Australia. The Allies were determined to stop them. Early in the proceedings, the northern port of Rabaul on the eastern end of New Britain island fell and became the main Imperial base in the South Pacific Rim, and a rear supply base with multi-purpose single-engine seaplanes was set up in New Ireland Province to the northeast to protect ships coming from the Pacific.

Cape Gloucester, on the western end of New Britain, was the scene of a major Allied offensive in late 1943 early 1944, and battles raged at several points on the main island of New Guinea itself, in Oro province and Milne Bay province. The result is a historical diver's treasure chest of aviation and naval vessels.

My love of PNG diving started in 2010, and grows every time I go back. I'm not a big wreck head per se, I haven't been to Truk as a week of wrecked ships isn't my idea of fun, but for some reason, WW2 plane wrecks do float my proverbial boat, and my first trip to Lissenung Island, near Kavieng, New Ireland province, got me hooked.

In 1944, Kavieng, on the western tip of the island of New Ireland, was an important supply base for the Japanese military. On 15 February 1944, one of the many US attacks resulted in major damage to installations including sinking numerous sea planes anchored in the harbour. Unfortunately, the American Air Force suffered losses with four B25s of the 345th Bomb Group going down. Three remain undiscovered, but Stubborn Hellion sits in 12 metres of water in the mangroves close to Albatross Passage. The viz is rarely better than 6 to 8 metres, but the plane is easy to dive, just be wary of the spinecheek anemone fish manning the twin .50 calibre machine guns. If ever there was a fish that shouldn't be given heavy ordinance, it is this one!

In the harbour one can find a Pete biplane, three Jakes, an Allied PBV-5, a.k.a Catalina

flying boat, and the remains of the Tenryu Maru. The metal skinned Japanese planes are still in excellent condition, whilst only the engine blocks, props, gear, and wing frames remain of the Catalina. Assorted munitions and even a 500lb bomb were dumped nearby. The harbour area is patch reef and a lot of fine sand, but on an incoming tide the viz is around 10 to 12 metres.

Five minutes' boat ride away, behind Nusa Lik island, is the magnificent "Deep Pete". Upside down in 38 metres of generally beautiful blue water it rests in the sand, a haven for schools of goat fish and snapper. Sometimes there are so many fish, one can barely see the propeller.

The day after the four B25s were lost over Kavieng, the 345th Bomb Group found some Japanese ships by Three Island Harbour, Tunnung Island off the north coast of New Hanover. The Sanko Maru was an armed freighter and mother ship to two Midget Submarines, escorted by Subchaser CH39. At over 130 metres long, the Sanko Maru was an easy target and took many hits from 500lb bombs. The Subchaser attempted to flee, but instead ran aground on a shallow reef and became target practice for the bombers and machine gunners.

The Sanko Maru is probably the most beautifully overgrown shipwreck in the Pacific, festooned with fans and sea whips, glittering with fish, lying on her side in 22 metres of water, the port side a mere 5 metres deep. 50 metres off to the side, one of the midget subs sat, unfound by salvagers who took the props and boilers from the Sanko Maru, until 1987.

Subchaser CH39 is about a kilometre away, her stern in 4 metres of water, the engines down at 18 metres. In September 2016, the Sanko Maru kept us occupied for three dives, ferreting around the gorgonian fans, sea whips and superstructure, going inside the holds, and generally exploring her abundant life. The midget sub, one of 76 built between 1934 and 1944, was originally planned as a 15-minute side trip, but turned



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into two dives. She sits in the sand, conning tower open, with whip corals growing off her from her empty twin torpedo tubes and twin props transforming here into a giant hairy frogfish.

These wrecks can all be dived as part of a special itinerary from Lissening Island Resort, on the way back passing by the east coast of New Hanover to dive a wonderfully preserved Japanese Kate single-engine bomber, in 13 metres of clear water, next to the small island of Enelava.

Rabaul, being a major base for the Japanese, has numerous wrecks from Allied attacks. Extensive salvage had been carried out on many of them, and the major volcanic eruption of 1994, that covered parts of Rabaul in six metres of ash, have covered many of them up.

However, a 90-minute ride down the coast, sits a Pete bi-plane in superb condition, 26 metres deep, in clear blue water. This Pete

was shot down at anchor by the submarine base, next to George's wreck, a cable layer converted to a mine layer. The ship is unidentified, but named after the diver who found her. Her bow is at 14 metres, her stern at 60 metres, and it is possible to penetrate the hold and the bridge. There is also Zero close to shore near Kokopo town.

Walindi Resort in West New Britain is home to another Zero, a mere 12 metres deep, that was found in 2000 by a local spear fisherman.

The north doesn't have the monopoly on wrecks though. The B25 "Pistoff" is 17 meters below the surface at Wanigela, 32 km SW of Tufi Resort on Cape Nelson, Oro province. The natural harbor in the fjord by the resort is home to the remains of two PT boats and torpedoes, and further south at Cape Vogel, halfway between Tufi Resort and Tawali Resort, is the superb B17 Blackjack. At 49 metres deep, Blackjack is for experienced divers only, but generally



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the viz Is 30 metres on this iconic plane.

Another deep dive is the transport ship S'Jacob, sun by the Japanese air force in 1943, now lying off Porlock Harbour in 48 metres of water, covered in fish life. Both resorts can arrange long range trips to dive these sites, but the best is way is on a Spirit of Niugini liveaboard, with one of her three itineraries visiting the Blackjack, the Pistoff, and the S'Jacob. For safety's sake, the S'Jacob must be dived when there is no current though, which is not always possible. I will be doing this trip in early September 2018, so fingers crossed.

The Spirit of Niugini also does a cruise to southern Milne Bay where a P38 Lightning rests in 25 metres of water amongst some bommies.

With an A20 Havoc in Bootless Bay, close the capital Port Moresby, Papua New Guinea has a great diversity of known and diveable plane wrecks, with more yet to be discovered, and a number of interesting wartime shipwrecks too.

Getting there:

There are regular flights to Port Mreosby from Singapore, Hong Kong, Tokyo, Manila, and Bali, as well as from Cairns, Brisbane, Sydney, Honiara and Nadi.

Getting around

There are two domestic carriers, Air Niugini and PNG Air.

Resorts with wreck diving

New Ireland / New Hanover: Lissenung Island Resort

East New Britain: Rapopo Plantation Resort

West New Britain: Walindi Resort

Oro: Tufi Rsort

Milne Bay: Tawali Resort

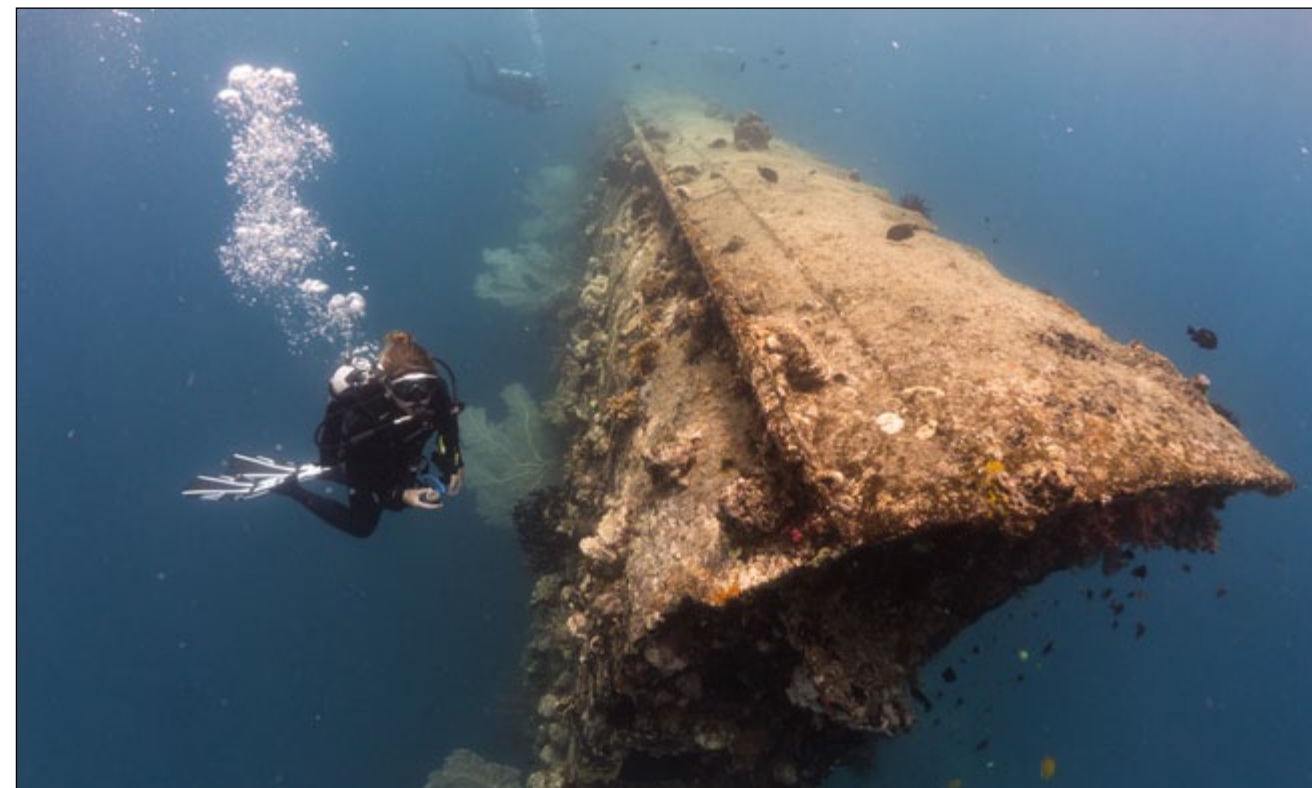
Liveaboard visiting wrecks

The Spirit of Niugini Tawali – Tufi combination trip

Further advice

Contact the PNG dive travel specialists, Best of PNG at cb@bestofpng.com or visit www.bestofpng.com.

bestofpng.com. They can put together a bespoke itinerary for you covering multiple resorts, and are running a trip combing Tawali Resort, the Spirit of Nuigini, and Tufi, visiting the B17 Blackjack, the B25 Pistoff, and the S'Jacob. [▶](#)





