



Text by Kurt Amsler and Peter Symes
Photos by Kurt Amsler and Fred Buyle

Freediving with blue sharks is a dream come true for many divers. The iridescent blues of this slender and graceful creature make it seem to appear and vanish from another dimension as it moves through the shifting light of the ocean. It has long pectoral fins, which complement its narrow form, a pointed nose, and large eyes. Like other sharks, it is curious about divers, and will come close for a look.

The Azore Islands, located off Portugal in the North Atlantic Ocean, are convenient stop-overs for migrating oceanic sharks, and blue sharks congregate there in the summer months. Divers can rendezvous with them at the Condor Banks, located 35km off the island of Faial. The bank is about 180m deep, and has become a popular shark dive spot, having been the only place

in the Azore Islands where fishing is prohibited.

Kurt Amsler said, "This place is definitely the best spot on the planet to freedive with blue sharks! The Condor Banks was

the first protected area in the Azores Islands and the result of this decision is evident!"

The shortfin mako also migrates through here, and when it soars up from

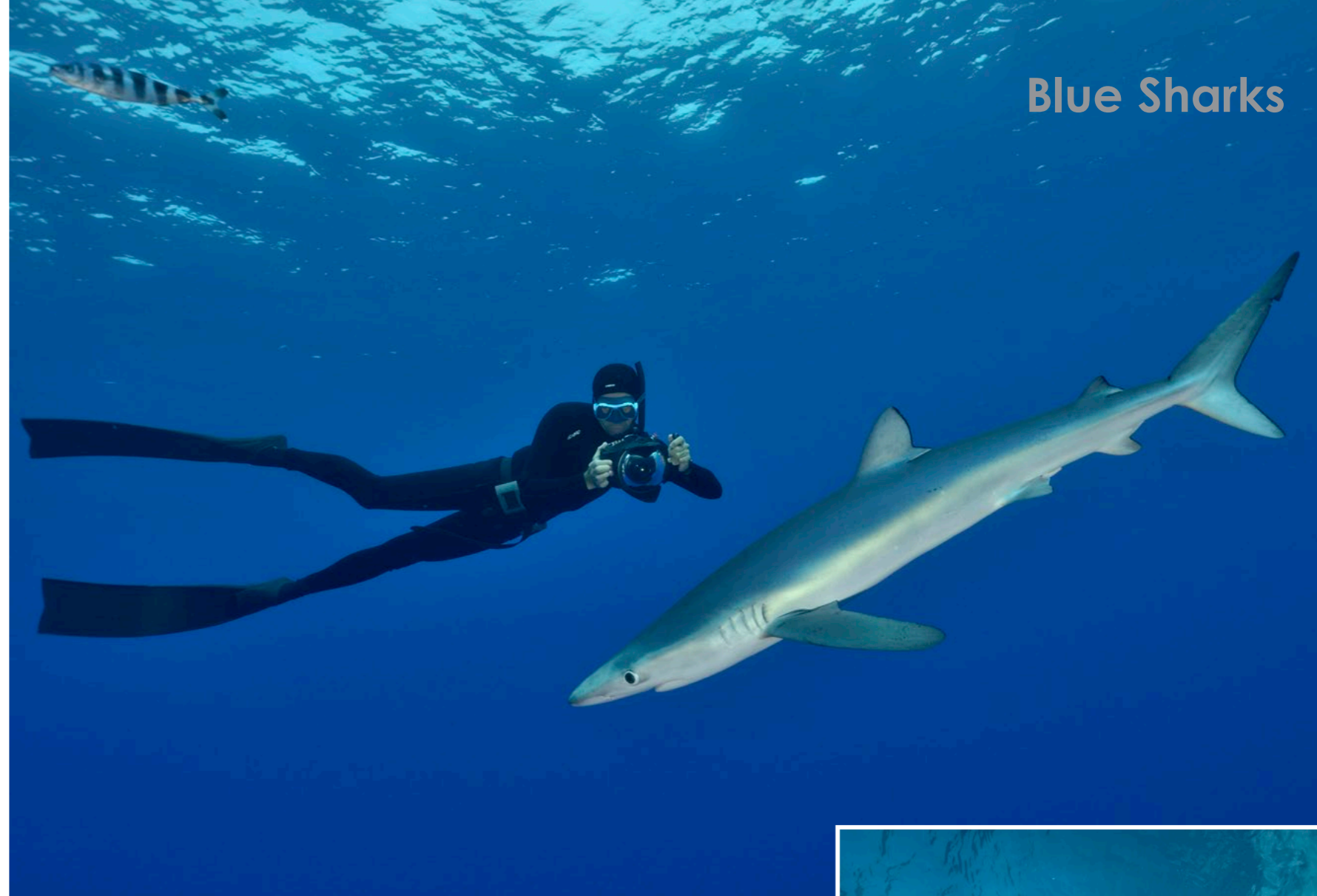
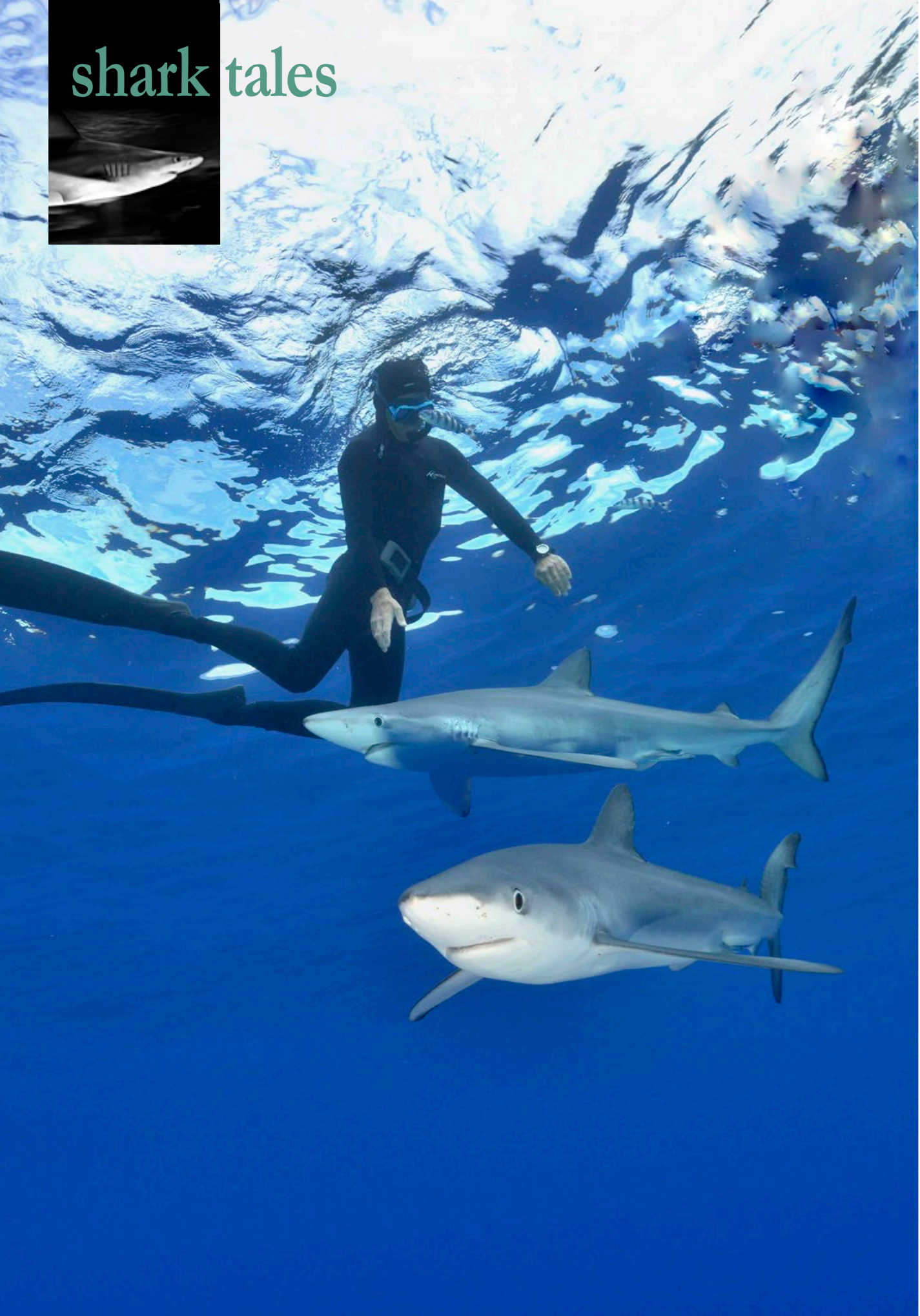
the depths, the blue sharks leave—the speed at which they can suddenly move is one of the intriguing things about them. But when the coast is clear again, the blues return.

