

CHASING GIANTS

SIX YEARS AGO, DR SIMON PIERCE HAD NEVER EVEN SEEN A WHALE SHARK. NOW, HE HAS SPENT MORE TIME IN THE WATER WITH THIS ENIGMATIC GIANT THAN ANYONE IN HISTORY. AARON GEKOSKI SPEAKS TO A MAN WHOSE JOB INVOLVES FIRING LASERS AND SHOOTING SATELLITE TAGS AT THE BIGGEST FISH IN THE SEA

‘Dr Pierce, do you agree that you have the best job on earth?’

is my opening question to the lead scientist at the Marine Megafauna Foundation (MMA) in Tofo, Mozambique. ‘I must admit, it is pretty cool. Though it’s not always as glamorous as you may imagine.’

Dr Simon Pierce is the king of understatement, the quintessential modest scientist and Kiwi. In fact, being referred to as ‘Dr Pierce’ makes him shift uneasily in his seat. ‘Please, call me Simon.’

The whale shark is an iconic species, a tourist trump card that attracts people from all over the world to snorkel or dive with this placid pelagic. The whale sharks’ popularity with divers is mirrored within the scientific community. On a daily basis, Simon is inundated with applications from students and marine biologists begging him for a work placement or job. Take a glimpse into his life and it’s easy to see why. This is no ordinary job. Luckily, Simon is no ordinary guy.

Yet his story begins, like so many great adventures, with a simple telephone call. Back in 2005, Simon was studying for his PhD at the University of Queensland in Australia. His doctorate was on sharks and rays, animals Simon

had grown up fascinated with; at age eight he was already penning letters to famous marine biologists from his home in New Plymouth, New Zealand. The phone call was from his good friend Dr Andrea Marshall (star of the BBC documentary *Andrea – Queen of the Mantas*). She was studying manta rays in Tofo, a small village in the Inhambane province of Mozambique. Tofo lies nearly 400km from Maputo, though over 12 000km from Queensland. ‘Forget the distance,’ Dr Marshall told him. ‘You won’t believe the diving here.’ She went on to describe seas brimming with behemoths – mantas, humpback whales, giant stingrays, dugongs and, most notably, whale sharks. Andrea was witnessing unprecedented congregations of up to 50 strong.

She wanted Simon to join her, though she was frank about the frustrations of conducting research in a third-world country. As recently as the mid 1990s, when Mozambique was recovering from a civil war, it was officially the poorest country on earth. Although slowly recovering, it remained a work in progress. The internet – when it worked – was painfully slow. The country possessed only

one motorway, which was strewn with potholes. Malaria was rife. Yet Simon took the plunge and booked his ticket. Now, after only six years, this world-leading scientist has identified more whale sharks than anyone – over 580, that is 19% of the world’s known population.

Thankfully, whale sharks pose no threat to humans. You are more likely to be gnawed to death by a fluffy bunny than eaten by a whale shark. They are the gentle giants of the sea – big, zooplankton-filtering softies. Their diet consists of small organisms such as krill, fish eggs and crustaceans. On this nutritious diet the biggest sharks grow to over 18 metres long and 40 tonnes in weight.

For a 40-tonne mass of conspicuousness, the whale shark is shrouded in mystery and myth. The first myth is one regarding categorisation. Whale sharks are not hedging their bets by being both ‘whales’ and ‘sharks’. They are most definitely sharks – filled with cartilage rather than bones, like whales. The ‘whale’ part of their name is simply a reference to their gigantic frame.

Yet many real sources of mystery remain, which Simon and his team of scientists are dedicating their careers to solving. For instance, the whale sharks that pass through Tofo are predominantly juvenile males – over 70%. Which poses the question: where are the females? Or the bigger males? Or the babies? Or the pregnant females for that matter? To this day, only one pregnant female has ever been studied. It’s safe to say there’s still a lot to learn.

To help solve the bigger questions, Simon has reached for the stars and enlisted the help of NASA. The US space agency is supplying Simon and his team with satellite imagery to help them track satellite-tagged whale sharks. This helps him pinpoint the shark’s location and feeds back information on how far it has travelled and how deep it has dived. This method has helped Simon understand the sharks’ migratory patterns and provided other, unexpected insights. We now know that the sharks dive much deeper than expected – one tagged male plunged nearly 2km on one of its descents, making whale sharks the deepest-diving fish in the world.

Studying these giants is surprisingly hi-tech. Along with satellite tags, Simon and his team

have been using lasers to provide more accurate measurements of the sharks than ever before.

The device works by mounting two lasers, 50cm apart, on a camera. The lasers project small dots onto the shark, which provide a fixed scale so the photographs can be analysed with greater accuracy. Along with providing more precise estimates of size, it is hoped that the results will reveal more about the life cycle of whale sharks. ‘The lasers have been a revelation. It’s not easy to estimate the size of a 10-metre-long shark just by eye-balling it.’

Worldwide, whale-shark populations have been decimated: the species is officially listed as globally threatened. Its huge dorsal fin is highly sought after in China, where it is used as a vulgar display item at the front of shops. The biggest fins have been known to fetch R500 000. Whale sharks are also hunted for the oil in their livers, which is employed to coat boats, as well as for their meat.

Whale sharks are occasionally – and completely legally – hunted in Mozambique. It remains an astonishing fact that given their beauty, rarity and tourism value, the government still hasn’t granted them protected status. Education remains key to their survival. At a local level, Simon and his team give talks to the community on whale sharks and other marine animals. On an international level, whale-shark tourism remains the best solution for raising awareness of their plight – though this must be well regulated. ‘I would hate to see Tofo turn into Holbox in Mexico, where there are over 250 licensed whale-shark tour operators. If expansion happens, we need to make sure it’s managed to ensure we don’t love this species to death.’

Simon has been at the forefront of efforts to protect the sharks in Mozambique, applying pressure on the government to make fishing illegal. He is edging closer to this goal every day. ‘I don’t want to leave until whale sharks are effectively protected in Mozambique. The great thing is that by protecting the whale shark, we’ll also be helping the other species that share its environment.’

Let’s only hope he succeeds, as the world’s oceans are in a mess: warming, rising, polluted and catastrophically overfished. Plenty more species could do with the help of a dedicated and humble scientist like Simon.



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