

# *Mega Fauna Off Africa* Mozambique

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Giant grouper waits patiently for its next meal at Manta Reef

On the southeastern seaboard of Africa, along a 200km stretch of the Mozambique coastline, Mother Nature has conspired to create what can only really be described as the perfect underwater biological storm. For it is in this remote area that several major African and Indian Ocean currents converge, producing some unique counter-cyclic eddies that suck up rich nutrients from the deep trenches to the south and create huge quantities of zooplankton, the life source of oceanic mega fauna.



Giant frogfish at Salon (above). The Diversity Scuba dive boat (left) heads down the coast to Krakatoa. PREVIOUS PAGE: Colorful local fishing boats in the warm morning sun atTofo beach in Mozambique



CLOCKWISE FROM ABOVE: Small school of Moorish Idols at Arena; Large scorpion fish blends in with reef; Whale shark “banks” as it dives; More schooling fish at Arena—a very rich dive site!

This unique mechanism has been occurring largely unnoticed for thousands of years, and has undoubtedly played a major role in the evolution of two creatures at the tip of the mega fauna food chain—the whale shark and the manta ray.

The area, in the southern Mozambique province of Inhambane, is host to some 20 percent of the world’s population of whale sharks and an estimated 1,400 individual manta rays—one of the largest populations of manta rays identified anywhere in the world.

Ironically it was one of the scourges of Africa—tribal warfare, which descended into the protracted and very bloody Mozambique civil war—that kept this unique natural phenomenon hidden from the world.

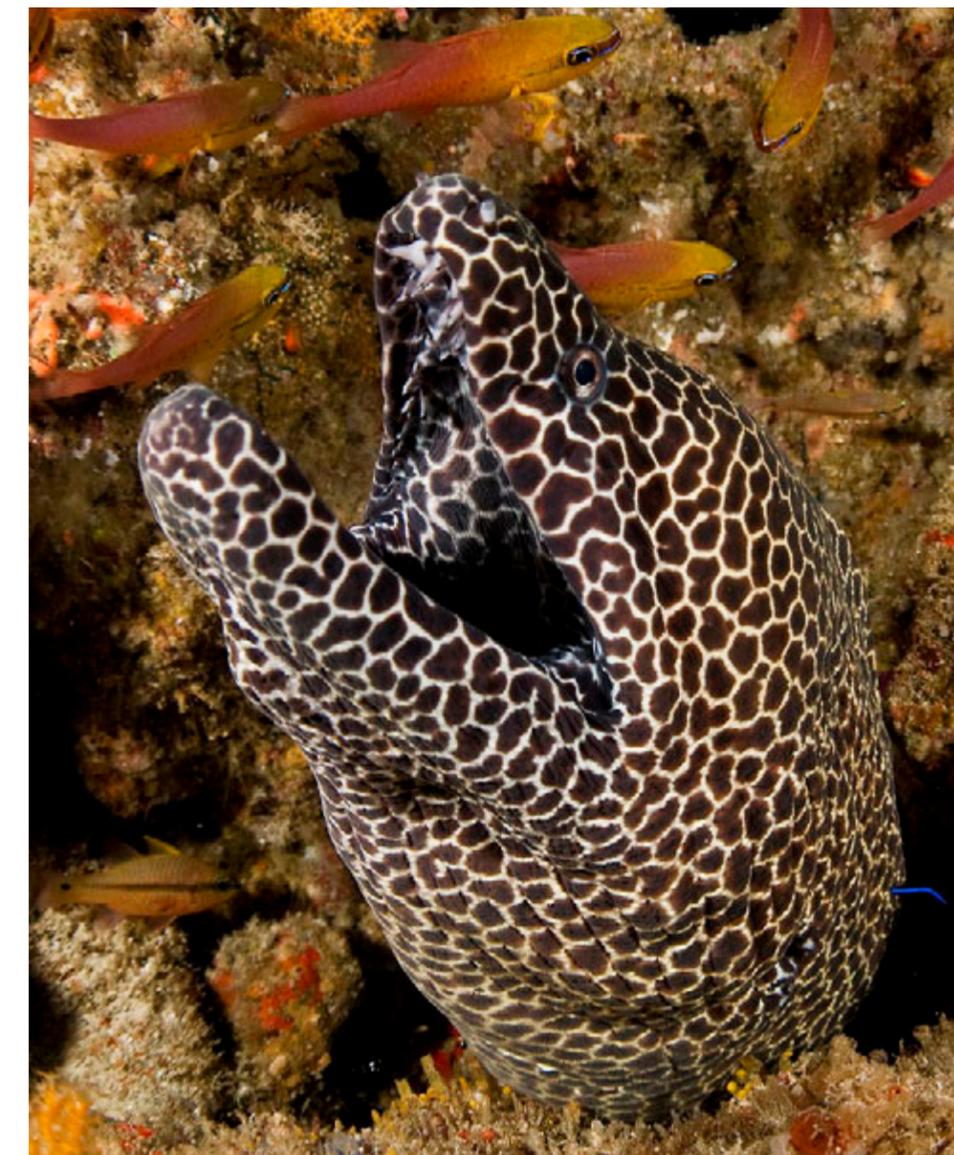
But times have changed, and peace has returned to Mozambique, but with it has come other threats that are having a significant impact on this unique marine mega fauna aggregation and now threatens its very survival.