Pictured in this article, freediving with blue sharks on the Condor Banks is Kurt Amsler, photographed by his friend, freediving champion Fred Buyle.



Blue Sharks

Of Condor Banks



THIS PAGE: Scenes from freediving with blue sharks, Condor Banks, Azores

Physical fitness

Photography while freediving requires physical fitness, but in many cases, it is the only way to get your camera in front of the subject. There are several photographers whose most spectacular underwater images are shot while freediving.

Without noisy bubbles, it is obviously easier to approach shy creatures and get within the camera's shooting distance. With experience, the animals tend to accept the presence of the photographer much sooner.

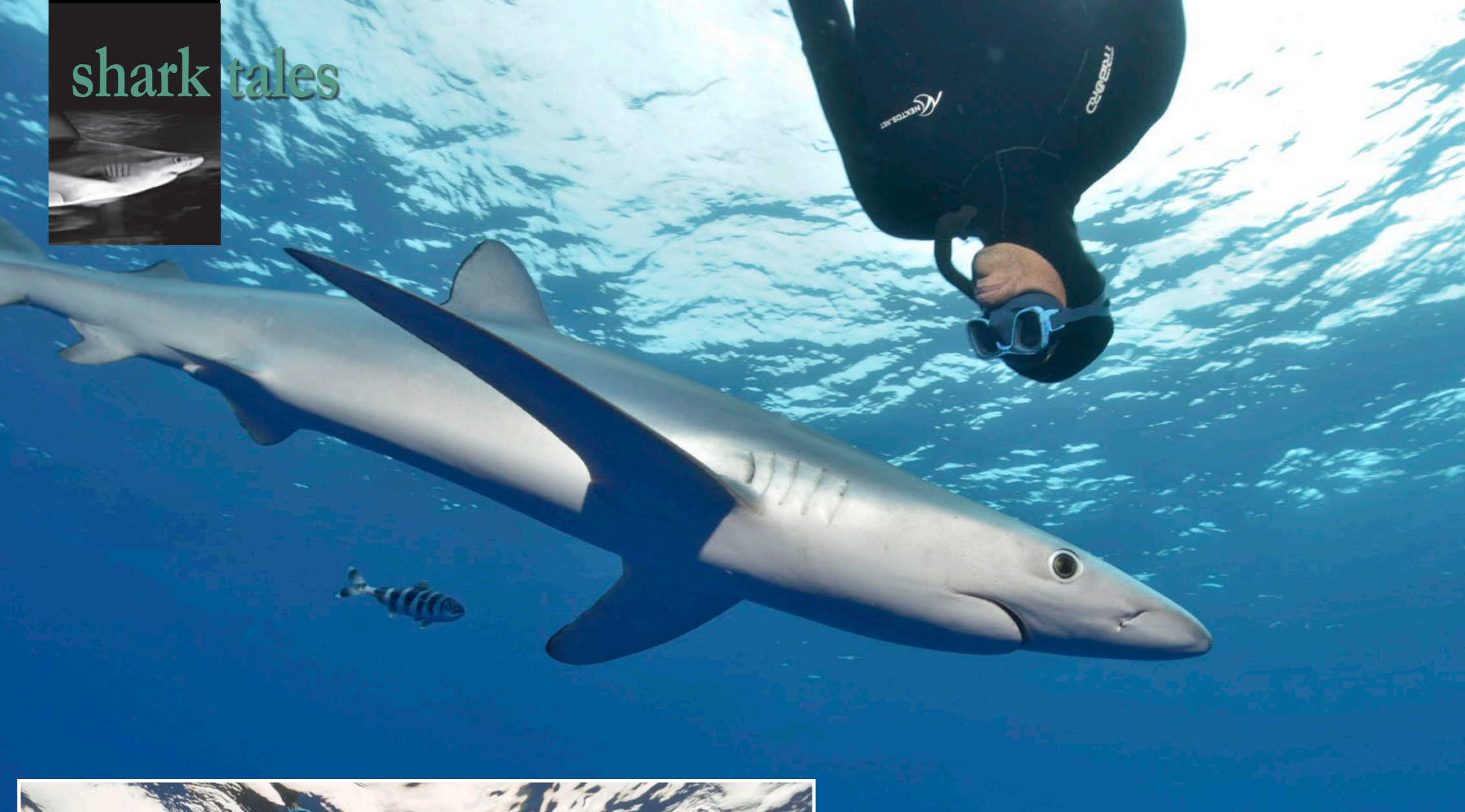
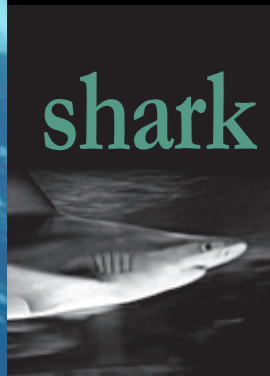
Freediving is also the only way for photographers to somewhat keep up with fast-moving animals such as marine mammals, sharks and other pelagic creatures—an undertaking