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Photographic Competition



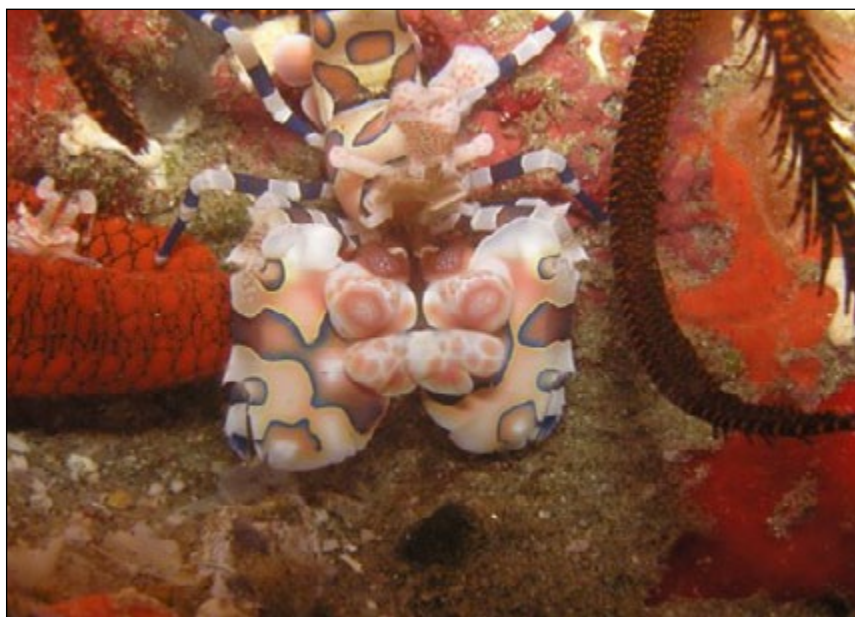
Emma Booysen



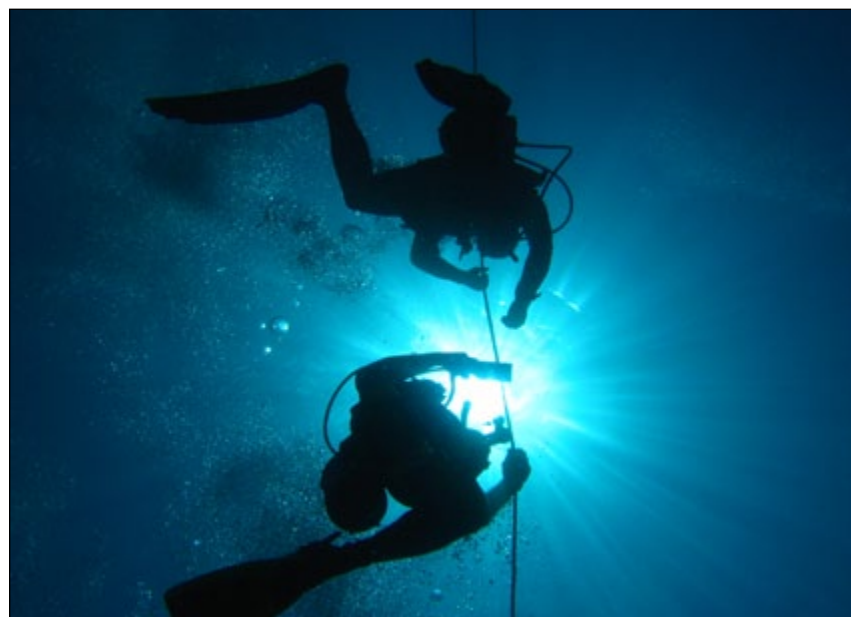
Stuart Robertson



Grea Wessels



Willie Versveld



Val van der Ploeg



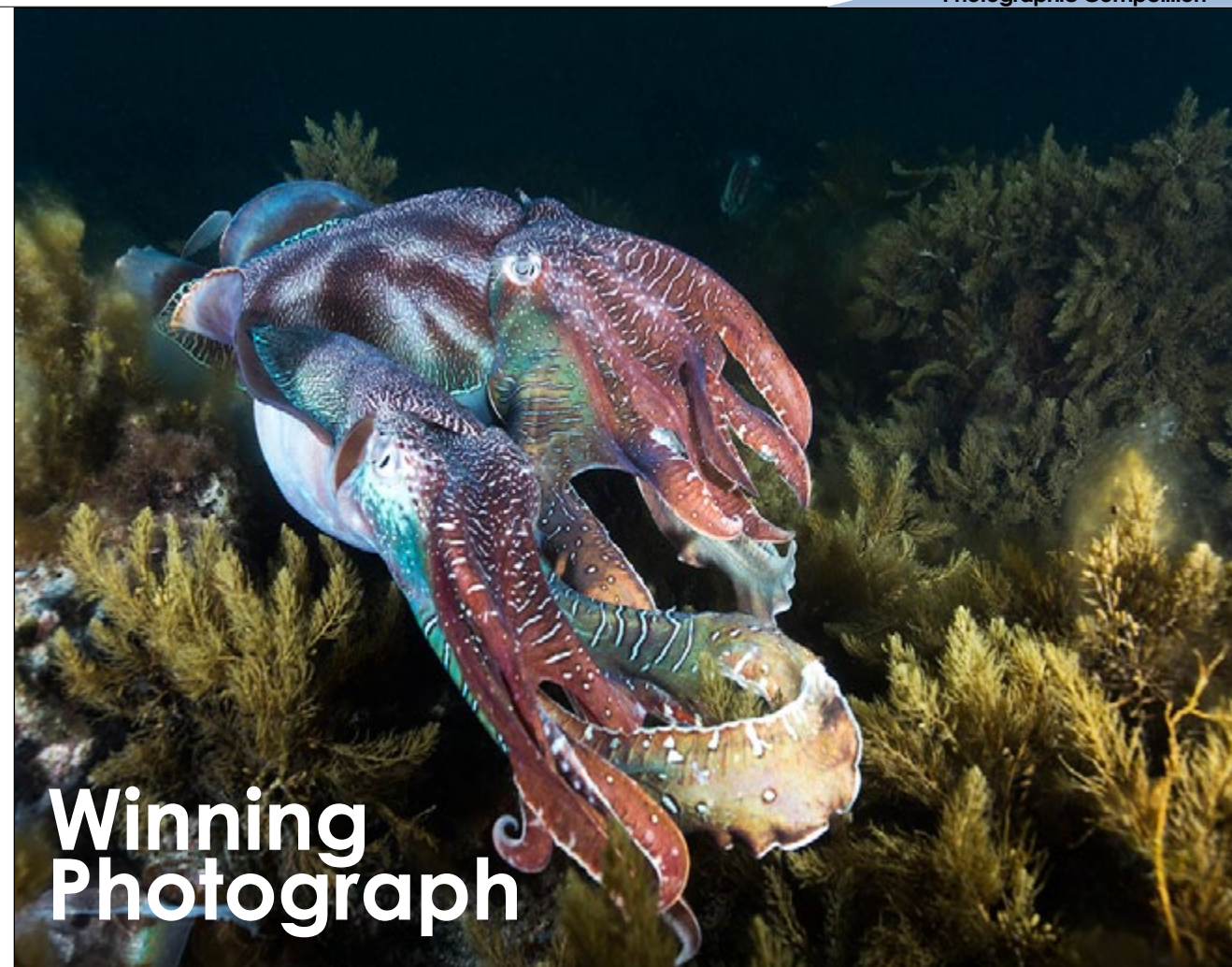
Willem Kuperus



Elizabeth Wilson



Sean Todd



Winning Photograph

Cameron McFarlane

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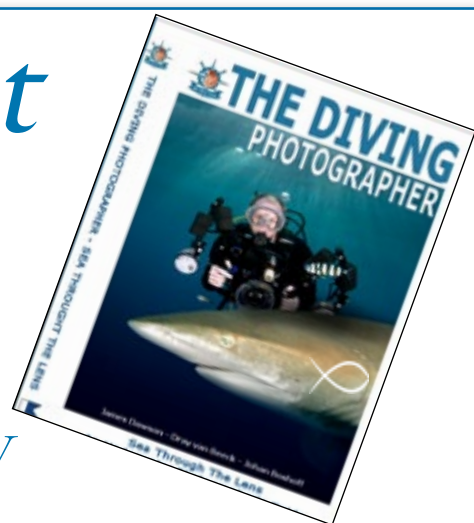
- Photographs may be taken above or below the water, as long as diving remains the theme.
- The Name of the photograph must be the photographer's name.
- Photographs must not be bigger than 5 MB per photo.
- Submit your snaps in high-resolution (at least 150 dpi) in jpeg format.

E-Mail your photos to info@ozdiver.com.au
"photographic competition"



Expose it right Underwater

Macro Photography



In this article we are going to look at macro photography, a technique which brings out incredible colours and detail at tremendous rates of magnification.

The great thing about macro photography is that it is one of the easiest forms of underwater photography. It works in almost all water conditions and is the only successful technique during a night dive. You can photograph a large percentage of the marine life on the reef just using macro.

One of the hardest parts about macro

photography is finding those really small subjects. There is so much to learn when doing macro photography because you need to know about the behaviour of the subject you want to photograph.

The purpose of macro photography is to capture the subject at actual or larger than life size. You will of course need to place the lens very close to the subject to fill the whole frame.

This produces unmatched colour richness, and using a small aperture will deliver amazing



sharpness of detail.

The most important rule for macro photography is to choose your subject with care. Avoid taking photographs from a top viewpoint. Always try having your subject facing the lens –you want to create perspective and depth in the photograph.


It is important to keep your own movement down to a minimum, so avoid rapid movement and be patient. You also don't want to stir up any sediment, as this will ruin your opportunity.

With macro photography you are going to be challenged by a very narrow depth of field so consider the plane of the subject in relation to the orientation of the film plane.

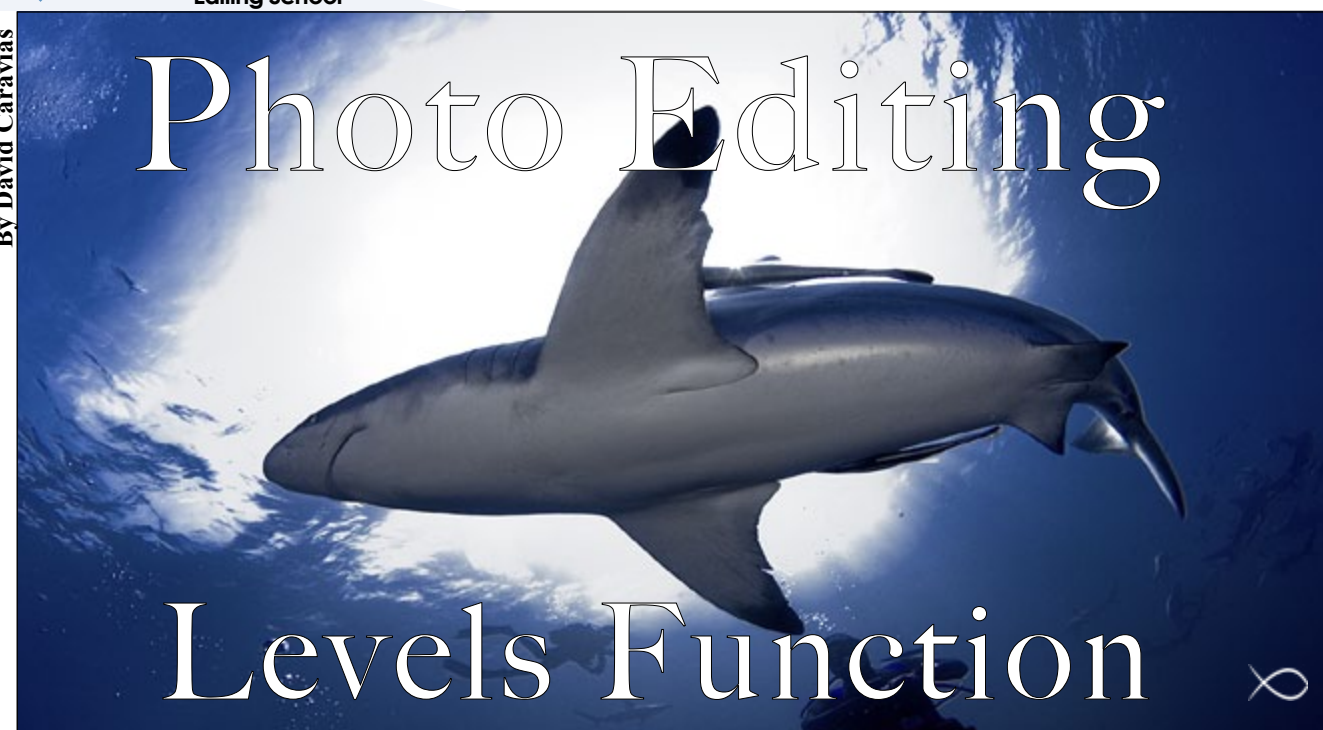
If these planes are kept parallel, you attain maximum sharpness otherwise you are going to have to rethink your composition and decide where the in-focus area is going to be.