**Mega fauna aggregations**

Aggregations of marine creatures happen when a combination of natural circumstances occur and create the ideal conditions for large groups of fish

or mammals to gather at a specific geographical location.

Many, such as South Africa’s Sardine Run, South Australia’s giant cuttlefish or Tonga’s whales are very well known,



Large bull ray (above) cruises past at Manta Reef; Superbly camouflaged giant frogfish at Galleria (top left); Honeycomb moray eel at Manta Reef (bottom left)

while others are still to be discovered. But they typically all have the common denominator of seasonal influences creating the pre-conditions for the aggregation to occur.

In other words, it happens once or maybe twice a year for a limited time only, and the creatures that aggregate are basically “hard-wired” to make their way to the location, as they sense the pre-conditions developing.

For example, at Ningaloo Reef in northwestern Australia some seven to nine days after the March or April full moon is a massive coral spawning, which attracts large numbers of whale sharks that stay in the area for two to three months to feed on the resultant

zooplankton.

But in southern Mozambique, the unique counter-cyclic eddies produce a rich year-round source of zooplankton concentrated in a 200km stretch of coastline from Zavora in the south to Pomene in the north. The availability of such a rich food source makes the Tofo area an extremely important one to marine mega fauna.

#### Praia Do Tofo

The small beachside village of Tofo, situated in a picturesque bay about 16 kms from the regional center of Inhambane city, has become the epicenter for the large numbers of tourists

visiting the area to experience first-hand the mega fauna.

Several dive centers have set up shop and numerous guest houses and small hotels have opened to accommodate the influx of tourists, which is all very positive in a poor country desperate for growth. Tofo has also become the base for some ground-breaking research into both manta rays and whale sharks and some quite amazing things are being discovered about these wonderful creatures.

Marine scientists Dr Andrea Marshall and Dr Simon Pierce are leading the research, with Marshall focused on manta rays and Pierce on whale sharks.



Together they have created the Foundation for the Protection of Marine Megafauna ([Marinemegafauna.org](http://Marinemegafauna.org)), which is based at and supported by the Casa Barry Lodge ([Casabarry.com](http://Casabarry.com)) in Tofo.

Every Monday evening in Tofo, Andrea Marshall gives a presentation on her work with manta rays, and on Wednesday's, it is Simon Pierce's turn to talk about his research on whale sharks. Then on Friday nights, PhD student Chris Rohner does an excellent talk about the overall marine life of the Tofo area.

I spent a total of two weeks in Tofo and was lucky enough to arrive over the weekend and caught Andrea's talk on the Monday night. Frankly, I was stunned at what she presented—not only was it factual and interesting, but she also has a great repertoire of one-liners that keep you fully entertained as well as enthralled.

So interesting were all three presentations that I went twice to all of them and became a little concerned that I might



CLOCKWISE FROM TOP LEFT: Large puffer fish at Clown Fish Reef; Cruising leopard shark at Oasis; Divers and giant grouper at Oasis; Scorpion fish blends in at Galleria



Rafael (left), one of Diversity Scuba's Mozambiquan dive masters; Leopard shark at Arena (above); Schooling surgeon fish at Oasis (left); One of the many crocodile fish at Crocodile Rock (below)

Mozambique, besides their overall numbers, are the high percentage of shark bite injuries.