that would be outright impossible while wearing cumbersome scuba gear.

The camera

Because the freediving photographer—in contrast to the scuba diver—swims considerable distances and moves about more, both the camera and diving gear need to be adapted to this style of diving. The camera must be as streamlined and compact as possible. In general, there is no need for a flash. If you cannot do without one, do with just one. The resistance from pushing a double flash configuration through the water column can be draining. It is cumbersome to position the rig in a





Blue Sharks

hurry, and its appearance can intimidate the animals.

When photographing the classic freediving subjects such as large sharks, whales, dolphins, manta rays and other pelagic marine species, it is a general rule to stay in the upper water-regions where the ambient light is sufficient and no artificial light is needed.

Diving equipment

Streamlining also applies to the diving equipment. Use a suit that fits snugly (one without wrinkles), a pair of long fins, a mask with a small volume, and a short simple snorkel.

Breathing and equalization also follows general freediving techniques but may have to be adjusted to the shooting situation. For example, it is impossible to calmly prepare for the dive while swimming alongside a whale shark. Proper freediving techniques should be learned and practiced beforehand. Freediving also carries risks, which is why you need to understand the physical and physiological theories.

The blue shark is non-aggressive towards humans. The only known attacks were the result of sharks feeling threatened or involved biting after a human captured the shark.

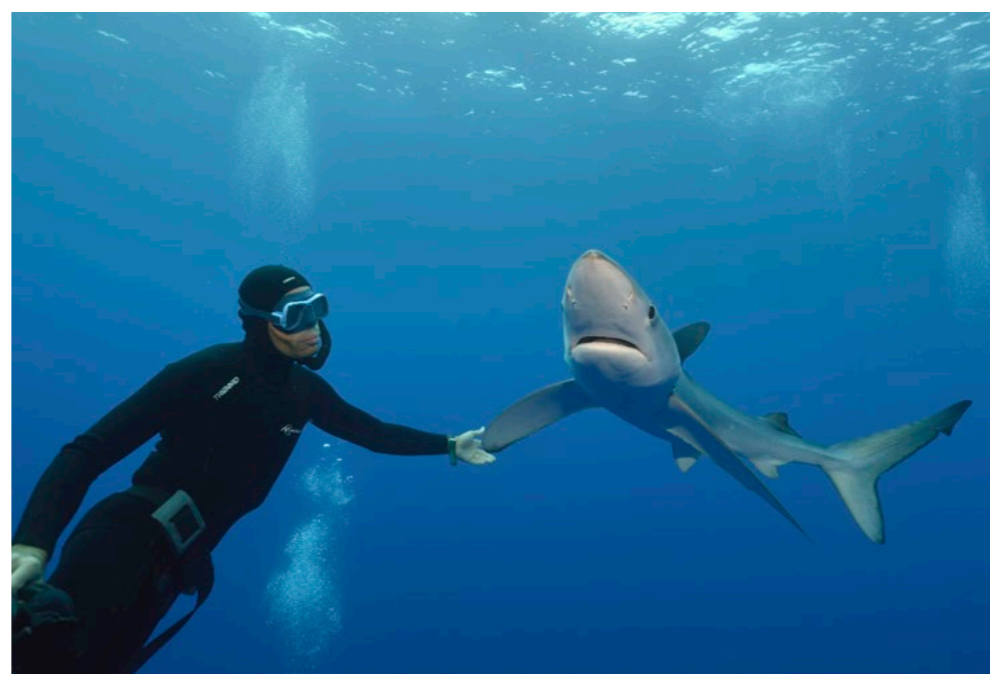
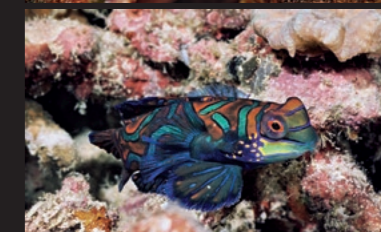
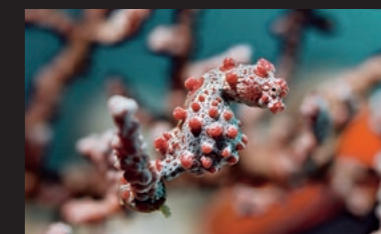
Blue sharks are found worldwide in temperate and tropical waters. They are a pelagic species that rarely come near shore but have been known to



