

Clement Lee

Text and photos by Peter Symes

Clement Lee is the embodiment of the entrepreneurial dive industry pioneer. A quarter of a century ago, he seeded what was later to become a flourishing recreational dive industry in the Malaysian state of Sabah. In this interview, we take a reminiscent look back at the challenges overcome and the awards won.

PS: When was the first time you saw and dived on Sipadan? Can you recall your first impressions and sentiments? Did you think that this could become one of the finest dive destinations on the planet?

CL: We started Borneo Divers in 1983, but it was in 1984 we went to do a survey of a freighter in Ligitan reef, and after the survey, we went straight to Sipadan to check it out, because we could tell from the depth charts that it had to be significantly different from the other islands that we knew.

And already from the first

time we hit the water there, we saw that it was something special and that this was our future. What I saw was beyond description. It was like a living aquarium. We thought it was an adventure area, but at the same time, we also asked ourselves how to protect this pristine environment and the marine life.

PS: What was there then? Was there any sort of tourist infrastructure in the area at all?

CL: Semporna (the bustling town which is a point of disembarkation for the resorts on Mabul, Kapalai and others –ed.) was just a fishing village at the time, with no infrastructure and only very basic facilities. When we started off on Sipadan, we had to buy, hire and bring in everything from Semporna and Tawau (bigger towns some distance away –ed.) using chartered boats to bring it to the island. In a way, there was none at all. We had to start from zero.

PS: What made you decide to go into recreational diving and build a dive operation?

CL: There was no professional recreational dive industry at all

at the time. So, we needed to start it, but at the same time, we also needed to start dive tourism in the area. We brought in the first guests in 1984 and never looked back.

PS: What obstacles did you have to overcome?

CL: Oh dear... There were just too many. Since we are talking about Sipadan, it was everything from permissions to logistical issues and setting up infrastructure. Because we were the pioneers, nobody knew about recreational scuba diving or what the dive industry was all about, so there was no help to get. We had to organise everything ourselves. And at that time, things like the airport were not as good as they are today, and transfers from the airport took 3-4 hours in contrast to the hour it takes today. It was a quite a challenge, but I am glad to say that over the years, things have smoothed out and better infrastructure has been built.

PS: What do you consider your biggest victories or achievements?

CL: When we started, we knew where we going. The ques-

Clement Lee in his Kota Kinaballu office





tion was how we were going to achieve it? So, seeing Sipadan now being hailed as one of the best dive sites in the world and bringing it to the public, I consider that our biggest achievement in terms of the hard work that was put into it. Another is being able to sit down and work out how to protect the island

PS: Sipadan seems to be better protected now, but do you think the latest protection measures and restrictions are the right ones? What can be improved?

CL: Sipadan now has a limited quota of 120 guests per day, which in many ways, is a role model, although the system can

be improved, because the crucial number is not the number for visitors, but the number of dives. But we do feel that Sipadan is now protected for the future, and that we have already seen results in the form of improvements in the marine life.

PS: The limited number of day

guest permits (120) for Sipadan obviously fall far short of popular demand. With all the resorts now in the area, how is it possible to distribute these permits fairly? Who has the final say?

CL: This is quite a difficult question. There will never be enough, which means that some or even

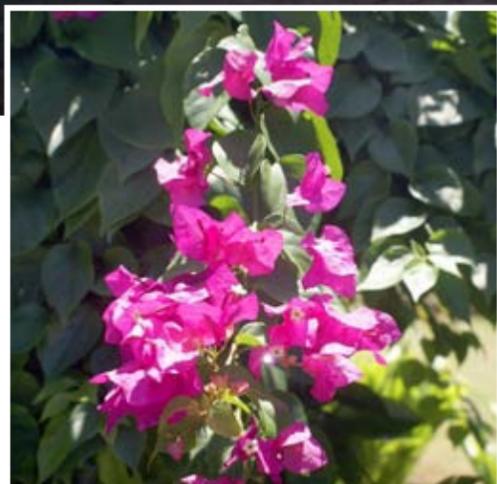
a lot of guests will be disappointed if they don't get to Sipadan, but as I often tell my staff or fellow resort operators, "In order to see the rainbow we have to put up with the rain." It is a necessary sacrifice we had to make. So, in my explanations to my divers and colleagues, I always urge them to protect the underwater environment, and I ask them to think if they do one dive less, they are actually contributing to the protection of the environment.

In regards to the number of permitted visitors, it is still controlled by our National Security Council, which is an independent body that has the final say on the matter.

PS: The number of resorts



THIS PAGE: Images from Borneo Divers resort on Mabul Island
TOP LEFT: Clement Lee enjoying breakfast with guests in the canteen



is no point in just transferring the problems of Sipadan to another island. That being said, there are quite a lot of islands in the area that are uninhabited, undeveloped and where the underwater life is of equal quality—in terms of macro life—to Mabul. The only problem is that this area once had some issues with dynamite fishing, but tourism will put a definite end to it, and thus improve the environment. So indirectly, tourism will improve the marine life. Meanwhile, curbing over-development in some areas will come down to the authorities.

PS: A while back, there were rumours about shark finning taking place on Mabul? Was there any truth to it?

CL: We need to get the perspective right. There wasn't shark finning as such where you cut of the fins and throw the rest of the fish back to the sea, and I can assure that that isn't the case. There are only three families on the island that have been involved with shark fishing, and they have been doing so for centuries, but they go far away from the island and into international waters to do their catches, and they sell the whole fish, and

they don't go out very often anyway. I've been living on Mabul since 2004, and now I actually see more sharks today than few years ago. Probably not because there are more sharks, but that they are less shy of people than before. I've checked with the fisheries departments, and while there are no formal catch limits in place here, there don't seem to be any concerns about the local shark populations either.

PS: There were also some writings in the press about an aquarium to be built on Mabul? What was that about?

CL: I know very little about this project. But it was actually about an 'Oceanarium' that was more like a museum. But if someone has the significant kind of money needed—which I doubt—the money is better spent elsewhere, such as Ligitan Island, which I said to the consultant on the project. But I have not heard anything about any developments.

THIS PAGE: Scenes from Borneo Divers resort. RIGHT: On the pier, Clement Lee prepares an underwater camera



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PS: You are also the chairman of Sabah Tourism Association. How do you see Sabah's development economically in an ecologically sustainable way? Coming to the region as a tourist, one gets the impression that a lot of rainforests have been and still are being cleared to give way for oil palm plantations. Are the conservation laws and measures strong enough to stand up against big economic interests?