Andrea Marshall's research indicates that about 75 percent of the identified mantas have these injuries, and a closer look at the actual wounds has confirmed that while

the majority are the result of attacks by tiger and bull sharks, a total of 11 other sharks have been positively identified as the predator.

The attacks appear to be random and opportunistic whereby the shark spots the manta and then attacks from behind in the ray's blind spot and manages a single bite before the startled manta accelerates away towards safety.

It's almost—but not quite—a win-win situation, because the shark is happy to have had a quick snack while the manta is presumably happy to have survived the attack, and because all of it's main organs are concentrated in it's core, such attacks are rarely, if ever, fatal.

**Manta cleaning stations**

Large marine creatures inevitably suffer from significant numbers of tiny parasites that are extremely difficult



This giant grouper was so close I could tell if it had halitosis

be reported to the local police for stalking.

Tofo, itself, is a small but very pleasant place with a few nice restaurants and bars, but if you go there, plan your trip so you can attend all three presentations—you won't regret it!

**Fast food—manta style...**

One of the most significant things about the manta rays in



Reef manta ray at one of the cleaning stations at Manta Reef (left); The shark bite wound on this reef manta is clearly visible (below)

Her subsequent research has established that around 80 percent of the manta rays in the area are female and at least 55 percent of the overall population is mature and at breeding age. These statistics, together with the numerous different pregnant females regularly sighted and the constant supply of zooplankton, indicate that Tofo is almost certainly the first recorded manta ray breeding site in the world.

**Tofo whale sharks**

The biggest fish in the sea are almost a constant fixture

in the Tofo area, drawn as they are by the availability of zooplankton.

A fully grown whale shark can get to almost 20m in length and 34 tons in weight by the time they reach full maturity at about 30 years old, but these leviathans of the sea are rarely if ever seen in the Tofo area. Instead research by Dr Simon Pierce has established that the area is dominated with juveniles in the range from 3-10m.

Pierce, a Kiwi marine biologist who readily admits he had never seen a whale shark before arriving in Tofo in 2005,

has established an equally impressive database to the one on manta rays built up by Marshall.

This data, together with aerial surveys by South Africa's Natal Shark Board has shown that there is a very high concentration of whale sharks in the Tofo area of around three per square kilometer, which means around 70-80 of them at any one time.

**Whale shark migration**

Whale sharks are solitary oceanic creatures, so for so many of them to gather as they do in the Tofo area



for them to remove, and while breaching is known to be a way of communicating, it is also thought to be a form of shock treatment used to shake them free.

But just as large reef fish and moray eels develop relationships with smaller fish and shrimp—allowing them to feed on their parasites under a temporary truce in the eternal cycle of hunt and eat—so do mantas frequent specific locations, called cleaning stations, where they will hover patiently while cleaner fish perform a similar routine.

Cleaning stations are the perfect place to observe these magnificent creatures as they

linger and allow the parasites to be removed. However, it is unusual for individual mantas to remain around a cleaning station for much more than an hour.

But in the Tofo area, it is quite normal for mantas to remain for several hours at a time, because not only are their parasites being removed, their wounds are being cleaned of dead and infected flesh, thus allowing them to make a full recovery from their attacks.

Interestingly, Marshall has noted that different types of cleaner fish service different parts of the mantas, with sergeant majors cleaning the manta's mouths, cleaner

wrasse doing the honors on the gills and butterfly fish providing the wound management treatment.

**Manta crèche?**

Marshall arrived in Tofo in 2003, looking for subject matter for her PhD in marine biology, and when she discovered the sheer numbers of manta rays and whale sharks in the area, quickly realized she had found the right spot.

Describing it "like choosing between chocolate and pizza", she elected to study the mantas and has since built up a visual database of over 700 manta rays.



CLOCKWISE FROM ABOVE: A whale shark feeds on plankton near the surface; Schooling fish at Manta Reef; Another giant grouper at Manta Reef waits patiently for its next meal; Electric ray at Clown Fish Reef

indicates that the region plays a significant role in the growth cycle to full maturity.