When focus cannot simultaneously be sharp on the mouth and eyes of a subject facing the camera, you must compromise. While keeping depth of field in mind, place sharp focus somewhere between the eyes and mouth, so that an acceptable photograph can be composed.

With macro photography, you will have to approach your subjects very carefully as some will shy away or retract from the light. Always wait for and capture action, or a sense of it. If you are fortunate enough and your subject remain still to be photographed, savour the moment and compose as many different photographs as you possibly can. Always be mindful of when is it enough and be considerate to the marine life you intend photographing.

Always be sure of your physical position in relation to the reef and make sure you buoyancy is perfect. Then there are also those unfortunate times when you just have to let the opportunity go. 





One of the most common underwater photography difficulties is trying to capture a photograph without dull, saturated colour and loss of contrast. To avoid taking photographs with a lack of contrast you should shoot try and in clear water, get closer to the subject and use strobes to light the subject.

Obviously conditions vary at each diving destination and dive so you may not be able to dive in clear water. Many excellent dive sites are so good because of currents and nutrients in the water so that is unavoidable. When downloading your photographs to your computer don't worry too much as this is now not the end of the road for your photographs – with an excellent array of tools available you can turn that bland, dull photograph into a sharp, clear image with impact.

The levels function

Many people go straight to the 'brightness and contrast' tool to adjust the contrast of their photographs, but this tool is very limited and you can do the same and much more using the levels tool. The levels tool allows you to change the intensity range of the image in every channel (red, green, blue). This tool is used to make an image lighter or darker, to change contrast or to correct a predominant colour cast. This great tool allows you to adjust the contrast of your photograph as well as the colour balance to bring out the best of your photographs.

We have chosen to show you how in GIMP, a free photo editing software with similar basic tools to Adobe Photoshop. (www.gimp.org)

Before you start playing with your photograph, save it under a new name so that you will not risk messing up your original photograph and will have a back-up of the original.

Top tip! When your photograph is opened, the first thing you do before playing with your image is to make a duplicate layer to work on so that you can always go back to the original if you make a mistake when playing around. To create a layer to work on, simply go to the Layer option on the top menu and select Duplicate Layer. You are now working on your photograph on a new layer which you can delete if you are unhappy with the results. You can see your new layer on the right hand side of the screen (if you do not see this then select from the top menu Windows, Dockable Dialogs, Layers and the toolbox will pop up on the right). At any time you can see the difference the changes make simply by clicking the 'eye' next to your layer and this will turn on and off your layer, showing you the original photographs/ ayer.

Access the Levels function by selecting 'Colors' from the top menu and then 'Levels'. Alternatively, when you select the Brightness and Contrast tool you will be given the option to go to

this tool. The box for levels will then open up and you will see a graph with sliders. You may think that this looks too advanced for you to start messing around with graphs, but it is very easy to use.

There are only a few adjustments to think about and it simply involves sliding them around to see what looks good to the eye.


Value: Value makes changes to the value of all RGB channels in the image: the image becomes darker or lighter. To improve the contrast you will not need to adjust the individual colours so leave the channel option on Value and then you can play with the slider to get the desired contrast of the photograph.

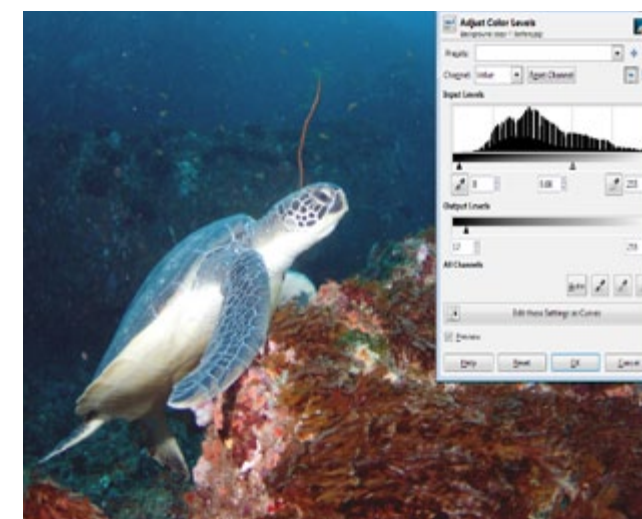
The Input Level graph: There are three triangles which you can slide around. The black slider represents the Blacks or shadows in the picture, and moving this to the right will make the blacks or shadows darker. The Gray determines the midpoint of the image's contrast. This is the most important slider for fine tuning.



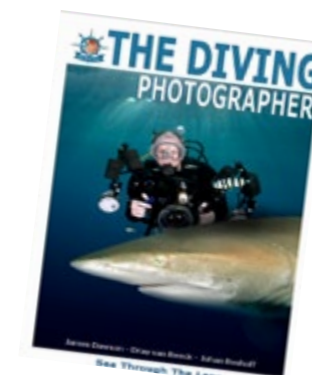
Moving the slider to the left towards the black makes the image lighter and to the right towards the white triangle makes the image darker. The White triangle represents the highlights and whites in the photograph. By moving this to the left the whites in the image will become much brighter.

The Output Levels: The output levels function basically allows you to adjust the difference in the shadows and highlights. When the black slider is pulled to the right the shadows are lightened, and when moving the white slider to the left the highlights (bright whites) are tinted darker the more you move the slider. **Tip!** If you want to play around and turn your image into a negative then simply move the white triangle on the output levels to the far left and the black triangle to the far right.

Go ahead, don't be afraid to play around and see what you manage to come up with. This tool is extremely powerful and easy to use and will transform your photographs from bland, dull underwater photographs into vivid, high contrast and beautiful images. 



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Humboldt Squids

The mysterious giants of the ocean



Years ago we became fascinated by large squids and octopuses. Almost five years ago we were diving in Papua New Guinea in Asia. While we were preparing for a normal day of diving along the reefs of this area, we were called over to another pier by one of our dive guides. Here we met our dive guide in discussion with a local fisherman who was showing the catch of the day in his self-made boat. At first this seemed not to be anything special, but when we looked closer we found that this fisherman had a very special catch.

Giant Stride

Humboldt Squids

By Andre Crone
In his boat this fisherman had a huge octopus. A little bit later the squid was placed on the dock and we got to really see how big the animal was. It was a bit larger than us and had huge suckers on its arms. Most impressive was the enormous mouth of the animal; it looked like a mega-sized parrot's beak. This is not an animal you want to meet during a night dive...

Yet this animal intrigued us. During our previous dives we had seen quite a few different squids in all shapes and sizes, but we could hardly believe that an animal of this size actually lives in the sea. Once home we were still intrigued by large squids so we began searching the internet.

One of the most often described big cephalopods is the giant squid, which is known by the scientific name Architeuthis. Yet not much is known about this animal as it lives at great depths and are not often seen by

humans. The only information that is known comes from dead specimens which have been found. Most of the squids found had a length of around 10m, but some scientists believe that an adult specie can reach up to 50m long and should weigh more than three tons. Proof has nevertheless not yet been delivered. The body of the giant squid makes up about a third of its length while its long tentacles form the rest. The tentacles are also seen as its main weapon. Scientists believe that the arms of this octopus can kill a shark or a whale.

The first living specimen is known to have been filmed in 2005. A group of Japanese scientists were able to film a living giant squid at a depth of 900m. And that's where a little problem arises for us... We really wanted to find the giant squid, but a depth of 900m was a bit too much for us. Another animal that we noticed during our internet search was the colossal

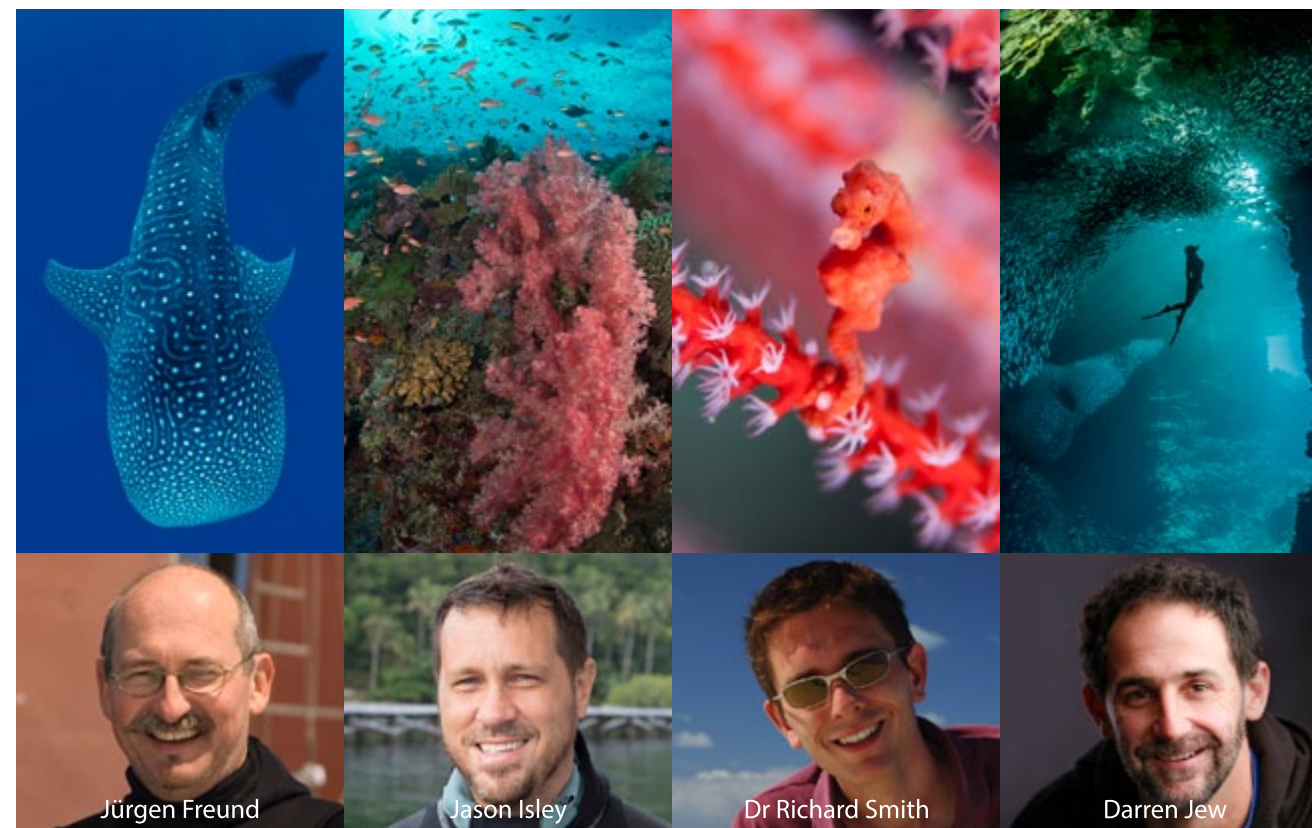


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squid, known by the scientific name *Mesonychoteuthis hamiltoni*. This squid is known as the largest species, which is mainly due to the length of the body or the mantle which is wider and more muscular than that of the *Architeuthis*. Little is also known about this species. This animal lives in the southern polar region and is also found primarily at large depths.