CL: In Sabah, we are helping to develop a nation, and we have to do what we need to develop the country, but as a member of the Sabah tourism board, I know that whatever we do, it's going in the right direction, because we are continuously working in an ecologically sustainable manner and promoting our region in terms of adventure and ecotourism. We adopt the principle of less is more, in not going after the mass tourism, which we can't accommodate. We don't want to have to build a big theme park when we've got great nature.

In regards to the felling of the trees, it is to make room for oil palm plantations, which is the main source of our income. But I must also highlight that in those areas where forests are being cleared to make room for plantations, special reforestation programs are implemented under which new trees have to be replanted, so that the same acreage of forest is maintained and managed in a sustainable way. Also the conservation laws now regulating the oil palm indus-

try require the establishment of wildlife corridors and compulsory wildlife zones. I do believe that while we have made mistakes in this area in the past, we are now going in the right direction.

PS: What is the key to successfully balancing being an entrepreneur and having a family?

CL: (Laughter) This is a tricky one and a balancing act. I suppose that wife and husband must share the same ideology, principles and commitment at the same time but—believe me—it also calls for a lot of sacrifice. But if you share a vision, you also know where the sacrifices will take you.

PS: What diving experience has had the biggest impact on you?

CL: Diving has had a tremendous effect on me and has changed my entire life. It has made me more conscious about my surroundings and the environment. Before I took up diving, I did not know what was important and what effected me. I didn't care. Now, I am much more aware of the surrounding life. It has opened my eyes and made me much more alert. It changed my mind. I started noticing things, seeing the colours, and I started wondering about things I saw in nature. I now know where I am going and feel like I have to share my experiences with world. I can't imagine what I would be without diving. I never looked back after taking up diving.

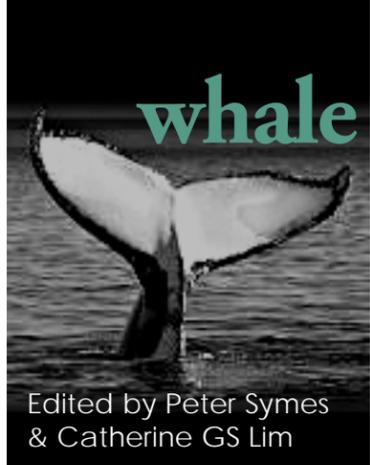
PS: What is your next ambition or dream?

CL: Well...umm, to retire as a Malaysian diving ambassador. No, I am just kidding. I would like to see the local dive industry, which we have been nurturing since our beginnings in 1984, to continue to develop and serve as a role model for the many upcoming countries that are just about to develop their own dive industries, and (I hope) that Sipadan can be a good example of how a government can balance money and the environment and be prepared to make long-term and investments in the future and in a sustainable way. That is something I think we can be proud of.

PS: Any other thoughts you want to share with us?

CL: People who see me dive at the resort—and I regularly dive four dives a day just like many of them—often ask me if I ever tire of diving. No! I still get a lot of fun out of diving. And I still get a lot of joy out of seeing happy customers enjoying the underwater environment. This is very important to me, to continue to have this kind of fun. At the same time, I also let my staff dive, now that we do make money, but we make it from happy customers and not somebody unhappy, and we continue to do so. I have to show them how beautiful the underwater world is. ■

Clement Lee in front of the numerous international resort and dive industry awards he and his operations have garnered over the years. TOP LEFT: Sipadan Island



whale tales

Edited by Peter Symes & Catherine GS Lim

Indohyus, a 48-million year-old semi-aquatic herbivore, and hippos fall closest to cetaceans when the evolutionary relationships of the larger group are reconstructed.



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Ambulocetus natans, a primitive whale from the Eocene of Pakistan, pencil drawing, digital coloring

On the Origin of Cetaceans

Cetacean ancestors probably moved into the water before changing their diet, and subsequently, their teeth began to include carnivory, a new study finds.

The origin of whales, dolphins, and porpoises—with their highly modified legs and lack of hair—has long been a quandary for biologists. Already some 60 years

ago, researchers first suggested that cetaceans were related to plant-eating ungulates, specifically to even-toed mammals like sheep, antelope and pigs. In other words, carnivorous killer whales and fish-eating dolphins were argued to fit closely with the herbivorous hoofed animal group. More recent genetic research found that among artiodactyls, hippos are the cetaceans' closest living relatives.

Because no one would ever link hippos

and whales based on their appearance, fossil evidence became an important way to determine the precise evolutionary steps that cetacean ancestors took.

Traditionally, the origin of whales was linked to the *mesonychids*, an extinct group of carnivores that had singly-hoofed toes. The recent discovery of *Indohyus*, a clearly water-adapted herbivore, complicates this picture (as new fossils often do) because of ear bones similar to those of modern cetaceans,

which are theorized to help the animal hear better while under the water.

"*Indohyus* is interesting because this fossil combines an herbivore's dentition with adaptations such as ear bones that are adapted for hearing under water and are traditionally associated with whales only," said Michelle Spaulding, lead author of the study and a graduate student affiliated with the American Museum of Natural History.

The team found that the least complex

evolutionary tree places *Indohyus* and similar fossils close to whales, while mesonychids are more distantly related.

Cousin hippopotamus

Hippos remain the closest living relatives. These results suggest that cetacean ancestors transitioned to water before becoming carnivorous, but that the meat-eating diet developed while these ancestors could still walk on land. ■

SOURCE: PLOS ONE



Rare Risso's Dolphin Sighted Three Years Later

The sighting of a rarely seen Risso's dolphin in Wales and later in Cornwall three years later is helping scientists gleam more information about the animal's offshore habits.

Although Risso's dolphins are found worldwide in both temperate and tropical waters, they generally prefer to swim in deep offshore waters, so they are rarely spotted by people. Hence, compared to other dolphin species, we have very little knowledge about the structure and size of the Risso dolphin population in the United Kingdom.

The particular dolphin that

had been spotted was first seen off Bardsey Island in Wales. Then, in June this year, three years later, the same dolphin was photographed off Mounts Bay in Cornwall, 172 nautical miles away.

"This is a fortuitous, unique and very interesting discovery," said Mark Simmonds, international director of science at the Whale and Dolphin Conservation Society (WDCS).

"Because of their typically inaccessible habits, relatively little is known about the biology or behaviour of this species and it is very interesting to know that

those seen off Cornwall may be the same group as those seen in Wales."

At the moment, little is known about the Risso dolphin's biology or character. The WDCS had proposed that more research be done and that protection be given to areas where Risso's dolphins are commonly found. An ideal choice would be the area around Bardsey Island is now known to be a breeding and nursery area for the species. This area is also home to other cetacean species like bottlenose dolphins and harbour porpoises. ■

Risso's Dolphin — this one was encountered outside Port San Luis, Harford Pier, California, USA

A plague of Plastic Soup

Text by Bonnie McKennah
Images courtesy of NOAA and NSF

When you use a plastic bag or purchase a beverage that is in a plastic bottle do you consider where it goes when you are finished with it? Do you think it goes to a landfill to be buried or to a recycling center to be destroyed or recycled?