Very little is currently known about overall whale shark migration patterns, however, Pierce's data has shown that around 70 percent of the juveniles that visit the Tofo area are never seen again—meaning that they are just passing through and indicating that the Tofo corridor is an important transit and feeding area for whale sharks as they mature.

**Conservation**

The obvious benefit of having such intensive and regular research in a mega fauna hot spot like Tofo is that over time a clear picture starts to emerge about the overall health and vibrancy of its star attractions.

Unfortunately, there are clear indications of a possible decline in both the whale shark and manta ray populations, but whether this is an actual decrease or just a reduction in their 'sightability' in the usual locations is not clear at this point in time.

Of major concern is the use of long line and net fishing related to satisfying the ever-increasing demand from locally-based Chinese 'businessmen' for shark fins, of which manta rays are basically collateral damage rather than the main game.

Aaron Gekoski with his, *Shiver: A finning crisis story*, documented this very well in issue #41 of *X-RAY MAG*, but on my last day in Tofo, I also witnessed first hand a sickening example.

My two weeks of diving over, I was getting a nitrogen break before the long

flight back to Sydney and was out taking early morning photographs when I saw a tiny local fishing boat returning from its night's work.

Thinking this may provide a scenic



photo opportunity, I positioned myself to catch the boat being pulled up on to the beach by the weary fishermen. Then, I realized that under the nets piled up on

the boat was a barely alive but fully mature mobula ray.

To my horror, the ray was promptly pulled out of the boat and slaughtered in front of me, as I struggled to capture the



scene. Then, I saw that one of the fishermen had a shark fin in a plastic bag and realized that the victim had obviously just been thrown over the side after being parted from its prized appendage.

It was a totally shocking scene to behold and one that was made even worse by the slow realization that similar events had probably taken place every day I had been in Tofo, had I actually looked for them.

**The solution?**

While it is very easy to self-righteously tell the Tofo fishermen that they should not do such things, the fact is that my stomach was full from a pleasant breakfast at my guesthouse while the fishermen



need to earn money to do the same for themselves and their families. With no other way to do it but take their catch from the sea, the lure of easy money from the Chinese 'businessmen' is understandable.

Marshall and Pierce understand this mechanism very well and are trying to establish a marine park in the critical 200km Tofo corridor that will achieve the dual objectives of protecting the area's mega fauna while allowing the local population to benefit—not

just the hotel and dive shop owners. Easier said than done, but their work over the last six to eight years has

provided essential insight into the most problematic areas, such as the southern village of Ligoga, which has become a manta ray hunting black spot.

An all-encompassing southern Mozambique Marine Park, with no fishing at all is highly unlikely to either get approved or be successful. But if the key locations can be effectively protected it could ensure the survival of the very special mega fauna of the Tofo area. Let's hope they are successful. ■



CLOCKWISE FROM TOP LEFT: Downtown Tofo; Fishermen drag their boat up onto the beach; The mobular ray is butchered on the beach; The fisherman and the freshly taken shark fin; The shark fin and the remains of the mobular ray (inset)



IMAGES THIS PAGE:  
Feeding whale shark

## Mozambique

entering the personal space of Tofo's mega fauna, a code of conduct has been established by the dive operators in conjunction with Marshall and Pierce.

I was pleasantly surprised to see how well and how sensibly all the staff at Diversity Scuba, who I dived with while in Tofo, implemented this.

Underwater, divers are not allowed to enter what I would call the "comfort zone" of the manta rays at the cleaning stations. Instead, there were designated observation areas where the divers were positioned, and these tactics meant that the mantas were not intimidated by the sudden appearance of a large number of noisy underwater animals.

As often happens with intelligent creatures, the mantas would come and investigate after some time, meaning that the encounters can be just as intimate but very much on their terms.