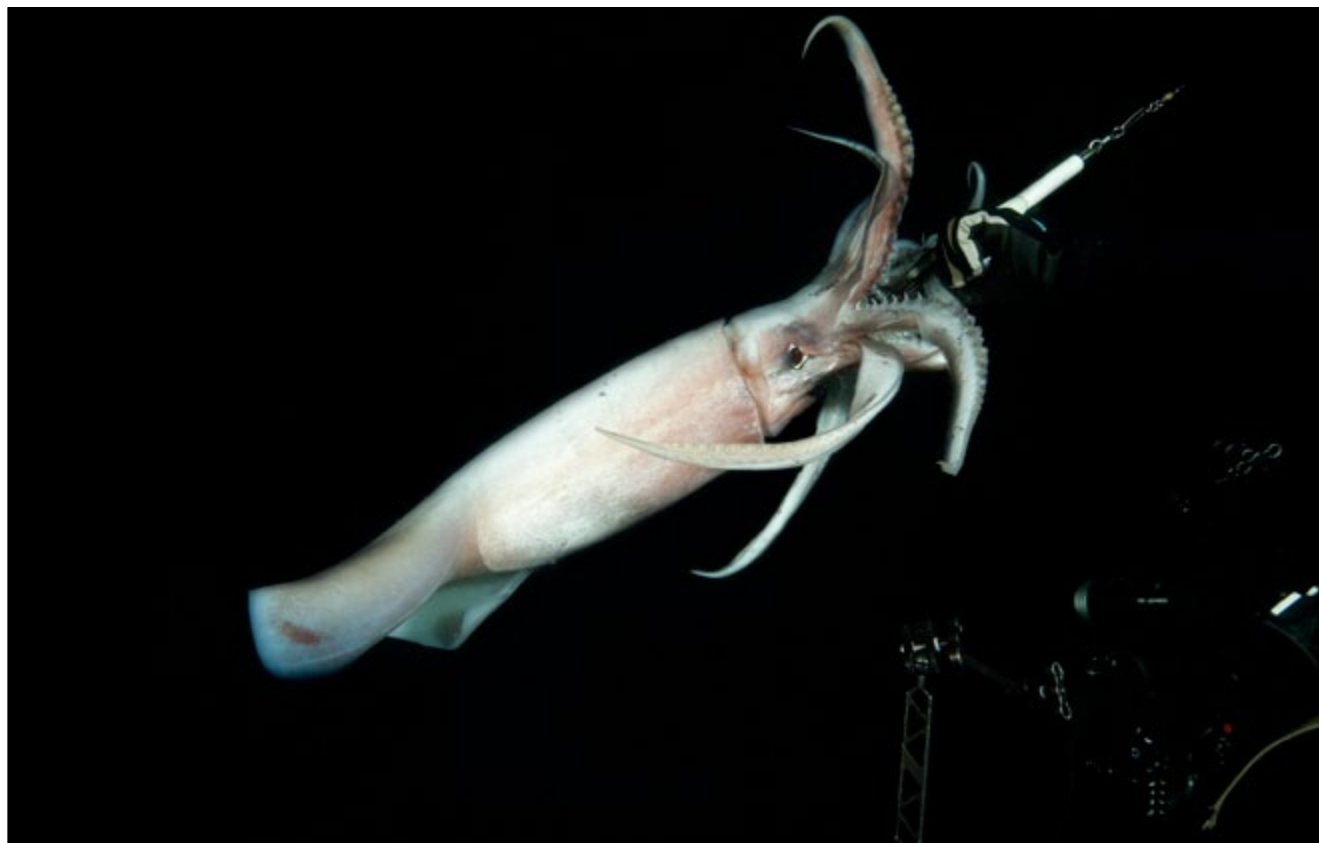
From the dead species that have washed ashore or have been captured, besides the suction cups, this species has a kind of hook on its tentacles with which it can catch prey. After having read all this we realised that it would be impossible to see these animals in real life. And besides, it probably wouldn't be a fun aquatic animal encounter meeting these giants.

But an animal that could be reachable, is the Humboldt squid. Over recent years, more and more stories of big schools of Humboldt squids off the

coast of California have been heard. This animal lives in a wide area of the eastern Pacific, reaching from Tierra del Fuego to the coast of the California. Images shown on one of the BBC nature series really seized our attention. Seeing these animals might be possible for us.

In the scientific world, the animal has received several names, but the most common scientific name is *Dosidicus gigas*. The English name Humboldt squid is given to it because of the Humboldt Gulf Stream where the animal lives off the coast of South America. Generally the Humboldt squid lives deeper than 200m.

Groups of Humboldts travel enormous distances in search of food. Every year in August the Humboldts seem to reach the sea of Cortez. Club Cantamar from near La Paz organises a number of trips over this period with the main goal of finding the Humboldt squid. So we went



Giant Stride

Humboldt Squids

By Andre Crone

for it... Unfortunately this is not an easy task. First you have to sail a few days to reach the area where they are, without having the guarantee that you will meet the animals.

To kill some time during the trip we looked at some images the BBC has taken of these animals. The images of large groups of squids swimming by in the dark sea stuck in our memory. If only we could see a little piece of this action.

Finally we made it to the right spot. As the only chance to see the animals comes at night, the staff knocked on our cabin door at 2am stating that it was time to dive.

Normally this is not really our most favourite dive time, but in this case we made an exception. A night dive is necessary because Humboldt squids come to shallower water to chase mackerel, sardines, shrimp and other

fish and crustaceans during the dark hours. They generally hunt in large groups of up to 1 200 animals. Besides feeding on fish and crustaceans, the squids are also known to be cannibals. An injured squid or one caught in a net can easily fall prey to its peers.

Just after entering the water we saw a group of squids swimming deep below us. How impressive. Despite the fact that they were much shallower than normal, there was still quite a distance between us and the squids – too far for a good picture.

In order to get the animals closer to us, we needed some additional tools, namely a 'catch and release' system. With a large hook, a Humboldt was caught and brought to the surface. From there it is gently released so that he can descend into the deep again. This catch and release system makes it possible for us to see these huge animals and take some nice images.



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The size of the animal is almost frightening. They can reach a length of 2m, and that combined with the dark of night diving makes for enormous tension. The animal seems to be very forcefully – the mantle of the squid looks strong and tough as if it is made of sturdy leather.

Attached to the body he has long tentacles, and on each tentacle, more than a hundred suckers, including a hook-like appendage. And when you then realise that this is notoriously the most aggressive squid, you tend to get a bit scared. Fortunately, they are generally not aggressive towards people. Like most octopuses they can change colours quickly. From white to dark red or almost purple, and all shades in between. If the animal is caught or feels threatened it turns dark. Scientists suspect that it does this because animals at great depths cannot see the colour red which means that it becomes almost invisible.

Humboldt squids grow very rapidly if enough food is available. They have a lifespan of about one year and within that period they grow to their maximum length of 2m. The details about the reproduction of these animals are virtually unknown, though it is assumed that, like other cephalopods, they only reproduce once. The eggs of the Humboldt squid have never been found, probably because they are laid at great depths. While Humboldts hunt small to medium sized fish, they find themselves hunted by sperm whales, sharks, seals, swordfish and sailfish. Young Humboldts need to also be wary of other medium-sized fish.

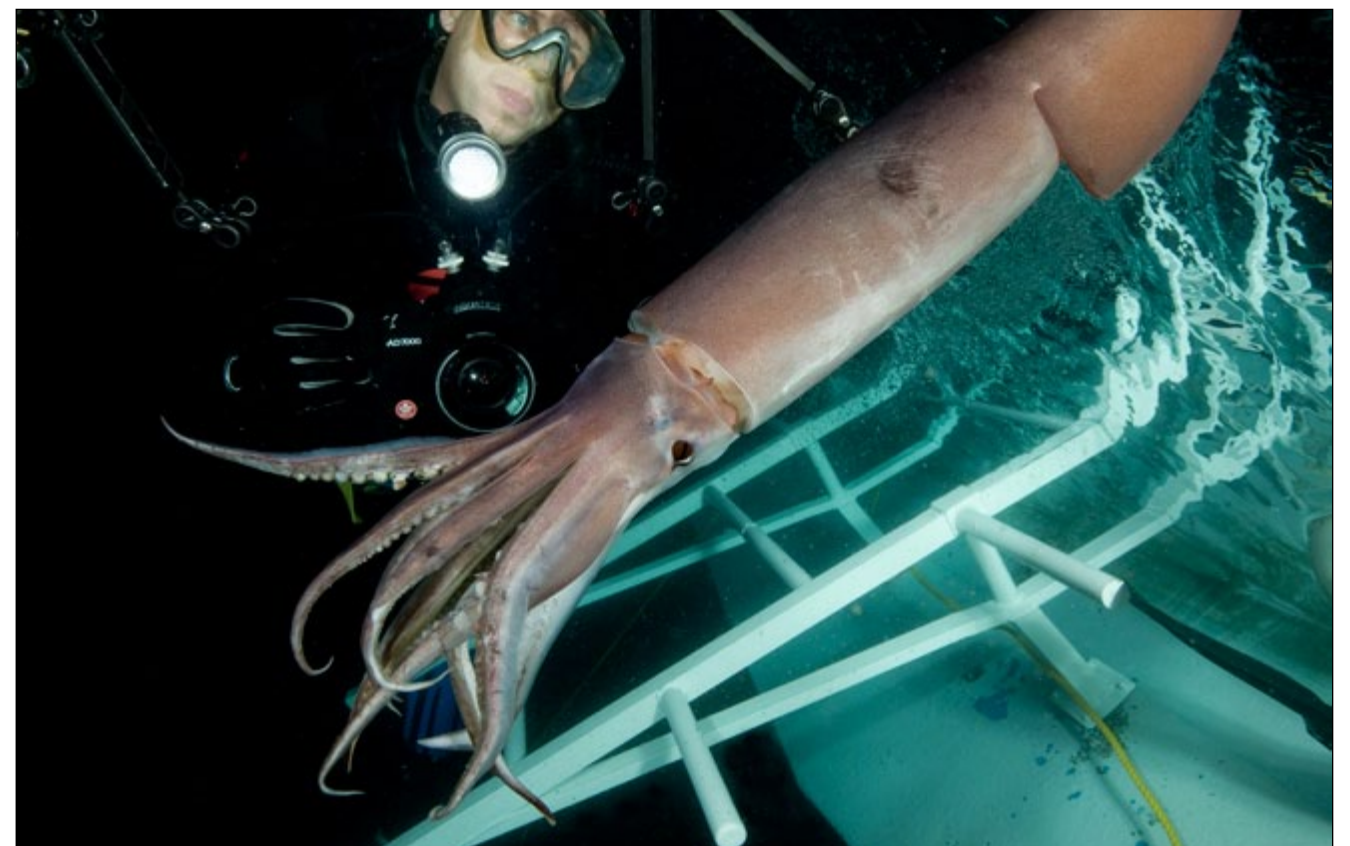
In recent years, more and more stories about growing numbers of Humboldt squids have appeared. According to a number of scientists, the group will continue to grow due to changes in the Pacific. It has been observed that many of the big animals are struggling,

yet the Humboldt squids have not only grown in numbers, but they have also seemed to have expanded their living grounds. Scientists suspect that the advance of the squid has to do with changes in climate, currents and changing oxygen levels in water that has harmed other animals.

These squids seem to have unearthed more opportunities to develop, however, much remains unclear about this animal, especially because of their deep living area.

After a few dives, it was time for us to leave this mysterious animal. With a little help we were able to see the Humboldt squid at very close quarters.