Think again, not all plastic makes it to landfills or recycling centers; much of it ends up in giant ocean vortexes called gyres.

Within these gyres is a plastic soup of waste. The Northern Pacific gyre alone is estimated to contain more than 100 million tons of flotsam. Some estimate that it is the size of Texas and others say it is as large as the United States.

Nearly 90 percent of the floating material is plastic and four-fifths of the rubbish comes from land. It is swept in by wind or washed in by rain off streets, highways and unconstrained landfills into streams, rivers and eventually out into the sea.

The other 10 percent comes from ships; much of it from illegally jettisoned fishing gear such as nets, floats and synthetic ropes to avoid the expense of proper disposal after entering port.

In addition, every year thousands of cargo containers fall overboard in stormy seas spilling their contents. This debris, according to Dr Curtis Ebbesmeyer, an American oceanographer who has been studying ocean currents for more than 40

years, can spin for decades in one of a dozen or more gigantic gyres around the globe.

The United Nations Environmental Program, in 2006, estimated that 46,000 pieces of plastic litter are floating on every square mile (3.429 sq. km.) of ocean. According to Greenpeace, 70 percent of the plastic will sink damaging life on the ocean floor, and the other 30 percent will end up in a gyre and/or wash up on a distant shore.

The idea that this vast expanse of debris is akin to an island of plastic garbage that you can walk on, is incorrect; there is no mass, it is a soup of plastic. The plastic is distributed throughout the water column as well as the sediment on the sea floor. For this reason, there are no satellite photos of the debris.

Long halflife

Eventually, plastic will break down into carbon dioxide and water from exposure to the sun's ultraviolet rays. On land, this breakdown can take decades, even centuries. At sea, it takes even longer because seawater keeps the plastics cool while algae, barnacles and other marine growth limit ultraviolet exposure.

According to Anthony

L. Andrade, a polymer chemist with the U.S.-based Research Triangle Institute, every piece of plastic manufactured in the past 50 years that made it to the ocean is still out there.

In 1997, Charles Moore founder of the Algalita Marine Research Foundation had his first encounter with what is often referred to as the "Pacific Garbage Patch," more than nine years ago. Moore was returning to Southern California from Hawaii after the Trans-Pac sailboat race when he decided to take a more northerly course just to try a new route. He first began noticing a line of plastic bags just below the surface of the sea, that was followed by an ugly tangle of junk: nets,

ropes, bottles, motor-oil jugs, tires, and toys.

Moore could not believe what he was seeing. Out in this desolate area of the ocean was a stew of plastic rubbish. He began to realize that the trail of plastic went on for hundreds of miles.

As his boat, *Alguita*, glided for a week through the bobbing toxic debris trapped in the area that is properly referred to as the Northern Pacific

Subtropical Gyre, Moore began to wonder how all the plastic wound up in the ocean, where it came from and what did it mean? His questions were soon answered and the discovery had a profound effect on his life.

Setting up research

Moore has since dedicated his life to study what is going on out there and spread the word of his findings. Wanting to make a proper study of the rubbish in the gyre, Moore enlisted Dr Steven B.

Weisberg, an expert on marine environmental monitoring to develop methods for analyzing the gyres contents.

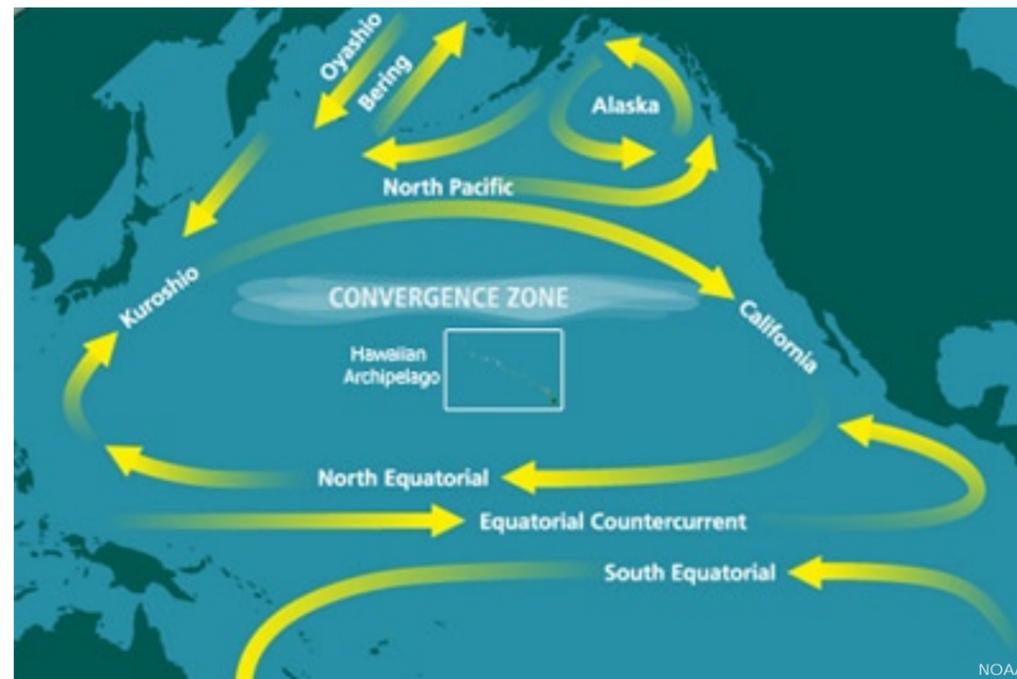
To get an accurate statistical model, Weisberg's group came up with a plan to make a series of trawls with a surface plankton net, along paths within a circle with a 564-mile (907.67-km) radius. The area of the circle would be exactly one-million square miles (3,429,904 sq. km.). Trawling would begin in the central pressure cell of the high-pressure system that creates the gyre. A manta trawl, an apparatus resembling a manta ray with wings, a broad mouth and trailing a net with fine mesh would be used to skim the surface of the ocean.

A year later, Moore and his crew set out aboard *Alguita* to test his theories, and to sample and analyze the debris in the gyre. Eight days out of port, in a becalmed sea, miles from their destination, they decided to practice their manta trawl technique. After trawling only three and a half miles, they pulled in the manta. What they saw amazed them. Within the rich broth of minute sea creatures was hundreds of colored plastic fragments; a plastic-plankton soup.