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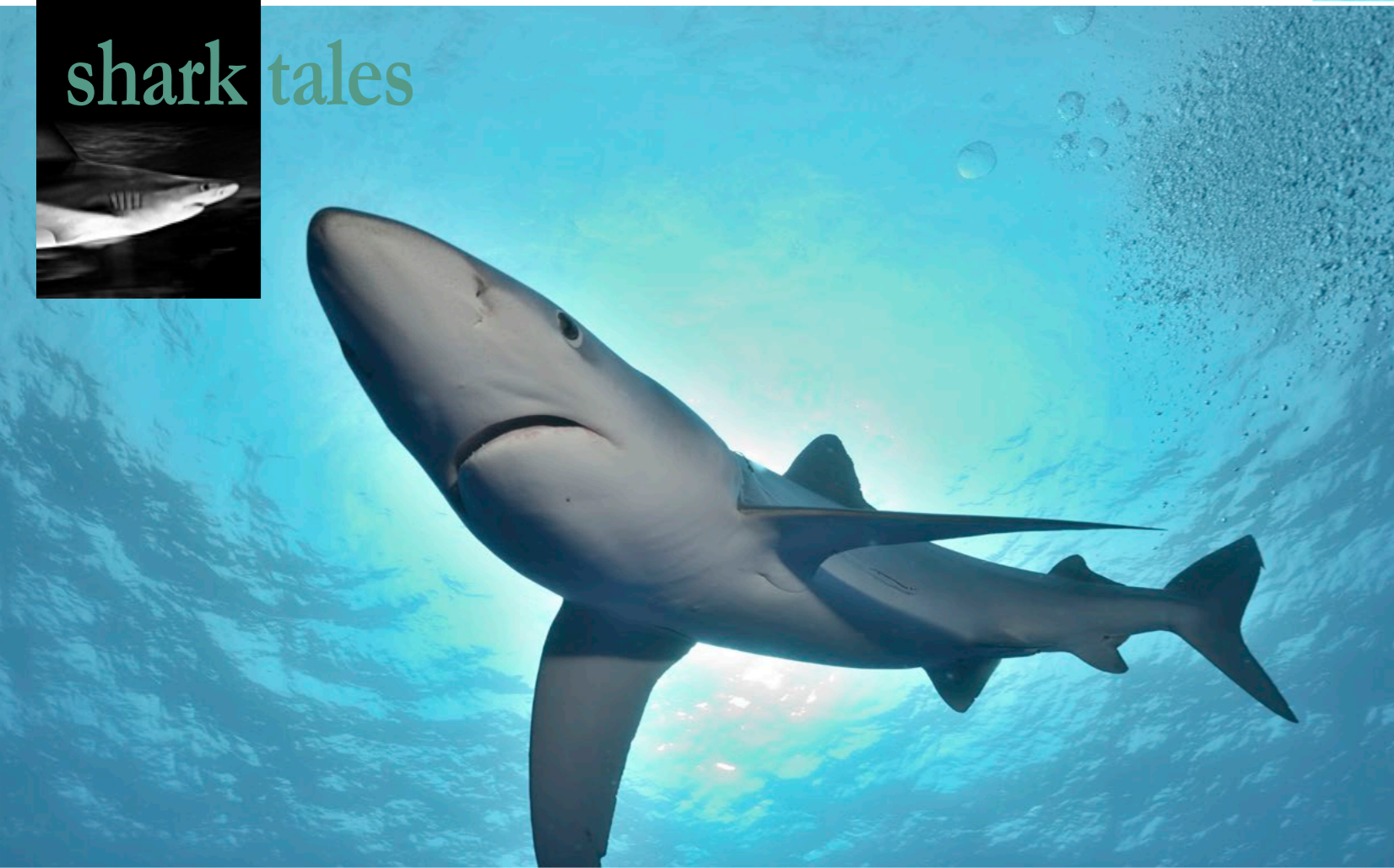
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THIS PAGE: Interactions with blue sharks reveal some curious and intriguing characteristics and behaviors