In the depth below us we saw huge groups swimming by and we felt quite small there in the dark. It was a long sail but we really wouldn't have missed this experience for anything. ■



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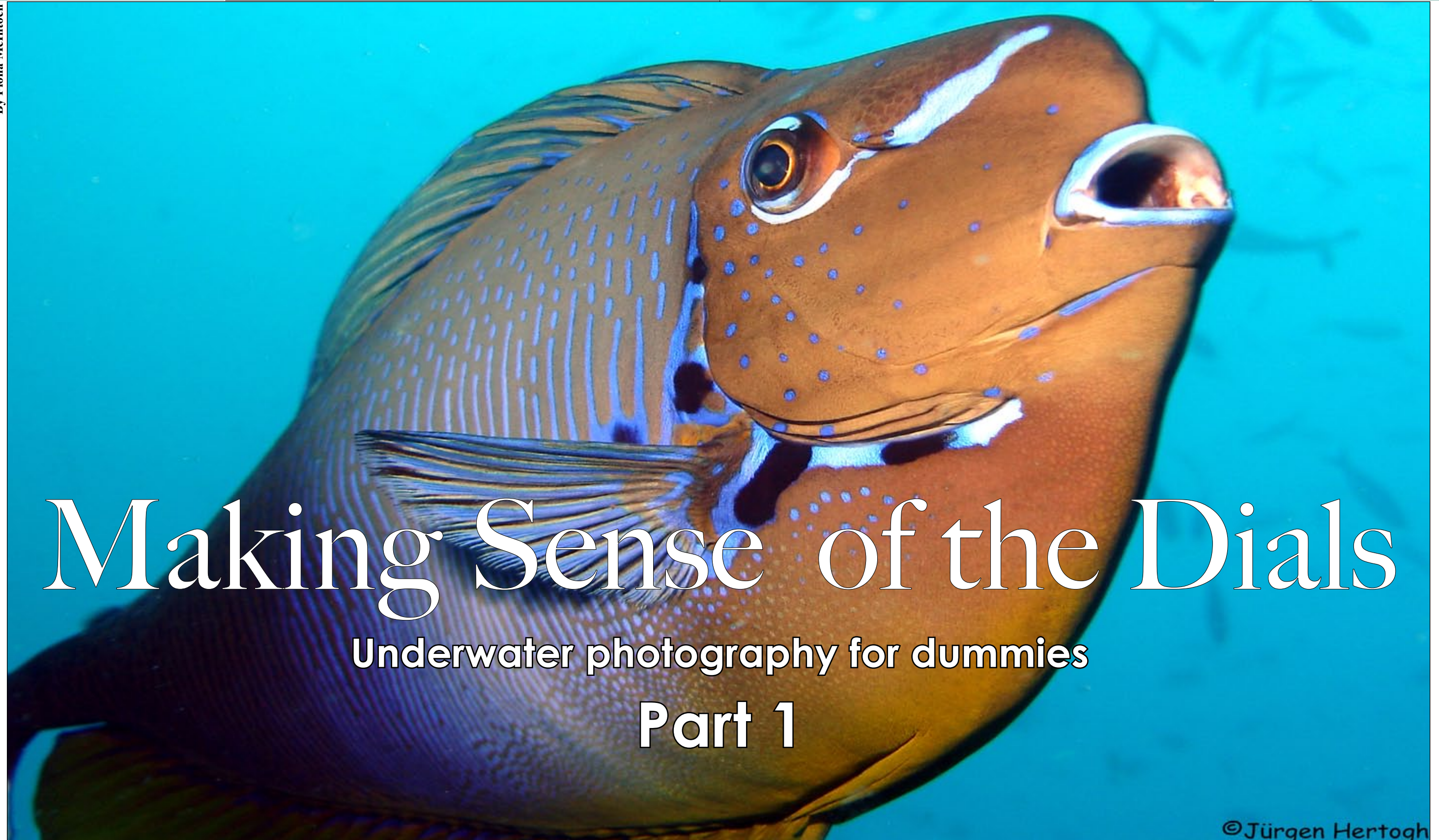
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Making Sense of the Dials

Underwater photography for dummies

Part 1

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So you want to progress beyond the "point and shoot" stage to be a little more creative underwater, perhaps to pan or play around with your flash, but you're daunted by all the little symbols on your camera and reading the manual's a technical nightmare.

Don't be put off – photography can be as easy as pie. All you need is a camera body, a lens, a memory card, a charged battery and a bit of enthusiasm. Oh, and if it's not an amphibious cameras, it's a pretty good idea to toss in a housing. Now you're set to go!

Photography is like painting, except you use light. Your camera needs a certain amount of light to reach the film plane or the digital memory card.

This is determined by what ISO setting you have put it on (i.e. how sensitive to light you've made it) and how bright the scene is.

Low ISO settings (e.g. 50 or 100) require plenty of available light. You lose a lot of light as it passes through the water, so the deeper you go the less light there is.

So when you're diving, particularly if you're not using a flash, you need to push your ISO up higher than you would on land (e.g. to 200, 400, or if you go really deep and dark, then even 800). It's that easy.

And all cameras have automatic, foolproof settings for the technically challenged - so lighten up and head down.

The camera modes:

- A Full Auto
- P – Program AE
- TV - Shutter Speed Priority
- AV - Aperture Priority
- M – Manual mode
- B – Bulb
- C – Camera User settings

Full Auto

Fantastic for quick and easy shooting.

All you need to do is lift your camera, compose your shot and press the shutter. The camera sets everything automatically - the ISO, white balance (type of lighting), focus, shutter and aperture. In low light conditions the built-in flash kicks in automatically – pretty simple stuff really.

Program AE

When the mode dial is set to P (Program AE), the camera skips into automatic exposure and sets the shutter speed and aperture according to the available light and subject brightness.

It is, however, a step up from Full Auto in that in Program AE mode you can manually set the white balance, ISO speed, flash to fire, etc to achieve different effects.

Shutter Priority

When the Mode Dial is set to TV, priority is given to the shutter speed. You choose it and the camera will then determine the aperture.

It's a great mode for action photography like a dolphin leaping or anything mobile. By controlling the shutter speed, you can freeze the action with a fast shutter speed (above 1/250) or blur it with a slow shutter speed (anything below 1/30).

Aperture Priority

On AV you choose the aperture – the size of the opening that the light passes through - while the camera determines the shutter speed automatically. What's important here is that the aperture affects the depth of field (what is or isn't in focus).

The bigger the number on the aperture scale the more of the subject matter will be in focus. So if you want a whole scene to be in focus, you need to shoot on f11, f16 or higher.

If you set the dial to low apertures (e.g. f2.8 or f4) only the subject on which you have focused will be sharp, while the background will be out of focus.

Manual mode

When shooting in manual mode you determine the exposure (via your camera's light meter, a handheld light meter or if you're an old fundi, experience) and set both the shutter speed and aperture. This is the ultimate mode for creativity.

Bulb

When Bulb is set, the shutter stays open while you press down the shutter button (or press the cable release) and closes when you lift your finger off.

It's not generally used underwater as it's more for subjects that require a long exposure such as night scenes and fireworks.

Camera User settings

In this mode you can alter the camera's default settings in the shooting modes (metering, exposure compensation, drive mode, etc) and the image recording modes (ISO, white balance, colour temperature, quality, etc). Many



By Fiona McIntoch

cameras will allow you to save these settings for future use.

Many of the smaller, more compact digital cameras have additional settings that are useful when trying to achieve particular effects without setting the aperture and shutter speed manually.

Most are clearly explained in the manuals, but here are a few simple explanations:

Macro mode
Enables you to shoot very close to an object and still get a sharp, focused pic

Portrait mode
This emphasises the subject by creating a soft background (i.e. uses a low f-stop)


Landscape mode
With this mode the camera has a distant focus (i.e. a higher f-stop) which gives a greater depth of field

Sports mode
Automatically uses a high shutter speed to capture the action

Night scene
Using this setting ensures a long exposure with no flash.

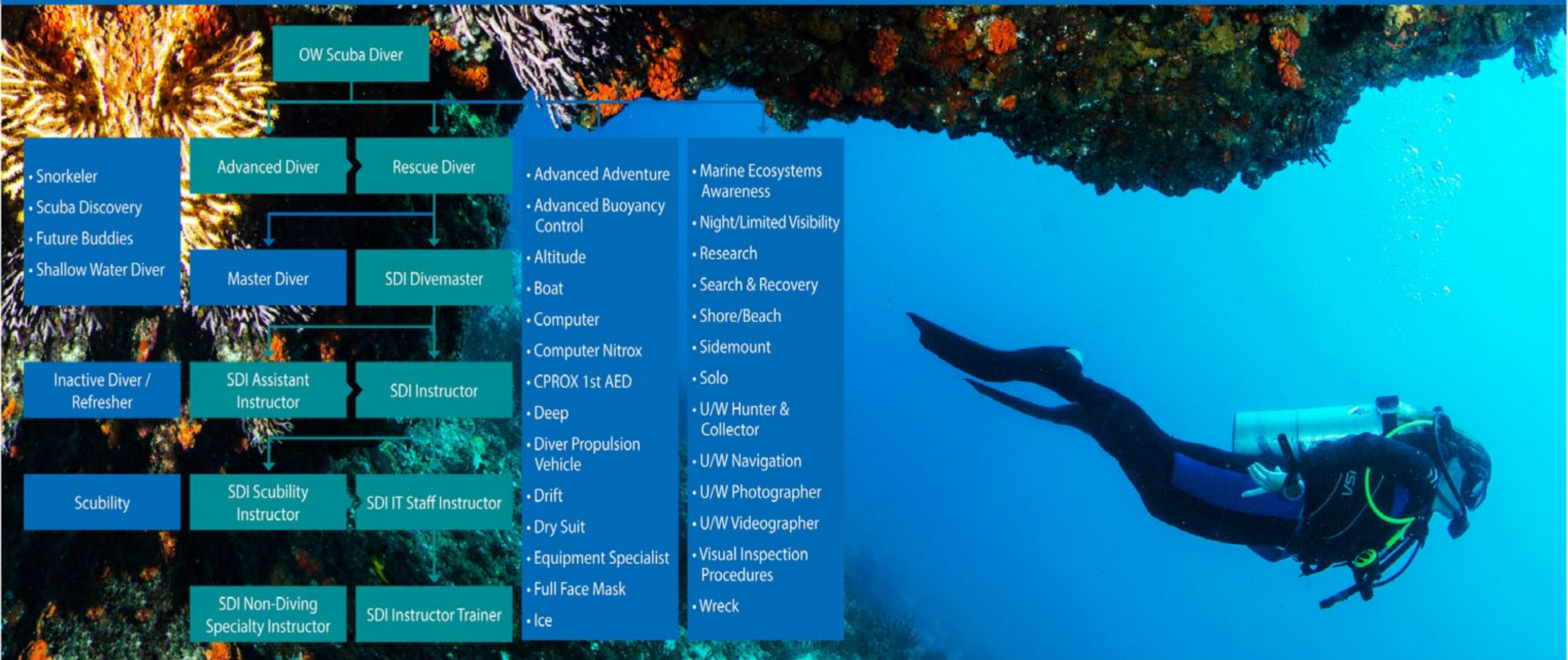
Since there's not going to be much light around, your best option is to put the camera on a tripod and use the self-timer when shooting in this mode, as it's almost impossible to hand-hold a long exposure and still keep the image sharp.

Red-eye
Most cameras have a red-eye function that you can set manually (either in the menu, or on some SLRs, on the back screen).

Red-eye is caused by light reflecting off the back of the pupils of the person being photographed. When you activate the red-eye function, the camera pre-flashes causing the pupils to contract and thus reflect less light. 



Scuba Divers Trained Here



(OTU & CNS)



What is it and why is it important?

When divers submerge themselves in the world of technical diving they also enter a world of new concepts and dangers often explained by theories derived from empirical data and strong emotional opinions.

Without boring you with graphs, mathematics and reaction kinetics, two such concepts relate to the breathing of oxygen at elevated partial pressures.

Breathing oxygen at higher than normal partial pressures has several advantages for diving and for treating some dive accidents, and is also a recognised method of treatment of certain non-diving

related ailments. However, underneath the pleasant outfit worn by nurse oxygen lurks two toxic effects when we expose ourselves to her.