There was plenty of large debris in the path of *Alguita* too, by the end of the trip they collected about a ton of debris. The items included:



GUNILD SYMES



Map highlighting the North Pacific Subtropical Convergence Zone (STCZ) within the North Pacific Gyre. It is also the location of the Great Pacific Garbage Patch



THIS PAGE: Detail images of the garbage patch and the life that manages to cling to it



colored plastic fragments in their bellies. In June of this year, Moore set out for yet another trip to the Garbage Patch to study the ever growing volume of plastic collecting in the gyre. Follow the *Alquita* by going to, <http://ovralquita.blogspot.com>

Scope of the problem

The potential scope of the problem is greater than entanglement and ingestion. It has been discovered, by Japanese researchers, that the floating plastic fragments are sponges for DDT and PCB's and other oily pollutants. These plastic fragments are then ingested by jellies and salps living in the ocean and in turn are eaten by fish and so



- a drum of hazardous chemicals
- an inflated volleyball
- a plastic coat hangar with swivel hook
- a cathode-ray tube for a 19 inch television
- an inflated tire mounted on a steel rim
- numerous glass and plastic fishing floats
- plastic bottles
- tangles of nets, lines, hawsers mostly made from polypropylene

In 2001, Moore published his 1998 findings in the Marine Pollution Bulletin. From the collection and analysis of debris, it was estimated that there was six-pounds (13.2 kg) of plastic floating in the North Pacific Subtropical Gyre for every pound of naturally occurring zooplankton.

In 2008, the same 1998 study was replicated and Moore found the ratio of plastic to zooplankton had doubled in nine years. In subsequent trips, photographers have captured underwater images of jellyfish hopelessly entangled in frayed lines and transparent filter feeding organisms with

the poisons pass into the food web, which leads, in some cases, to humans.

A recently published article in the *Christian Science Monitor* shows that plastic has been collecting in the Atlantic gyre as well, this according to an ongoing study by Dr Kara Lavender Law at the Sea Education Association in Woods Hole, Massachusetts, USA. Law said that analysis of the plastics picked up by SEA's research shows much of it comes from consumer items made of polyethylene and polypropylene, which include items used in our common everyday life. Out at sea, these plastics suffocate sea turtles and choke sea birds which mistake the floating debris for food.

During the first week of the search for the remains of the Air France plane, off the coast of Brazil, investigators thought that

Plastic Soup



they had located pieces of the plane, but on closer examination it was found to be nothing more than rubbish. Ebbesmeyer, quoted in a CNN report said, "That area [the crash site] has got lots of debris that's just out there, coming from Europe heading over to the America's." The search for remains of the plane highlights what environmentalist claim is one of the most pressing issues for the world today, plastic pollution.

It is estimated that between 500 billion and 1 trillion plastic bags are used worldwide each year and the number of plastic bottles, used each year, number in the trillions. Plastic bags can take as long as 1000 years to biodegrade; plastic bottles even longer. One scientist reports that these figures are only estimates because no one will live long enough to find out.

Now, when you dispose of a plastic bag or plastic drink bottle consider its life-cycle; regardless of whether it goes to a landfill, to a recycling center or makes its way into the ocean it will never naturally biodegrade in our lifetime.

For additional information, Google: *ocean gyres garbage*. Look for forthcoming articles dealing with the plague of plastic in our oceans: *The effects of plastic ingestion by marine animals*, and *Algalita Marine Research Foundation*. ■

GYRE

A gyre is any range of large-scale wind, swirling vortex and ocean currents. Gyres are caused by the Coriolis effect, planetary vorticity, and friction, which establish circulation patterns from the wind curl. As the water flows in the oceans, it carries heat from ocean to ocean and from the equator to the poles. Variations in the transfer of heat lead to variations in weather patterns.

The earth's major gyres:

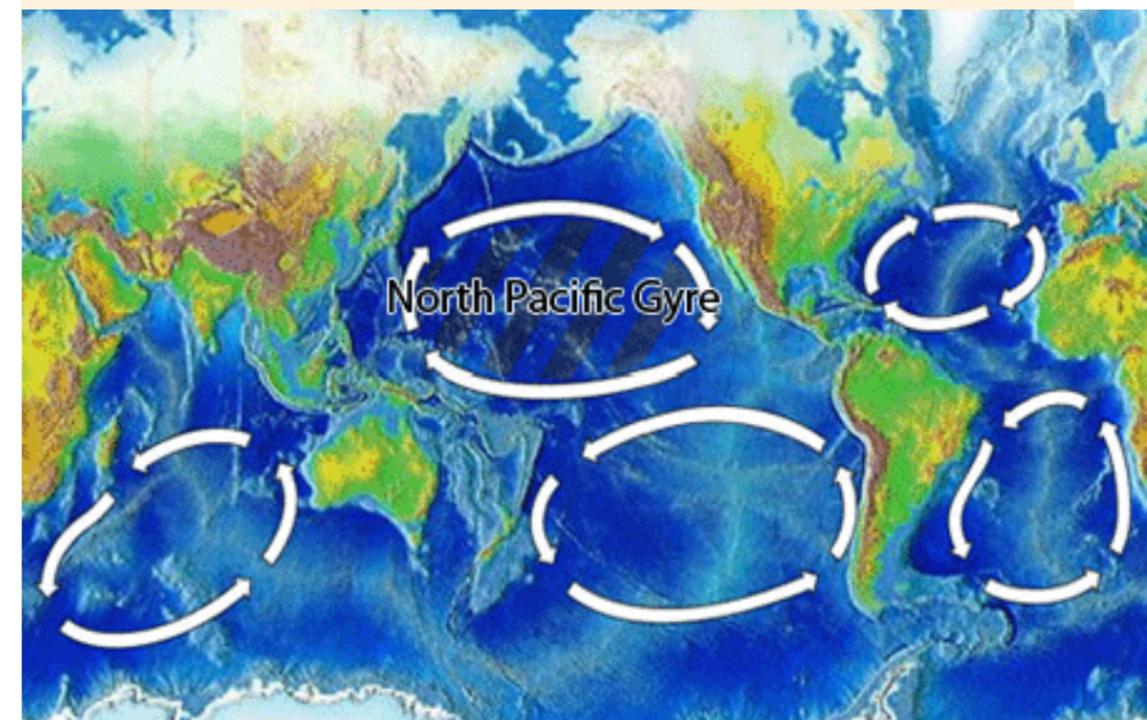
- North Atlantic Subtropical Gyre that includes the Gulf Stream, Labrador Current, East Greenland Current, North Atlantic current, and the North Atlantic Equatorial current
- North Pacific Subpolar Gyre
- North Pacific Subtropical Gyre, also know as the North Pacific Gyre—this gyre covers most of the northern Pacific Ocean, located between the equator and 50°N latitude and covers approximately 10 million square miles (34 million km²). The gyre has a clockwise circular pattern and is made up of

four prevailing ocean currents: the North Pacific Current to the north, the California Current to the east, the North Equatorial Current to the south and the Kuroshio Current to the west. An accumulation of man-made debris, known as the "Great Pacific Garbage Patch" is collecting in this gyre.