frequent inshore areas around oceanic islands and locations where the continental shelf is narrow. They prefer cooler water though, so they are often found

in sub-tropical areas where it doesn't get too warm. They are one of the few species of sharks that stick together in small groups. They also show a distinct

hierarchy and often form large, all-male or all-female schools—groups which contain sharks that are about the same size. No one knows why they do this.

Despite not being sought after for consumption, it is estimated that 10 to 20 million of these sharks are killed each year as a result of fishing. The skin is used to make leather, and the liver contains a lot of oil. The blue shark is classified as "near threatened" by the International Union for Conservation of Nature (IUCN) and is likely to qualify for a threatened category in the near future due to overfishing and shark finning.

■ SOURCES: IUCN, WIKIPEDIA



THIS PAGE: Various views of the blue shark, Azores

The Mysterious Megamouth Shark

The megamouth shark (*Megachasma pelagios*) is considered to be the rarest shark of all, and is the only species in its family. The first one was discovered in 1976, and it was not until 1982 that another one was found. The megamouth that washed ashore in Vietnam on 2 June 2015, was only the 68th recorded specimen. But news of 34 more megamouth sharks has surfaced. All were found around Taiwan during the past two years, raising the total number to 102!

Text by Ila France Porcher

Alex Buttigieg, of Malta, known to his friends as 'The Sharkman', has collected all the information available about each specimen. His records are now the most complete of all, and include photographs of most of the specimens. (They can be found on his website: <http://sharkmans-world.eu/mega.html>)

"My interest in megamouth sharks start-

ed the second that I found out about this very rare species." he writes. "Every record is interesting in its own right, but in some cases it is much more difficult to collect the data. Most of the sharks are already dead when discovered and quite a few end up sold for food even before researchers can get to them. This makes data collecting very difficult. The best is when the shark is released alive—and possibly tagged as happened in the United States in 1990, and more recently this year in Taiwan."

Filter feeders

The megamouth is likely the smallest of the three filter-feeding species of sharks, with males maturing at about 4m and females at about 5m; the maximum confirmed maximum length is over 7m. In comparison, the basking shark reaches a length of 8m, and the largest whale shark was measured at 12.65m.

Wide head

As its name indicates, the megamouth has a very wide head and mouth with tiny teeth. It has a long tail, similar to the thresher shark—the upper lobe is twice as long as the lower lobe.

Its reproduction is ovoviviparous. Pups develop in eggs in the mother, and are born alive. The megamouth shark has luminous photophores around its mouth, which likely serve to lure its prey closer. But since most information about it results from studying dead specimens, very little is known about its way of life.

The shark tagged off California was a male of 4.9m in length, having been caught near the surface. For two days, the tag reported the depth of the shark at different times, and it was found that it swam at a depth of between 120 to 160m during the day, and ascended to between 12 and 25m at night, travelling at the slow speed of just 1.5km per hour, presumably while filtering plancton, and

other marine delicacies from the water, with its huge mouth wide open.

Breeding grounds

Buttigieg said, "I believe that the main threats to megamouth sharks are the fishing nets. It could very well be that other megamouths are being caught elsewhere without being recorded. The recent records of 34 specimens discovered in Taiwan between April 2013 and May 2015 only came to light during the latest American Elasmobranch Society meeting presentation. This could also mean that these species are not as rare as they were once thought to be in some areas.