The first is pulmonary oxygen toxicity and the second is Central Nervous System (CNS) oxygen toxicity. The questions are what are the dangers and how do we deal with them when we court nurse oxygen?

Both are toxic effects and both are a function of pressure and exposure time. We have several tools, such as rules, software and tables to manage the toxic effects of oxygen while diving, but they do not tell us what it is or why the nasty

things happen when it is supposed to be good for us.

The symptoms of pulmonary oxygen toxicity results from reactive oxygen species and radicals which form at concentrations higher than normal and the body's normal antioxidant systems cannot remove the species fast enough to prevent damage to cells caused by chemical reactions of a number of biochemicals in our bodies with the reactive oxygen species.

The lungs are obviously first in line. Pulmonary oxygen toxicity only shows itself after about 14 hours breathing 95% oxygen or after about three hours of exposure of 100% oxygen at between about 10m and 20m, not normal exposures unless you do extremely deep dives or repetitive decompression dives.

One OTU is the degree of pulmonary oxygen toxicity produced by breathing 100% O₂ continuously at a pressure

of one atmosphere for one minute. The effect is cumulative for repetitive dives and air breaks are advisable. Although the symptoms sound horrible, a normal technical diver should not be too concerned and recovery should be 100% should you experience symptoms.

The most often encountered symptom is called the 'chokes' or 'lung burn' and can lead to loss of lung function.

Central Nervous System CNS oxygen toxicity should be more worrying to normal technical and nitrox divers.

The symptoms include seizures, which will lead to drowning – yes, very worrying. The onset of symptoms can be within a few minutes breathing 100% oxygen at two to three bar without warning.


Again it is the chemical effect of the reactive oxygen species, this time attacking the central nervous system, mostly the lipids in cell walls, with fatal consequences



and no or little warning.

Due to the quick onset of the symptoms, it can be seen as a threshold whereas pulmonary oxygen toxicity can be seen as an accumulation of symptoms.

Divers should be aware of both toxic effects of oxygen and it should be managed appropriately. Most technical diving manuals deal with the toxic effects of oxygen, and to me, CNS oxygen toxicity must be avoided no matter what. I am happy to be a little more careless when it comes to pulmonary oxygen toxicity when the long exposure to oxygen is within the limits of CNS oxygen toxicity and where the immediate positive effect is useful to prevent the onset DCS or if its effects would reduce the effects of DCS.

The long-term effect of excessive or repeated pulmonary oxygen toxicity is not known or documented. 



What is your opinion on side mount diving?

Q & A

Nuno Gomes



Side mount diving is not a new configuration – it originated in the United Kingdom in cave diving circles. In the late 1950s and early 1960s divers would simply strap one or two 7/10 litre cylinders to the weight belt, one on each side, and go diving in caves (at that time


there were no buoyancy compensators). The system is very simple, very versatile and very safe.

It also allows a diver to easily remove the cylinders from the weight belt and push them in front when a tight cave passage is encountered. There is also the added safety of having two separate (independent) cylinders, one serving as a redundant air/gas supply.

The system is becoming very popular once again in conjunction with a wing buoyancy compensator. The two cylinders are placed as side mount stages on the harness but

there are no back mounted cylinders – this makes the diver much more streamlined. Back mounted cylinders are often a problem in cave and wreck diving because of the possibility of protrusions on the roof of a cave or the ceiling of a passage in the case of a shipwreck.

Divers have often damaged valves, hoses, first stages or become stuck on overhead obstacles. The problem is even greater when using a scooter in a cave or a shipwreck where equipment on the back can simply be sheared off, on impact, at speed.

The system is very simple and safe to use, I cannot think of any obvious disadvantages other than having to learn a new configuration. I like it and believe that every technical diver should know how to use it, especially those that want to explore small caves and penetrate shipwrecks. 

Barry Coleman

I am very much a 'side mount' fan and will dive this open circuit configuration out of choice.

It is so comfortable and underwater provides less 'drag' than the conventional




back mounted cylinder.

I enjoy the convenience of the pillar valves under the arm which does not require me to have the dexterity and rubber arms of an octopus to reach back behind my head to find the valves.

The weight is moved off my back when setting on the side of a RIB because the cylinders lay on the pontoon whilst kitting up, so with a big sea just before a backward roll I do not need to perform circus tricks and balance all the weight while waiting for a person lagging behind to kit up!

They have a safety redundancy with two independent gas supplies (cylinders and valves) and they ensure I know exactly what gas I have.

If a diver requires air, I simply hand off the regulator from the cylinder which has the most gas supply or even hand off the cylinder as well – the diver can then make their own ascent. I sometimes wonder why we do not dive like this from the start? 

Pieter Smith



Side mount diving originated in UK cave exploration.

It was designed to pass through confined spaces (advantage) and to traverse sumps and dry cave passages. Cave explorers were more easily able to carry single tanks (advantage), rather than manifolded


tanks to the sumps in the caves. The harness is small or compact (advantage) and easily carried in caves.

Tanks are mounted on the side of the diver under the arm and along the body, making access to tanks valve and regulators easy (advantage).

The system allows a diver to streamline (advantage) more than back mount

configuration. For divers with back problems, side mount allows for a more even spread of weight along the body (advantage), reducing the weight on the lower back.

Side mount configuration offers the diver more configuration options (advantage) in order to adjust according to diving conditions and applications.

Lift capacity for most side mount systems is more limited (dis- advantage) than back mounted systems, which may have an influence on tank sizes. Side mount diving is popular amongst cave explorers and cave divers due to the above advantages. 

Pieter Venter



In certain caves side mount diving is the only practical way to dive. Side mount diving was one of the original Wookey Hole cave diving styles and it seems to have gained popularity again.


The advantages are that the cylinders are normally in an

independent configuration and the removing and replacing of the cylinders is easy and under full control of the diver.

The low profile and the removability allows access to caves through restrictions which would be impossible or very difficult with back mounts or a rebreather.

The system also allows you to balance the system for a good and streamlined trim. Also, with scooter cave diving the risk of knocking the cylinder valves or manifold into the cave roof or wall is virtually removed.

The top of your head will then be first to collide with the cave roof... It is probably a good idea, as with anything new, to do a course if you intend to dive with side mounts to avoid accidents and frustration with trim and balance.

It is possible to dive side mount with more than two cylinders, but the capacity is less than with a back mount and side sling configuration. Give it a go! 

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DEEP DOWN YOU WANT THE BEST

Inland and Ocean Qualifying

Numerous people when they start scuba diving know that it is an underwater sport, but mostly that is as far as it goes. They are not sure on where they will actually learn to dive or where most of their diving will take place.

Some newcomers to the world of scuba diving don't even know that quite a bit of diving takes place inland; only the lucky few living on the coast do more sea dives than inland dives.

So where do you learn to dive? After all the theory and pool sessions are done you will have to complete your open water qualifying dives. These dives will consist of underwater skill development as well as learning to manage yourself underwater.

It is, however, important to not only limit qualifying dives to inland dives, but to also try a few ocean qualifying dives as well.

The reason is that when you qualify inland, the conditions are very different compared to in the ocean.

After you have done a few dives inland you will 'know' the location quite well. You will be used to the underwater conditions, the sometimes challenging visibility and of course the temperature differences at different levels.

There are usually underwater training grids at these inland training sites where divers can comfortably 'land' when descending. This makes practicing underwater skills easier in terms of water conditions.

The inland diving site therefore is much more controlled. There is little interference and the diver can focus on what he/she needs to achieve.

There are no currents, no real distractions, and in the unlikely event of a diver

panicking, reaching the surface is quick and simple.


Even the surface is not challenging; there are no waves, no currents and it is not necessary to try and get the attention of a boat.

When qualifying in the ocean, it is a different exercise, especially when it is open water.

Students must be transported by boat to the training site, once there students must get off the boat into the water and descend as a group – the ocean has waves and currents and it is critical for the students and for the instructor to have the group together.

Qualifying in the ocean has more challenges than an inland qualification, thus it is therefore important to try and do some qualifications in the ocean rather than just at the inland facilities to get a more rounded training, for instance, completing an advanced course and doing a deep dive to 40m.

It is easier to reach 40m in the ocean but it has some very real challenges, inland it is difficult to reach 40m because of limited depth at some holes but it is more controlled.

To become a real diver, you must be comfortable with your skills underwater in any instance, and to really achieve this, you should dive and qualify at various locations. 



Travelling with your dive gear

A diving vacation is one of the best ways to enjoy leisure time, but they can cost an arm and a leg, so proper planning is essential.

When travelling, always do a thorough check of your equipment before packing it. If possible, dive with it to make sure that everything is working the way it should.

You may not be able to repair faulty equipment at your dive site, which results in having to hire equipment. While most charters endeavour to keep their equipment well serviced, this defeats the object of owning your own gear.

But, if you do need to hire equipment, be sure to book the necessary items in advance.

Local Travel

Local dive trips are generally easier to plan – chances are that either you or one of your group has dived the spot before.

It is recommended to try to find a charter

that will look after your equipment when it's not being used, and accommodation close to these facilities is always a bonus.

Transporting your equipment can be done in a number of different ways, and each person's circumstances – like whether you have a 4x4-vehicle or not – will dictate which will be best-suited.

One of the most popular methods for those with enough luggage space is a plain plastic container, ideal for storing wet equipment until it can be properly dried.

Dive bags remain a practical choice, as you are able to store astonishing amounts of equipment in the various side pockets.

International Travel

International travel gets a bit more

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Gear Talk

Kitting Up

By Michael Meller

complicated, so be sure to do extensive homework on this one. Luggage for your belongings and dive equipment should be carefully selected.

Try to travel lightly as far as clothing is concerned, as most diving destinations are home to hot and humid weather, thus requiring light, cool clothing.

A dive bag is a must. They are available in various sizes that can accommodate one or two kits as well as all your other accessories. Check with your airline regarding their sporting goods baggage limitations (most international flights will give you 10kg extra on this per ticket).


Try to take the heavier and more fragile items such as your regulators as hand

luggage, as it will reduce your weight. Take your weight belt (minus the weights, which your dive operator will provide), and leave the cylinder at home.

Again, ensure that your equipment is in good working order and serviced if necessary – you don't want the trip of your dreams to be spoilt by equipment failure.

In short, be sure to plan well in advance, especially if you are travelling overseas.

Do as much research as possible. Use friends who've been to similar destinations as references.

Consult the internet where most of the popular dive destinations have been featured. Then, relax and enjoy. 



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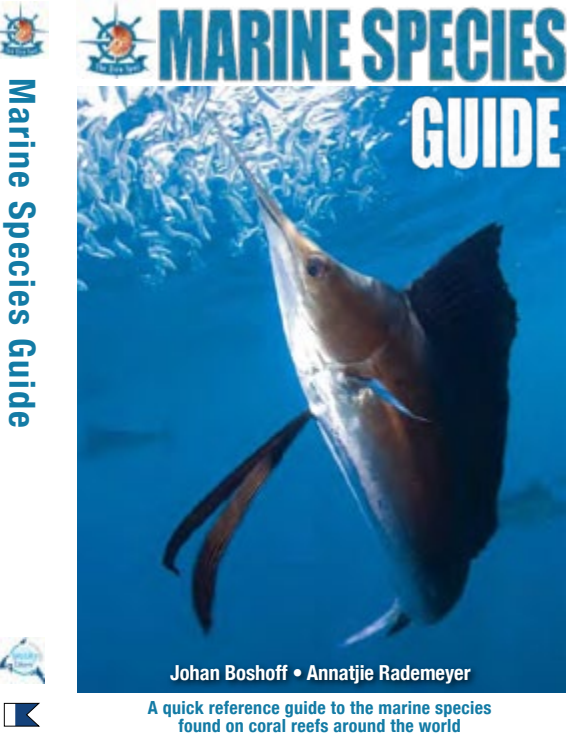
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Marine Species Guide –



Yes, it happened...I had to buy a larger bookshelf. The latest book from The Dive Spot has landed on our shores – The Marine Species Guide.