- Indian Ocean Subtropical Gyre
- South Atlantic Subtropical Gyre that contains the Brazil Current system
- South Pacific Subtropical Gyre that contains the East Australian Current system
- North Pacific Subpolar Gyre that contains the Alaska Gyre

The North Pacific Subtropical Gyre is made up of two large masses of ever-accumulating rubbish, known as the Western and Eastern Pacific Garbage Patches. It is in this gyre, a huge swirling mass of plastic soup, estimated by some to be the size of the United States that the plastic bag or plastic water bottle, thought to be in a landfill or recycled, may end up. ■

SOURCE: Wikipedia



Location of the North Pacific Gyre on global map



photo & video

Edited by Peter Symes & Scott Bennett



Close-up portrait of an adult Leafy Sea Dragon

LEAFY SEA DRAGON, *Phycodurus eques*, is an endangered, and thus, protected marine fish related to the seahorse and the pipefish. Slightly larger than most sea horses, they grow to about 30cm and are found around southern and western Australia on clumps of sand in waters up to 50 meters deep, feeding on plankton and small crustaceans. The long leaf-like protrusions sprouting out from all over its body gives it its name. However, these are not used for propulsion but serve as camouflage. An almost transparent pectoral fin and a dorsal fin help propel the creature, which mostly hangs very still in the water like floating seaweed. The male cares for up to 250 fertilized eggs (deposited on his back by the female) for nine weeks until they hatch. — SOURCE: Wikipedia.com

Macro

The thought behind the image

Over the coming months, I am going to take some of the more significant underwater images I have taken during my career, which in one way or another were either unique or rare images or taken under difficult and demanding conditions. From these images I will explain with the learning curve of my success's and failures, how I conditioned both myself and equipment to optimise the chances of success and how this then started to pay dividends. I have to say most of the the situations I will be talking about were taken on film some years ago. But my opinion is that we are talking about Photography where many of the rules regarding the medium that these photographs were taken on remain the same.

I hope that this series of articles will help some of you, the readers, with any questions you have regarding what I have to say. Please do not hesitate to contact me through X-RAY MAG with your inquiries.

The first situation I will be discussing is probably so far, the highlight of my career, being the most satisfying and rewarding. The birth of a Leafy Sea Dragon in South Australia.

It was in February 2002, I had been travelling to Kangaroo Island for some years, and initially my photographs were for articles in both *Dive* and *Nature* magazines. Which led to a number of group trips in the latter years. At this time, my learning curve was very steep. After a number of costly trips early in my career, I had come to believe in the three R's: "Be in the right place at the right time with the right people"—and then you wait for nature to either play the game or not.

Obviously, some events are seasonal, so if you are going after a specific event, make sure that you research both when and where this event will be at its peak. Most importantly, once you have this information, then you must find the right people with the experience to

take you to and show you this event whilst it is happening.

Over the years, I had always gone to Kangaroo Island with Jim Thistleton a dive operator with the reputation of being able to find the rare and elusive Leafy Sea Dragon. The first time I went with him he told me that he was going to take me three miles down this rugged Southern Ocean coast and put me on a juvenile Leafy Sea Dragon no more than two inches in length—this, he did.

So, it was on 8 February 2002. By now, I was carrying two housings with me on each dive, both Sea & Sea with Nikon F90x's—one set up for wide angle with a Nikon 17-35 zoom lense and twin YS120 flash guns. The other with a Nikon 105 lense with X4 Nikon close up lenses attached and an Inon ring flash. Some people questioned me as to why I burdened myself down with so much cumbersome equipment. But to me, it was about being ready for any eventuality; this day was to prove this theory absolutely correct.

Upon entering the water, I always drop to my working depth, settle myself and set up each camera so that they are ready for what I call a

Text and photos by Tony White





photo &
video

reflex shot, should it arise. Apertures, shutter speed, flash angles, etc., etc., only then will I start looking for specific subjects. This day, I choose wide angle and started to photograph a mature male with eggs on his tail on a backdrop of stunning cold water corals.

I felt a touch on my shoulder; my dive guide was beckoning me over to where the rest of the group were watching something intently of which as yet I could not see. On arriving, my head went into a spin; there was a mature male again with eggs on his tail, the difference being that one of the eggs had started to hatch.

Self control

The first thing I have to say is that no matter how urgent the need to start taking photographs here, self discipline has to take over. I knew instantly that within seconds the baby could detach itself from the egg casing and disappear, but it was no good blazing away on such a small delicate creature and losing the shot because it was too small or out of focus. So for a few short seconds, I settled myself with deep breathing and collected my thoughts on the important steps I must take.

This creature was so small that with my setup, I had to lock the focus so that image size was at its maximum. In other words, I took over manually, focusing by moving my head and housing back and forwards. Maximum aperture and appropriate shutter speed were already set as was the ring flash on auto. So, all I had to do now was provide absolute concentration on capturing the

A papa Leafy Sea Dragon carries eggs on his back. One egg is just about to hatch and a baby Leafy will be born. (Read the story of the birth on the next page)

image to the best ability of myself and equipment.

Time for me was passing in slow motion as I slowly clicked away, afterwards one of the group said, from start to finish, the event only lasted five minutes. The images will never win any prizes for their stunning composition exposure or dynamism. But with discipline and having the right equipment at hand, they do exist (It is worth mentioning that the rest of the group had opted for wide angle to photograph the mature males!).

During these five minutes, I obtained photographs of the birth, the baby free swimming, and finally with my wide angle, a perspective of a divers hand under the baby to give a true impression of the size. The images, over the years, have been published all over the world and are still to my knowledge the only still images taken of this event in the wild. The story being told from start to finish by the images themselves.

Without the three R's and the discipline of constantly doing the same things over and over, these images would not have been taken. I have also attached a small article below that was written at the time, which I hope conveys the importance of the moment. Please enjoy it and possibly reflect on your own system of underwater photography, its setup, and the discipline with which you use it.

Tony White is a full time underwater photographer living in South Africa. He runs underwater photographic tours and workshops worldwide. For further information go to www.seaofdreams.co.uk ■



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silver



cinema of dreams



www.seacam.com





photo & video



Text and photos by Tony White

Birth of a Sea Dragon

Kangaroo Island is Australia's third largest island. Some 150 miles long, it is made up primarily of farming communities, and over two-thirds of it has been designated national parks. Situated off the coast of Southern Australia, about twenty miles south of Adelaide, lies the home of the Leafy Sea Dragon, one of the world's most striking underwater creatures, and the official conservation symbol of South Australia. Endemic to the more temperate waters of the Southern Ocean, this delicate creature continually draws me back to these pristine waters on a regular basis to gaze in awe at one of nature's underwater wonders.