Similarly, to avoid damaging the critical reef infrastructure, all the guides were very careful to

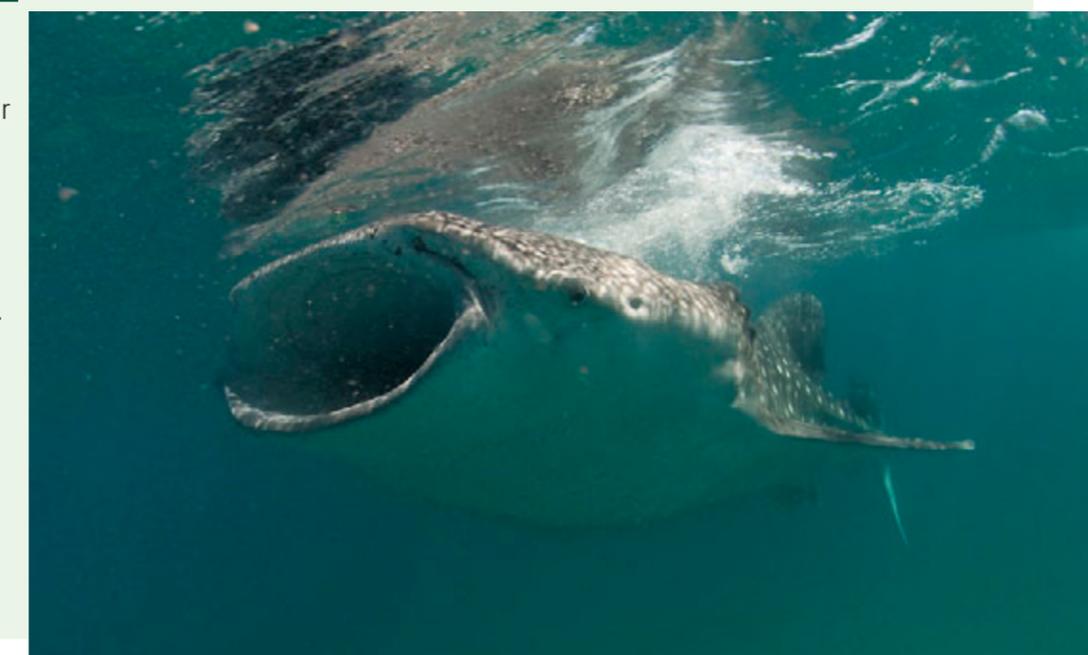
ensure none of the divers kneeled or otherwise damaged any part of the Tofo reefs.

With the whale sharks, all the organized interaction with them is part of a 'safari' whereby parties of snorkelers are taken out on RIB's launched from the beach South African style.

There is a large feeding area just to the south of Tofo, which is rich in zooplankton, and the safari boats cruise the area looking for whale sharks. When one is spotted, great care is taken to ensure that minimal stress is placed on them.

The snorkelers are dropped quietly in the water 20-30m upstream of the whale shark, so that it swims into the waiting party, who have been strictly advised not to try and obstruct the sharks in anyway.

Experience has shown that this produces the best and closest interaction, and any closer interaction forces the shark to 'bank' by turning its back on the potential threat and diving deeper. ■



### ABOUT TOFO

Tofo is a pleasant and picturesque place that owes its relative prosperity to the marine mega fauna and the people who come from all over the world to see them.

The 'town center' is a collection of huts and stalls selling t-shirts, beers and various other items and comes alive on a Sunday afternoon when many people come from Inhambane after morning church to sit on the beach and drink the local beer.

By about five in the afternoon there is a distinct street party feel, but by about eight, everybody

has gone, and the empty beer bottles are the only tell-tale sign.

### GETTING THERE

The nearest airport to Tofo is the regional center of Inhambane, a 40-minute drive from Tofo.

LAM, the national airline of Mozambique, has regular flights from Johannesburg in South Africa.

Although slightly quixotic, Inhambane is an international airport and the solitary customs and immigration official will grant you a visa on arrival, paid with US\$25.

There was only one ATM in Tofo,

at the supermarket and petrol station on the edge of town, but it only takes Visa cards. There is no bank.

### WHERE TO STAY?

There was no major hotel in Tofo when I was there, although major renovations were underway of the rather rundown looking hotel Tofo Mar, which should address that. Most accommodation seems to be in guest houses and lodges, which is what I stayed in and was kindly arranged for me by Christophe Chazot of Terra Profunda ([www.terra-profunda.com](http://www.terra-profunda.com)).