"Researchers are looking at the possibility that there could very well be breeding grounds off the coast of eastern Taiwan. The sizes recorded range from 2.5m to 7m. Hopefully the latest tagged specimen will be able to shed more information into this mystery. I also hope that action will be taken to protect these awesome sharks."

Efforts to contact the researchers involved, however, have not been successful.

Fascination

Buttigieg became fascinated by the wonders of the submarine realm so accessible from the shores of his □



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THIS PAGE: Views of the very rare megamouth shark



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(continued from previous page) Mediterranean island at an early age, and was inspired to focus on sharks when Peter Gimble's classic documentary, *Blue Water, White Death*, really brought them to life for him. He became a professional scuba diving instructor and spent his free time amassing all the information he could about every species of shark known.

Sharkman's World

Following in the footsteps of his life-long shark conservation heroes (the late) Ron and Valerie Taylor and Rodney Fox, Buttigieg started working towards shark protection and conservation, and was one of the first to warn of the dangers of overfishing them.

In 1997, he set up his web site, *Sharkman's World*, dedicated to the education, conservation and protection of sharks, and initialized and spearheaded the campaign for the great white shark protection in Malta, a campaign that lasted until September 1999, when the Maltese government gave protection to the great white shark and the basking shark. There are now a total of 15 species protected in Malta.

Buttigieg has dived with and studied sharks in many parts of the world including the Red Sea, South Africa, Fiji and Malta. He takes an active part in many international campaigns for shark protection. In 2007, he set up The Shark Group, an internet-based forum, and also in the same year, Sharkman's World became a member of the international Shark Alliance. In 2008, he was also named as the co-founder of the Let Sharks Live network, and initiated the International "Year Of The Shark – 2009" campaign.

Buttigieg has attended and spoken in many International conferences for shark conservation. He was also a regional investigator for the Mediterranean Sea and collaborated with the Global Shark Attack File (Shark Research Institute, USA). He also collaborates with the Shark Research Committee (USA), International Shark Attack File (USA), Australian Shark Attack File and Fishbase.

Buttigieg has written various articles and contributed data and information for television documentaries, scientific publications and books. ■

See also: <http://www.xray-mag.com/content/megamouth-shark-dies-beach-vietnam>

Reef sharks travel far to give birth

According to new research, reef sharks at Western Australia's Ningaloo Reef are largely homebodies but female blacktip reef sharks might be traversing long distances to give birth in the food-rich waters.

Near sanctuary zones at Mangrove Bay and Coral Bay, marine biologists tagged 83 reef sharks. They then tracked the sharks' movements in order to find out how much protection the marine park provides the sharks. Over a two year period, the movements of blacktip reef sharks, grey reef sharks and sicklefin lemon sharks at Ningaloo Reef were examined.

According to Australian Institute of Marine Science scientist Dr Conrad Speed, reef sharks are essentially "homebodies", with most staying in a relatively small area of less than a square kilometre to over 20 squ km. However, the study revealed some female blacktip reef sharks made long migrations during the summer

months, including one individual that swam 275km.

"We had five female adult blacktips that we tagged initially in Coral Bay that swam between Coral Bay and Mangrove Bay," said Speed. "Each way it's about 130-odd kilometres, so it's quite a long distance for a shark that's only a metre and a half in length. What we think is happening is that the blacktips are likely moving from Coral Bay all the way to Mangrove Bay to give birth."

Juvenile sharks stay in lagoons and mangroves. Speed, who conducted the study as part of his doctoral research at Charles Darwin University, said mangroves make good nurseries for young sharks. "In our study [the juveniles] primarily stayed in the mangrove habitat and in the lagoon area, and that's because they don't need to range further to find more food," said Speed. "Mangrove areas are very rich in food that's suitable for small sharks and they're offered a fair amount of protection in

mangroves from larger animals. They also either need to find a mate or find an area that's suitable to give birth."

Acoustic transmitters were used as tags on the sharks. A series of underwater acoustic receivers set in different places along the reef picked up data transmitted from the tags. This type of receiver is similar to those the Fisheries Department employs to detect sharks in areas off the Perth and South West coastline. ■

SOURCE: PHYS.ORG



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Blacktip reef shark