So, it was on the morning of the 8 February 2002, we sat in a small bay overshadowed by the rugged cliffs of this majestic island onboard *Wind Cheetah*, Jim Thistleton's dive catamaran of Kangaroo Island Diving Safaris. Jim is the acknowledged expert on these creatures and has been tracking the local population for the last ten years. When Jim says there is a leafy under the boat, that is exactly where it is.

On arriving the previous week, I had been overjoyed when Jim had informed me that because of the bad summer, some of the male leafies were still carrying eggs—an event which in normal summers should now have been over. With this in mind, I entered the water to photograph these stunning creatures.

I encountered an egg carrying male at approximately 12 metres and went about the usual routine of angles, flash settings, etc, when Micky, my dive guide came over to me and with her fingers indicated towards what I thought was a juvenile Leafy that she had just found. I followed her to a position further up the reef wall.

What I saw sent life into slow

motion, as I started to experience one of the rarest moments of my life. Lazily swimming along the reef wall was another male carrying eggs with the significant difference that one of the eggs had begun to hatch from the egg casing. The head of new born leafy, no more than 1/8th of an inch in length was emerging. Micky, acknowledging the importance of the moment, had assumed an almost prayer like position overlooking this spectacle. Over the next five minutes, which seemed like an eon, I managed to acquire unique images of this tiny creature's struggle for life. Finally, when he had emerged and detached from the egg, he was no more than half an inch in total length, with all his markings in place that he would carry through his future life.

I expected him to be at the mercy of the currents, but it was not so. I witnessed this tiny creature freely swimming and in control of where he was going. Although I had by now finished all the film in the camera, Micky and I stayed for as long as our air allowed witnessing for us a rare moment in time.

Reluctantly, we left him to his fate, despite the odds being stacked against him with a survival rate at about 1,000 to 1 against. To this day, I constantly wonder and hope that he has managed to survive, and somewhere in that vicinity, he is continuing to thrive and grow into the magnificent creature, which I admire so much.

The rarity of this experi-



ence has only now started to emerge. Jim Thistleton in his ten years of constantly diving with these creatures on a daily basis has only witnessed this event three times. These still images are thought to be the first of their kind photographed in the wild, and for two people in this world, they have unique images and experiences to carry for the rest of their lives. ■



THIS PAGE: Witnessing the birth of a tiny Leafy Sea dragon is magical and a very rare event to observe in the wild. COUNTERCLOCKWISE FROM BOTTOM RIGHT: Actual birth from an egg; New born swimming freely; New born fully emerged from egg on papa's back; New born freely swimming over diver's palm shows the relative tiny size of it

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Now the Sony HDR-XR520 / HDR-XR500 camcorders offering outstanding picture quality, especially in lowlight mode, can fully prove their capabilities even under water. Perfect, brilliant video recordings in HDV DV quality both in the 16:9 and 4:3 formats, and high-definition photos of up to 12.2 megapixels are possible. The SEALUX HD520 UW housing is small, light and designed for optimal grip operation. The maintenance-free electronic 10-key control makes operation even easier. Now, for the first time, it is possible to operate all camcorder functions (such as WHT, aperture and shutter time, focus,

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Jude Cowell



P O R T F O L I O



portfolio

PREVIOUS PAGE:
Breaksea cod,
Epinephelides armatus,
Geographe Bay by
Jude Cowell. Prisma
pencil on paper

Text edited by Gunild Symes
All images courtesy of
Jude Cowell

Welcome to the dreamy underwater world of American artist, Jude Cowell, who creates fantastic botanically drawn fish portraits to inspire the imagination. Her blending of “the real with the visionary” results in artwork that immediately takes one to the magical deep. Just eyeing one of these velvety beauties, one can almost feel the current brushing through one’s hair. *X-RAY MAG*’s Gunild Symes caught up with the artist to gain insight into her Dreamyfish Art portraits.



Ornate butterflyfish, Pentapodus porosus, Exmouth Gulf by Jude Cowell. Pencil on paper

GS: Welcome. Tell us about yourself and where you are from.

JC: Thank you, it’s an honor to join you for *X-RAY MAG*!

I am an American artist and a native of Athens, Georgia, where I currently reside in a nearby rural county within the sound of a river’s waterfall. A lifelong pencil and pen-and-ink artist, my current focus is on colored pencil portraits under the imprint Dreamyfish Art.

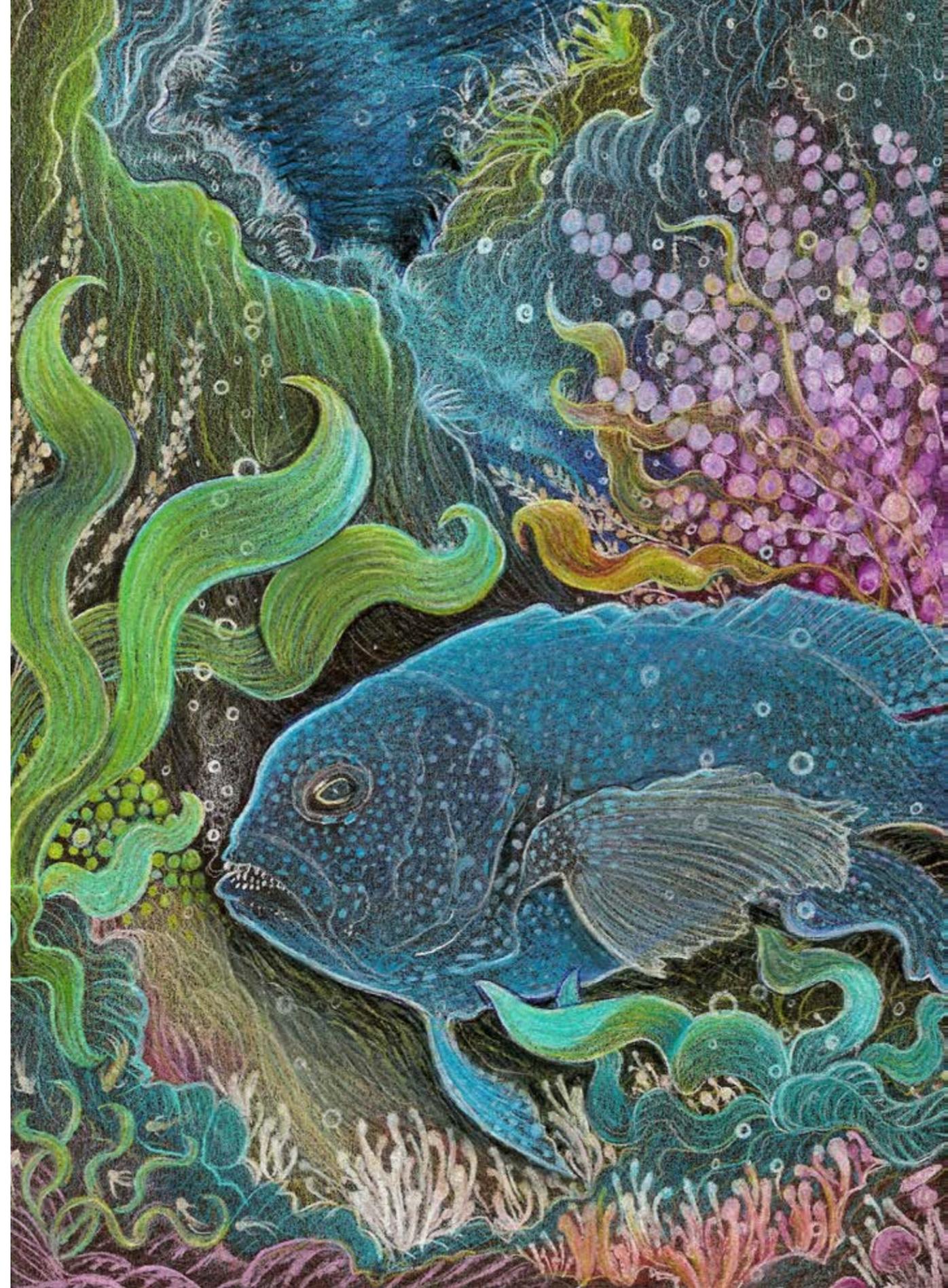
GS: Describe your Dreamyfish Art portrait series for us and how it came about.