### DIVE OPERATORS

There are now several dive operators in town, and all appear to be following the code of conduct.

I dived with Diversity Scuba run by expat Englishman Mark Whaley, and I found them to be very well organized and efficient. I was particularly impressed with how well the local Mozambique dive guides and dive masters have been trained by Whaley and his team.

### TOFO CODE OF CONDUCT

To minimize the impact of a relatively large number of tourists



# Mozambique's Zavora & Tofo

*Jewels of East Africa*

Text and photos by Scott Bennett

Mention Africa to most divers and the Red Sea or South Africa usually springs to mind. To many travellers, let alone divers, Mozambique is not exactly high on most people's bucket list. Less than 20 years ago, the very idea of visiting the country would have been regarded as a madman's folly. Upon gaining independence from Portugal in 1975, a nearly two-decade long civil war wreaked havoc upon the once affluent colony, decimating its people, infrastructure and wildlife.

After the cessation of hostilities in 1994, the country was bequeathed with the unenviable tag as the world's poorest by the United Nations. Since that time, it has made remarkable strides towards recovery and is rapidly gaining renown as the rising star of the African diving scene. When an opportunity to visit presented itself, I jumped at the chance. Having visited Africa for the first time two years earlier, I was eager to return and experience a brand-new destination.

"No pain, no gain" is an idiom that certainly applies to air travel these days, especially if you are a diver and photographer. From my home in Toronto, Mozambique proved to be somewhat of a long haul. After breaking up the trip

with a few days in the United Kingdom, it was an 11-hour overnight flight from London to Johannesburg. After going through customs and collecting my bags, I set out for the other end of the massive terminal to connect with my LAM (Mozambique Airlines) flight to Inhambane in Southern Mozambique.

Shortly after takeoff, Johannesburg's urban sprawl gave way to the patchwork green of farm country. Continuing eastward, the landscape became increasingly parched and within an hour, we were over Mozambique.

My first impression was one of space. As far as the eye could see, scrubby

acacia trees punctuated the landscape along with intermittent patches of gleaming sand from dry rivers. Save for the occasional sliver of a dirt road, human habitation had all but vanished. Before long, the Indian Ocean's turquoise expanse appeared on the horizon and the landscape reverted back to a lush

green.

An hour and 20 minutes after takeoff, we landed at Inhambane's diminutive airport. Upon completing the world's most refreshingly simple customs form, the officer attached my visa, my US\$15.00 fee and entered Mozambique. Patiently waiting outside was Jon





Garden of soft corals at Zavora (left); Moray eel. PREVIOUS PAGE: Coast view at Zavora

Wright from Mozdivers. After loading my gear aboard the truck, we made a brief stop in town to pick up one of Jon's dive masters and set out for the drive to Zavora along the nation's sole north to south highway.

Enroute, I was surprised to see long-abandoned railway cars emerging from tangles of vegetation. During the war years, the railroads were sabotaged by the RENAMO (Resistência Nacional Moçambicana), the Mozambican National Resistance. With bridges bombed and tracks torn up, the weathered shells are all that remains of the once vital north-south rail link. Flanking the road was another curious sight: a seemingly endless number of stalls selling peri-peri sauce, Mozambique's ubiquitous fiery condiment.

An hour after leaving Inhambane, a

sign proclaimed the turnoff for Zavora Lodge. Trading the smooth tarmac for an earthen road of burnt sienna, I finally felt like I had arrived in Africa. After a pleasant but bouncy ride passing rural scenes of coconut palms and fields of sugar cane, we arrived at Zavora Lodge, my home for the next six days.

Consisting of a bar and restaurant, beach front houses, bungalows and campsites, the lodge offers a commanding view over Praia de Zavora Bay. Beneath windswept dunes, a vast expanse of empty beach vanished into the distant midday haze. With the exception of a few nearby houses, we seemed to have left civilization far behind.

I also noticed something else was conspicuously absent: a jetty. And for that matter, a boat. I began to

ponder as to how we would venture out to the dive sites. The next morning, I would discover that Mozambique diving would be unlike anything I had experienced before.