A book for both scuba divers and snorkelers to identify and learn all about the different fish species they will come across under water. The book covers most of the marine species found within coral reefs around the world. Line drawings of fish families simplifies identification underwater, while general behavior of the family along with other interesting facts are listed.

Information include common family names, aliases, biological family names, size, identification, general information, feeding preferences and where the families occur around the globe. Photographs of the most common of the species found when scuba diving or snorkeling are included and the fish families are organised for easy reference.

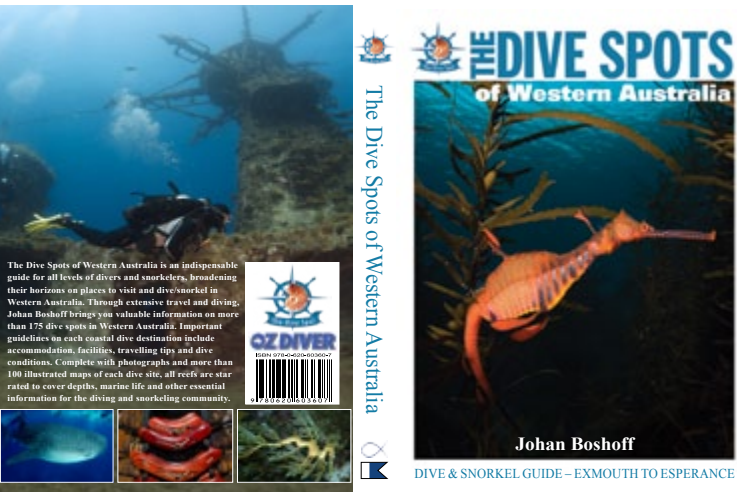
The book works very well in accompaniment with the Marine Species Slate, which can be taken underwater to help with fish identification.

To buy your copy for \$ 22, visit www.thedivespot.com.au or email info@thedivespot.com.au

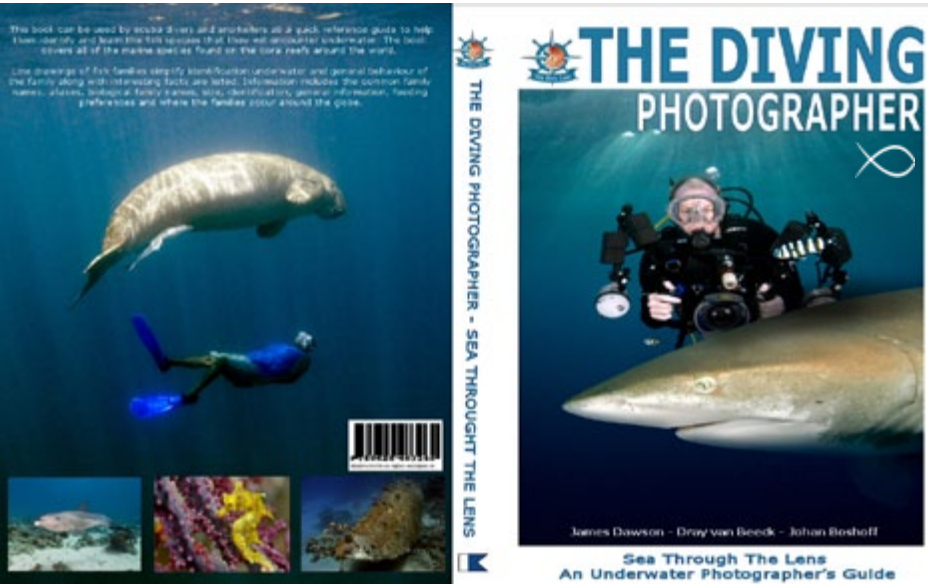
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The Dive Spots of Western Australia is an indispensable guide for all levels of divers and snorkelers, broadening their horizons on places to visit and dive/snorkel in Western Australia. The book has more than 175 dive spots in Western Australia. Important guidelines on each coastal dive destination include accommodation, facilities, travelling tips and dive conditions. Complete with photographs and more than 100 illustrated maps of each dive site, all reefs are star rated to cover depths, marine life and other essential information for the diving and snorkelling community.

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The Diving Photographer –



As scuba divers, we are not always the best photographers, but we do learn very quickly. And if we have a handy guide book, the time spent with our cameras underwater will increase rapidly.

This easy-to-use guide book for the diving photographer can be used by all levels of photographers. It helps you with choosing the right type of camera for your ability – although with all the information presented you will learn

so quickly that you will have to buy a better camera after working through the book! Preparing and setting up your equipment becomes a breeze with easy pointers on how to check and replace o-rings, quick tips on keeping your housing dry and other small things we usually forget to check.

The technical advice on how to perform manual camera settings, lighting techniques and editing the not-so-perfect shot was a great help. One of the main things I took from this book was learning to back up my photographs and then trying anything and everything with them in the photo editing programmes until it looks like the professionally taken shot that you have been aiming for the whole time. Some other topics covered are strobe positioning, ambient light, photographing wrecks, long exposures and equipment maintenance.

I must say that this book has proved to be a great help in improving my photographing and editing techniques. Photographer is available in all good scuba diving and book shops or online at www.thedivespot.com.au. Cost: \$20



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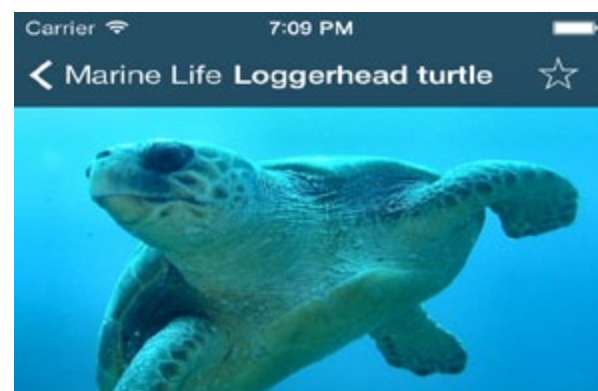
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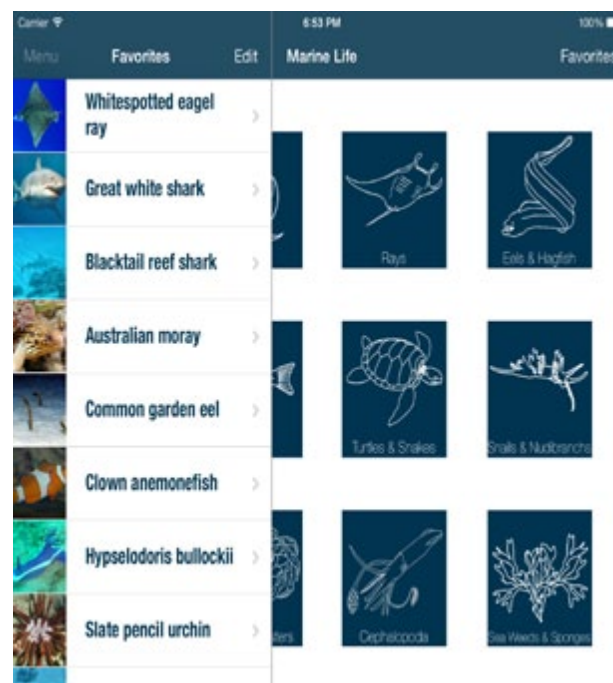
Biological Name
Caretta caretta

Identification

Five plates on either side of the central row on the carapace, unhooked bill and large eyes.

Information

Loggerhead turtles the second largest turtle on the South African coast and can be found on coral reefs. The huge head and neck that is much bigger than the Hawkehill and the Green turtles identifu



EZYFLAG for all Divers

I first thought of the idea of ezyflag back in 2013 when I became frustrated with the current flag on the market. Finding it cumbersome and difficult to use, particularly when it come to retrieving it after a dive. So I began my search for a better, easier to use flag. I looked in Australia with no success, and then overseas, but with the same result.


There was nothing out there that I felt fitted what I was looking for and so began my journey to develop one myself. Designing the flag itself was a challenge, taking over one and half years alone, but producing the flag was equally challenging, and all the jigs and components have had to be specifically designed and engineered for the purpose, by myself. After a further year of design, engineering, testing and several prototypes, the final product is made of marine grade stainless steel, has a 600 x 500 uv resistance flag which has a cross-support to strengthen it and keep it visible even in no wind conditions.

It is also able to hold a flashing light for night divers (a glo-toob is used, you can find them in most dive shops) and an anchor weight, both of which can be supplied as optional extras. The real difference is the flag's ease of use. With the current flag on the market, the line has to be wound manually around the float, which can be difficult and time consuming. The ezyflag however has a reel mechanism allowing the line and weight to be wound up very easily. The design also means that the reel and release sit below the float, allowing the flag to stay more upright in the water, even in rough conditions. The ezyflag dive system looks very simple, but it has been two and half years in the making.

Now on the market, the flag is already proving a hit with local dive clubs and instructors alike.

Further details can be found at our facebook page www.facebook.com/ezyflag, or by contacting Kevin on ezyflag@gmail.com or call 0407589315. Look out for the new model coming out in 2017.

Testimonial

STEPHEN FOULIS. Guys I wanted to. Say a big thanks for my ezyflag. I purchased one a number of months ago now following a chance meeting with Kevin. I have used my flag numerous times, it's so easy to use and works so well. Being an instructor it's so handy to have a simple surface marker that's deployed quickly leaving me to direct students down the shot and on with their skills. Even night dives are aided as the no fuss deployment and retrieval adds to the enjoyment. Thanks Kevin, A must for all divers. 



Diving with Sharks

By Nigel Marsh and Andy Murch

The prospect of amazing encounters with Great Whites, Tiger Sharks, Whale Sharks, Hammerheads and many other shark species mean that each year more and more divers are heading underwater to swim with these magnificent and misunderstood predators at hot-spots all over the world, from Australia, South Africa, the USA and Mexico, to Fiji, the Red Sea, the UK and the Bahamas.

This book is a complete guide for divers seeking sharks, and for everyone interested in these incredible creatures. It includes an in- depth introduction followed by comprehensive coverage of all the shark families and species that could be encountered, including many of the lesser-known sharks, with details of biology, behaviour and where to find them.