JC: Portraits are rendered as botanically accurate as possible and are then set within colorful fantasy scenes of their grandest imaginings. This allows the viewer a ‘sneak peek’ into a fish’s most private dream, for after all, fish dream, too.

The concept first occurred to me in 2003 when I noticed that photographs

of beautifully hued tropical fish were often taken at such depths that their backgrounds were lackluster blacks or browns. So, why not combine the real with the visionary and brighten the little fellows’ spirits? Thus, were created my first Dreamyfish Art portraits.

Since the mid-1990s, I have drawn primarily on black paper, which I think gives depth and a spiritual flavor to images. Thereby certain special effects are achieved, which cannot appear when drawing on white



Western Blue Devil, Paraplesiops meleagris (Peters), Recherche Archipelago by Jude Cowell. Pencil on paper





Magpie morwong, Cheilodactylus nigripes (Richardson), New South Wales by Jude Cowell. Prisma pencil on paper

paper.

When two of my drawings were accepted in a city exhibition during the 1996 Summer Olympics in Atlanta, I was proud to represent Georgia to the world, and one of my cosmically themed entries *Timeless Path* received a merit award.

Beginning in the 1990s my works have been exhibited several times in Athens, Augusta, and Atlanta, Georgia, but since 2005, my focus has narrowed toward online galleries and portfolios.

GS: What is your medium and method of choice and why did you choose to use these?

JC: Prismacolor oil and Rexel Derwent watercolour pencils (dry) are my preferred medium, and the blacker and smoother the paper, the better the effect.

Drawing's traditional cross-hatching and layering techniques are methods of choice, and colors are mixed on-paper as drawings proceed. No preliminary sketches are done because not all fish images translate well onto black paper and not all photos have enough detail for me to work from. It's being able to tell the difference that makes prelims unnecessary with the result that each of my fish portraits are one-of-a-kind.

X-RAY MAG: Who are your role models or mentors and how have they influenced your work and your artistic vision?

JC: My most influential role model and art mentor has to be an amazing photographer and Art Professor, Dr Robert Nix of the University of Georgia Art Department. Actually, his instructions in drawing, painting, jewelry design and sculpture, along with two years of work on our school yearbook staff, occurred pre-college. And thanks to my courses in journalism, I was privileged to work as cartoonist for our school newspaper.



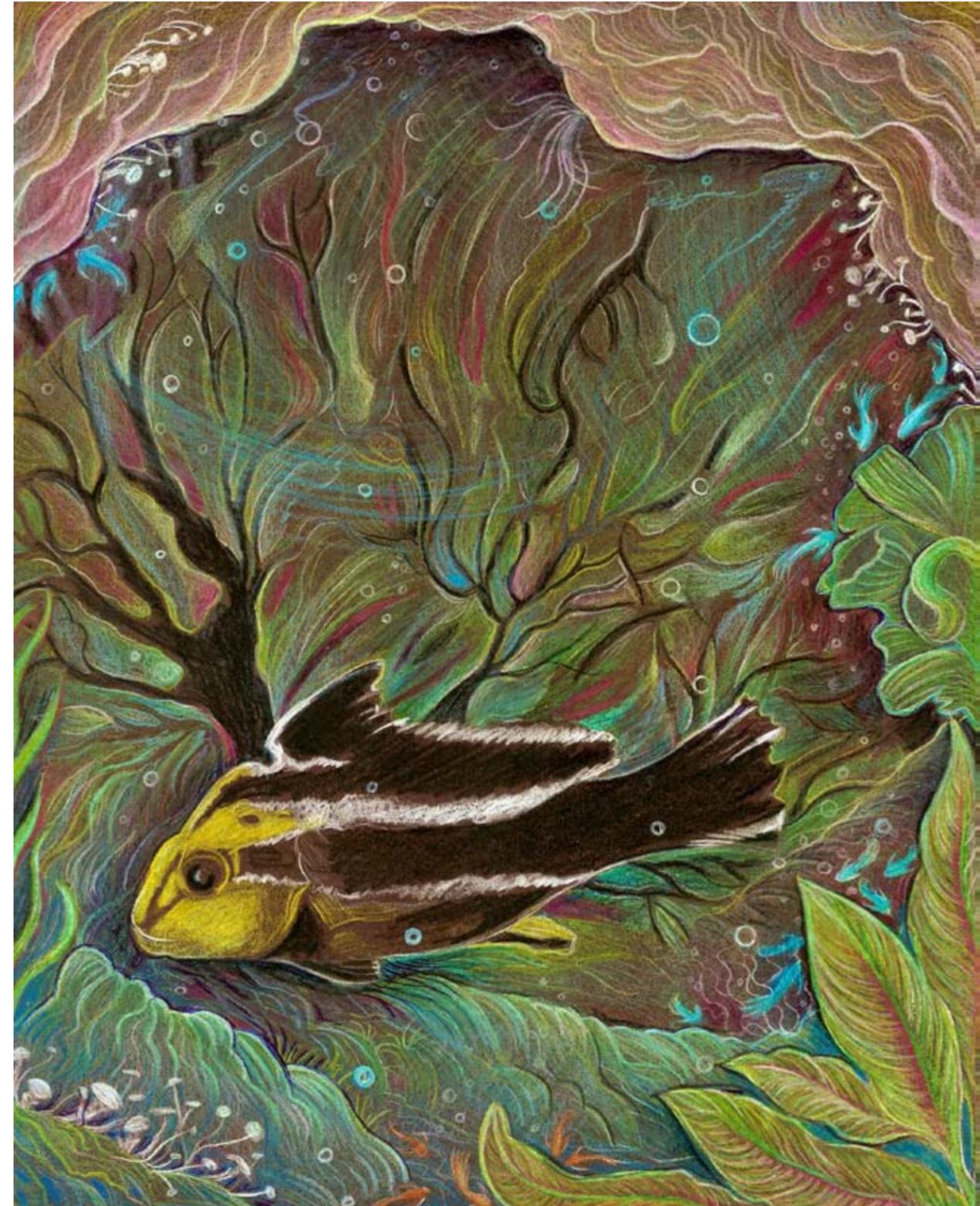
Western footballer, Neatypus obliquus (Waite), Geographe Bay by Jude Cowell. Prisma pencil on paper