After checking in at reception, I headed for my room. Ascending a flight of stairs, the view at the top revealed a sight that was decidedly incongruous with the African beachside setting. The block my room occupied was essentially an elongated log cabin that looked as it had been transported from my native Canada! The room was simple but comfortable, the large bed draped with a frilly cascade of mosquito netting.

Afterwards, I met up with Jon at the bar for a beer. Manica, the local brew, was a name that I seemed genetically unable to articulate,



Zavora sunrise (above); Three views of Zavora Lodge (left and right)

mangling its pronunciation daily, much to the bewilderment of the barman.

Established as a fishing lodge in the 1950's, Zavora was a favourite destination among South African anglers during the colonial days. With the country a tourism no-man's land during the war years, the lodge was abandoned. Re-opening a decade ago, the lodge is now run by South Africans Charles and Carol Maker and the fishermen have returned in droves. Zavora is a relative newcomer on country's diving scene, with the dive shop open having been open for only two years. With Mozdivers the only game in town, we would have all the sites to ourselves!

After a tasty dinner of a chicken wrap and chips, I hurried back to the room to

assemble my camera gear for the next morning's dive. With the generator set to shut down at 10:00pm, I managed to get everything finished in the nick of time. Safely ensconced within my mosquito-netted bed, I was lulled to sleep by the crashing surf below.

### Diving

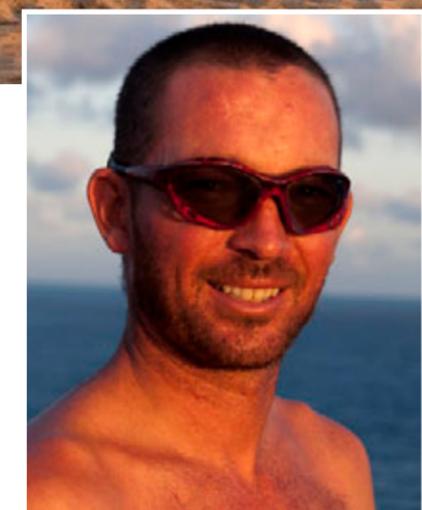
As the day's first dive wasn't until 9:30, I had

a nice leisurely start, just the ticket after my grueling trip. Arriving at the dive shop, I started to assemble my gear and suit up. As the dives would be deep, Jon suggested we use nitrox to maximize our bottom time. It was then I noticed the inflatable boat parked alongside the shop's open wall. Brandishing a pair of twin outboard engines, the *rubberduck* is the mainstay of the Southern African diving scene.





CLOCKWISE FROM LEFT: Fishing boats on the beach at Zavora; Fishermen preparing for the day's outing; Portraits of Manuel, Yara and Jon



With no protective bays along the coastline, the perpetually crashing surf made erecting a jetty



impossible. Able to take a beating in the rough conditions, the rubberduck was the only pragmatic solution. I would soon discover the entry procedure would almost be as entertaining as the dives themselves.

The vessel was perched atop a trailer attached to a well-used tractor.

Once the gear was loaded, the tractor rumbled down the sandy incline to the beach below. In the meantime, Jon gave us a quick rundown of the day's diving.

### Deep Reef South

First up was Deep Reef South, situated approximately 10km offshore. Running parallel to the coast, Zavora's "deep reef" system features multiple dive sites with depths varying between 24 to 45 metres. Our entry point was approximately 500m further down the beach, where a section exposed of reef provides shelter from the crashing surf.



As I was the day's only diving guest, it was going to be an employee trip and something of a mini United Nations. Along with Jon and myself, was Brazilian Yara Tibirice, director of the Zavora Marine Lab and nudibranch enthusiast; Pete Berney, her intern from the United Kingdom; Mozambican guide, Vino; and dive master, Manuel. I later discovered Manuel to be something of a celebrity; he was the first-ever certified Mozambican tech diver.

Shortly afterwards, the tractor re-appeared and was hooked up to a two-wheeled wagon. "Hop aboard!" enthused Jon, and everyone piled on. Clumped together on a dark metal

wagon wearing black wetsuits proved decidedly tasty! Bumping along, we passed an assembly of fishing boats parked along the beach before reaching the entry point.

Jon often drives the tractor himself. I could just envision Mozdivers' help wanted ad: Experienced dive master required with technical training—tractor operation skills an asset.