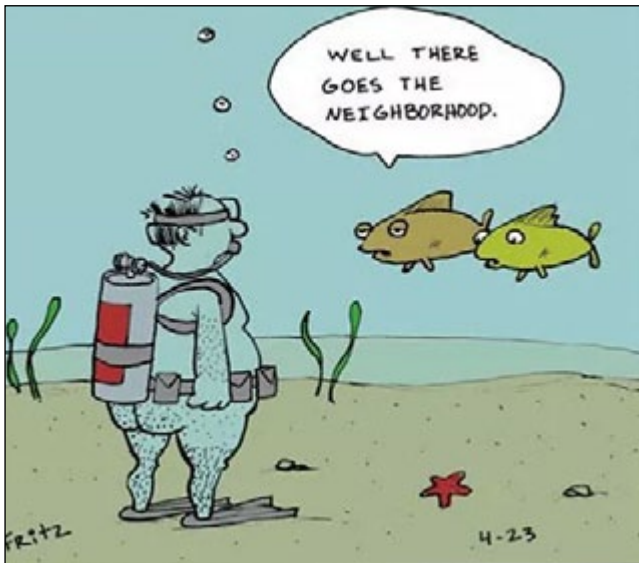
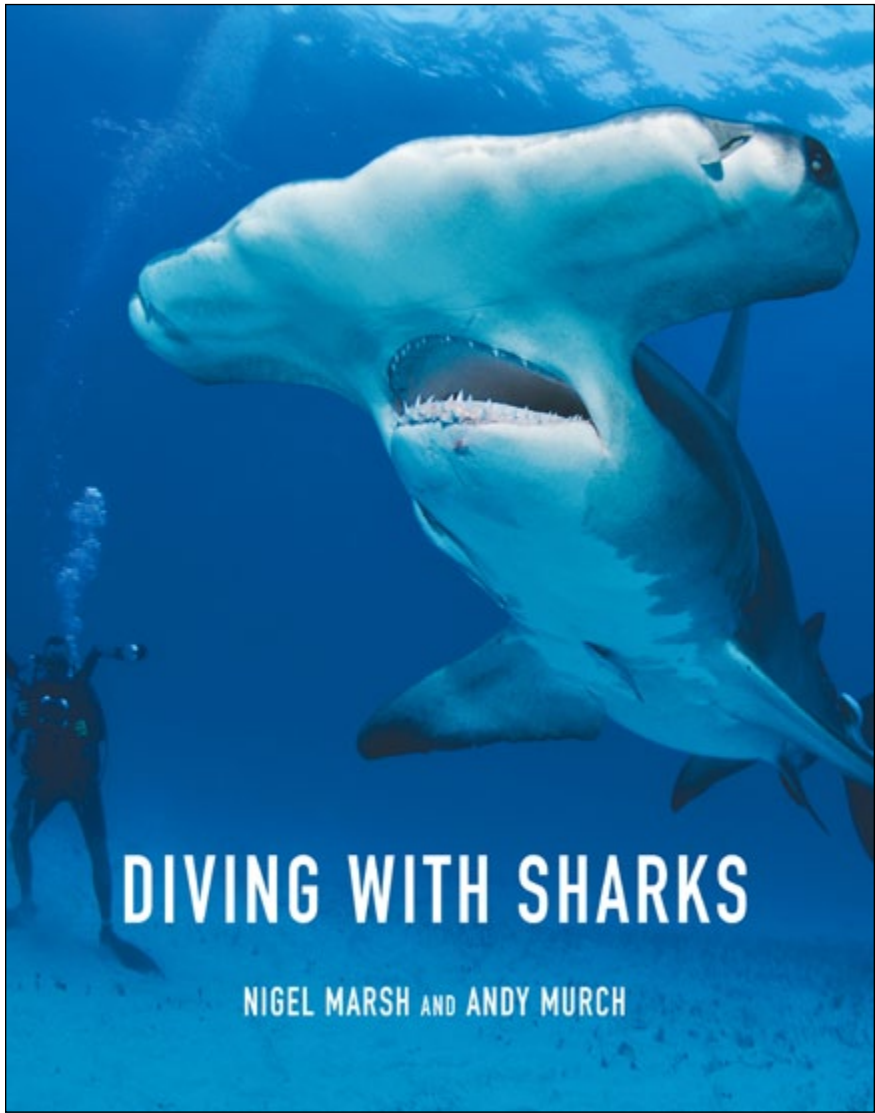
There is also a listing of the best shark diving hot-spots from around the world.

ABOUT THE AUTHOR

Nigel Marsh is an Australian underwater photographer and photojournalist whose work has been published extensively around the world. He has visited many of the world's best diving locations and his underwater images have won a number of international photographic competitions.

Andy Murch is a fanatical big animal diver based in Vancouver, Canada. He has photographed and dived with more sharks than most people on this planet and he's very good at it. His images and shark stories have appeared in hundreds of publications ranging from National Geographic to the Journal of Zoology.

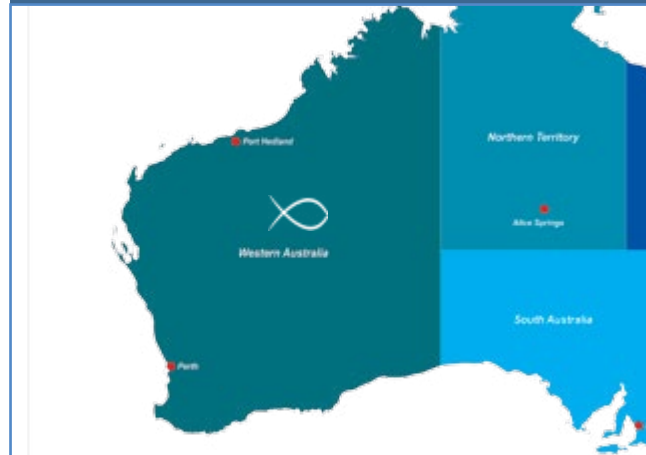
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We operated since 1983 is Esperance's only dive store. Servicing locals and tourists with hire, sales, equip service, training and charters. With over 104 islands the dive sites are endless. Also offering guided dives to view Leafy Sea Dragons.

Phone: +61 (0) 89 071 5111

Mail: jaimen@esperancedivingandfishing.com.au

Web: www.esperancedivingandfishing.com.au

South Australia



Port Lincoln

Calypso Star Charters - Port Lincoln



PDA Hillarys for all of your dive and snorkelling requirements local and friendly staff to help you make the right choices open 7 days come and see us down at the Hillarys Boat Harbour just north of the boat ramp see you there

Phone: +61 (0) 86 82 3939

Mail: info@sharkcagediving.com.au

Web: www.sharkcagediving.com.au

ND Scuba - McLaren Vale



We are a small business that go above and beyond. We pride ourselves on providing safe and fun-filled courses at affordable prices. You get trained on a more personal level through to one on one, or small group tuition.

Phone: +61 (0) 88 323 8275

Mail: barrettn80@hotmail.com

Web: www.nbscuba.com.au

Adelaide

Diving Adelaide



Diving Adelaide is Adelaide's newest PADI 5 Star Dive Centre. We run all PADI courses as well as Leafy Sea Dragon Tours. Diving Adelaide is located next to the tram and bus-stop in Adelaide; easy to reach with public transport.

Phone: +61 (0) 8 73 250 331

Mail: info@divingadelaide.com.au

Web: www.divingadelaide.com.au

Underwater Explorer's Club of SA



The UEC is the oldest recreational scuba diving club in Australia, established in 1954. We do regular dives at locations within metropolitan Adelaide and have frequent trips to regional South Australia. Why not come and join us for a dive.

Phone: +61 (0) 417 838 387

Mail: secretary@uecofsa.org.au

Web: www.uecofsa.org.au



Dive Operators

Australia

Glengowrie Downunderpix



Downunderpix is an underwater photography business established in South Australia. We provide all things underwater photography to the local, national and international markets. This includes supplying a range of underwater photography services as well as selling underwater camera equipment and scuba diving equipment.
Phone: +61 (0) 41 981 9083
Mail: info@downunderpix.com
Web: www.downunderpix.com

Victoria



Geelong Australian Diving Instruction



Australian Diving Instruction is a PADI 5 Star IDC facility Offering everything for the Diver from Learn to Scuba Dive to Instructor including PADI Tec 40,45,50, Equipment Sales and Service National and International Dive Trips and Dive Holidays also Dive Charter Boat.
Phone: +61 (0) 40 836 5216
Mail: adigeelong@optusnet.com.au
Web: www.ausdivinginstruction.com.au

Bay City Scuba



Bay City Scuba is Geelong's premier dive shop. Offering all levels of training from Freediving through to Technical training and offering a huge selection of equipment to your diving needs. A RAID training facility offering extensive technical OC & CC rebreather training.
Phone: +61 (0) 35 248 1488
Mail: info@baycityscuba.com
Web: www.baycityscuba.com

Extreme Watersport



Extreme Watersport Specialises in all recreational, educational and technical SCUBA diver training, charters and tours. Extreme Watersport is Melbourne's premier 5 Star SDI/TDI Instructor Scuba Diving Training Centre. We are also house a wide range of scuba gear for sale.
Phone: +61 (0) 3 5982 3432
Mail: info@extremewatersport.com.au
Web: www.extremewatersport.com.au

Dive Victoria Group



Our Training, Dive Charter and Group Accommodation services cater for local, interstate and international divers. On our doorstep we have amazing wall dives from 10-100m that we can dive every day and wrecks 8-80m in the Ships Graveyard
Phone: +61 (0) 3 5258 4188
Mail: info@divevictoria.com.au
Web: www.divevictoria.com.au

Rye

The Scuba Doctor Australia



The Scuba Doctor is an online and in-store dive shop stocked with quality brand recreational, technical and commercial diving products. Low prices on scuba, spearfishing, freediving, snorkelling and watersports equipment, plus Air, Nitrox and Trimix fills.
Phone: +61 (0) 3 5985 1700
Mail: diveshop@scubadoctor.com.au
Web: www.scubadoctor.com.au

New South Wales



Sydney

Frog Dive



Frog Dive is one of the oldest dive shops in the Sydney area. We can train you right through from an openwater course to CCR training. Sales, training, hire, servicing, boat and weekly shore dives we do it all at Frog Dive.
Phone: +61 (0) 2 9958 5699
Mail: john@frogdive.com.au
Web: www.frogdive.com.au

Southern Cross Divers



Southern Cross Divers is best known for rebreathers and "tec" diving - we do nothing else but "tec". We will not stock a unit unless we can offer the customers a complete solution to all their CCR needs. We are Australia's CCR specialist store.
Phone: +61 (0) 2 9969 5072
Mail: barry@southerncrossdivers.com.au
Web: www.southerncrossdivers.com.au

Underwater Research Group of NSW



URG is a not-for-profit scuba diving club with a regular boat & shore dive schedule in Sydney and surrounds. Join our club to explore local dive sites and if you like, get involved in research projects to help marine conservation.
Phone: +61 (0) 418 257 462
Mail: info@urgdiveclub.org.au
Web: www.urgdiveclub.org.au

Killarney Vale

Pro-Dive Central Coast



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Mail: info@prodivcentralcoast.com.au
Web: www.prodivcentralcoast.com.au



Dive Operators

Australia

Nelson Bay

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Mail: enquiries@feetfirstdive.com.au

Web: www.feetfirstdive.com.au

South West Rocks

South West Rocks Dive Centre



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Phone: +61 (0) 2 656 66474

Mail: info@southwestrocksdive.com.au

Web: www.southwestrocksdive.com.au

Queensland



Sunshine Coast

Sunreef Mooloolaba



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Mail: dive@sunreef.com.au

Web: www.sunreef.com.au

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Phone: +61 (0) 7 5444 8595

Mail: rob@scubaworld.com.au

Web: www.scubaworld.com.au

Brisbane

Ozaquatec- Brisbane



Brisbane's largest dedicated scuba service centre, Ozaquatec has all of your servicing needs in one place at competitive rates. Our fast, friendly and professional customer service gives you, the diver, complete peace of mind.

Phone: +61 (0) 7 3399 1413

Mail: admin@ozaquatec.com

Web: www.ozaquatec.com

Gold Coast

Devocean Dive- Gold Coast



Devocean Dive is South East QLD's Premier PADI 5 star Instructor Development Centre. We offer unsurpassed service is a safe, fun environment with qualified, experienced Instructors. We look forward helping you achieve your SCUBA diving goals.

Phone: +61 (0) 75 528 0655

Mail: admin@devoceandive.com

Web: www.devoceandive.com

Port Douglas

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Phone: +61 (0) 17 4015 2915

Mail: info@tech-dive-academy.com

Web: www.tech-dive-academy.com

List your Dive School or Dive Company here.

For a listing in OZDiver Magazine contact us at info@ozdiver.com.au

Dive Operators

Australia

Tasmania



Bicheno

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Mail: bichenodivecentre@bigpond.com

Web: www.bichenodive.com

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