Bengal sergeant, Abudefduf bengalensis (Bloch), Houtman Abrolhos by Jude Cowell
Prisma pencil on paper

Jude Cowell

Pale sweetlips, Plectorhynchus pictus (Thunberg), North West Cape by Jude Cowell. Prisma pencil on paper



My college level training was taken at Atlanta College of Art on Peachtree Street (High Museum), where I studied Fashion Illustration, Layout, and Design with Bill Johnson. My acceptance there hinged on what was primarily a pen-and-ink fashion design portfolio.

Strongest art influences include Cezanne, Manet, Renoir, Degas, and the jungles of Rousseau. Pissarro's *The Red Roofs* still packs a visual wallop with me.

Yet, a most telling and unconsciously absorbed influence came during childhood in the form of the dancing fishes in the Disney film, *Fantasia*. Later on, when Pixar's *Finding Nemo* premiered, I was thrilled with its brilliant undersea colors and forms—in fact, you might say I felt

right at home.

So, if I have a coherent artistic vision, it would be my blending of the real with the visionary, which hopefully creates something unique: botanically drawn fish with personality and verve!

Other botanical and imaginary blendings are typical themes as well and are visible in my Cosmic, Flower, Fairy, and Children's illustrations and designs.

A natural visionary ability inspires my artwork, and sitting down at my drafting table with its magnifying lens, a large batch of freshly sharpened pencils, a blank sheet of paper, and a well-detailed photo of a tropical fish always results in fresh artwork.

GS: Have you been to the underwater realm yourself? Are you a scuba diver? What are your favorite locations?

JC: My practiced ability to shut out the world and cavort underwater with Breaksea cods and Western blue devils (in my mind) may be as close to scuba diving as I can now come, due to an unfortunate airplane experience a few years ago, which ruined my previous love of flying.

And so, this armchair traveller happily swims with the fishes of Western Australia (vicariously). Perhaps portraying them is part of the way I've dealt with the squelching of my wanderlust and an early love of coastal regions.



Victorian scalyfin, *Parma victoriae* (Guenther), Recherche Archipelago by Jude Cowell. Prisma pencil on paper

Brown-spotted wrasse, *Pseudolabrus parilus* (Richardson) Rottneest Island by Jude Cowell. Prisma pencil on paper

From childhood, I have visited beaches and islands of Georgia, Florida, South and North Carolina, with the most recent trip a family visit to beautiful Topsail Island off North Carolina in May 2009.

GS: What are your thoughts on ocean conservation and what role do you, as an artist, and your art-work play in local or global efforts?

JC: As I make notes for this interview on Saturday, September 19, 2009, the 24th annual International Coastal Cleanup is being held with volunteers across the globe collecting, cataloguing and indexing

marine debris to be transformed into clean, renewable energy.

And with *Save Our Oceans!*—a constant refrain in my online Dreamyfish Art Gallery—I have touted the global Cleanup project's amazing work upon this critical problem, and plan to continue doing my small part whenever possible to raise the visibility of this worthy endeavor.

Locally, my primary involvement is an annual mental health benefit where Art is much appreciated and sells well for the cause.

GS: So, does Art matter and can it help the world?

JC: Well, can the left brain survive without the right? Their balanced integration makes for a whole and healthier psyche, as my astrological studies have informed me.

And in our exhaustively tech-infused and information-overloaded times, everyone may benefit from a refreshing Art Break now and then, perhaps by way of a meander through an online gallery, perusal of an artist's blog, or by browsing a web-based storefront's offerings and placing an order to support the Arts.

And even if eye and brain refreshment were Art's only function, it would be worthwhile to

portfolio



Bicolor scalyfin, *Parma bicolor* (Allen & Larson), Recherche Archipelago by Jude Cowell Prisma pencil on paper

JC: Current availability of my fish portraits includes a Lulu Storefront for Art Downloads at modest prices, which are suitable for use as screen-savers and for self-printing.

At this very moment, *Breaksea cod* and *Western blue devil* cordially await your visit there.

Now under construction is a Cafe Press shop, Jude Cowell Art, where frame-able 16 x 20 inch Dreamyfish wall posters will be offered in the US\$20 to \$40 range, with more images

pursue and enjoy. But on a collective level, the universal and archetypal symbols, which Art subliminally and overtly bestows, have the power to transform our minds and hearts more viscerally than mere words ever could.

For these reasons, I believe that humankind without Art is like a Dreamyfish denizen without a visionary dream!

GS: Where can people find your current works and what are your plans for future projects? Do you do commissions?

and products added as time permits. Plus, a Dreamyfish Art Calendar is in the planning stages for 2010, and a reputable giclée printer is being sought.

Private commissions are accepted subject to photo availability and artist approval of the suitability of the proposed photograph of the subject. Commission prices begin at US\$300 and artist's use of digital images is retained.

Thank you again for this wonderful opportunity to speak with you and share my lovingly created fish portraits with the readers of X-RAY MAG.

Yellow-eye surgeonfish, *Ctenochaetus strigosus*, Christmas Island by Jude Cowell. Prisma pencil on paper

— Save Our Oceans!

For more information or to purchase original and prints directly, please contact the artist at: jude.cowell@hotmail.com or visit Jude Cowell's webpages at:

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Jude Cowell

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