Those expecting lavish pampering are in for a bit of a surprise, as Mozambique diving is very much a hands-on operation with guests doing their part to assist with the launch.

Getting the boat in the water proved to be an unequivocally tricky operation. The tractor has to back up at just the right speed so the trailer halts right at the water's edge and the boat can slide off into the surf. If the trailer stops too close to the surf, the wheels can be easily be mired in the wet sand. As an added hazard, the beach was a bit of a minefield, with scores of bluebottle

jellyfish washed ashore by the incoming tide. Not something one would care to trod on.

Happily, our skilled driver triumphed on the first try. Everyone rushed to turn the boat around so the bow faced the ocean, pushing it forward so it didn't get bogged down in the sand. Once positioned, everyone clambered aboard, and we set out.

After 20 bumpy minutes, I asked Jon how much further we had to go. "We're halfway there," he responded cheerfully. Seeing my crestfallen expression, he laughed. "We're here!"

Part of an offshore chain of reefs, Deep Reef South features a large plateau at 27m with an east-west running wall descending to a sandy bottom at 32m. With the coastline 10km away, I marveled as to how it was discovered in the first place. According to Jon, local fishermen have long known of its existence as a prime fishing spot. With no discernible landmarks as a guide, the



CLOCKWISE FROM FAR LEFT: Snapper school; Bigeye school; Jon and potato bass; Starfish

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soft corals, joined by aptly named sailfin rubberlips, Diana's hogfish, bigeyes, blue-banded snapper and massive potato groupers. At one point, I nearly blundered into metre-long honeycomb moray leisurely undulating between outcrops of coral. A school of barracuda even made an appearance, making this one of the most action-packed dives I've ever been on. The entire site

looked so untouched it felt like we were the first to discover it.

I also learned a vital lesson about Zavora: never turn off your camera and strobes, even when in blue water. While ascending to the safety stop, a hefty potato bass cruised in for a look, soon followed by a school of very peculiar fish. At first, it appeared to be a school of silvery flounders undulating through the water column. As they passed beneath us, I realized they weren't flounders at all, but a type of fish swimming on their sides.

Later on, Jon informed me they were carpet trevally, a species with no

start. Moments after plunging in, Yara quickly resurfaced and exclaimed, "I just saw a marlin!" Being the last one in, I quickly descended to catch up with the others. Seconds later, I was engulfed by a shimmering horde of big-eye trevally, presenting a classical photo dilemma:

Should I stop to take pictures or keep going? Not relishing the prospect of being left behind, I fired off a few images and caught up with the group.

Arriving at the bottom, we surprised a leopard shark, which abruptly departed for quieter surroundings. Only the second one I've ever seen, it was already too far away before I could snap a photo.

Although the reef top was somewhat featureless, the drop-off was another story. Subtropical thistle soft corals exploded in dazzling hues of lavender, yellow, white, orange, adorning the wall to the sandy bottom at 32 metres. Fan corals were conspicuously absent, save for a few small specimens designated to a few rocky outcrops on the sand. Although the coral was extraordinary, it was the fish life that really impressed: Deep Reef could easily be renamed "Big Fish Central! For the ensuing half hour, my camera went into overdrive.

Unfamiliar subtropical species rubbed shoulders with such familiar tropical characters as emperor angelfish and common lionfish. Swarms of basslets, locally called goldies, swarmed amongst the



only way to find it is via GPS. In order to protect the reef, no mooring lines had been established. As a result, Jon utilized a towline with a float attached to the top in order for the boat crew to monitor our progress.

Far below, the reef was easily discernible in the clear blue water. "Twenty-five metre vis!" exclaimed Jon. That, combined with the already relentless heat, was the cue everyone needed, and we were all geared up and ready in record time. The dive certainly had an auspicious



CLOCKWISE FROM LFET: Blotched fantail ray; School of glassfish; Mating Spanish dancers; School of carpet trevally

Vasco's boasts a trio of cleaning stations: one at the drop (15m), another 40m inshore (16m) and a third 70m (12m) to the north. All are a favourite manta haunt, so we hoped for an encounter. Mozambique is home to two different manta species, including the newly identified giant manta. In fact, the research identifying this separate species was carried

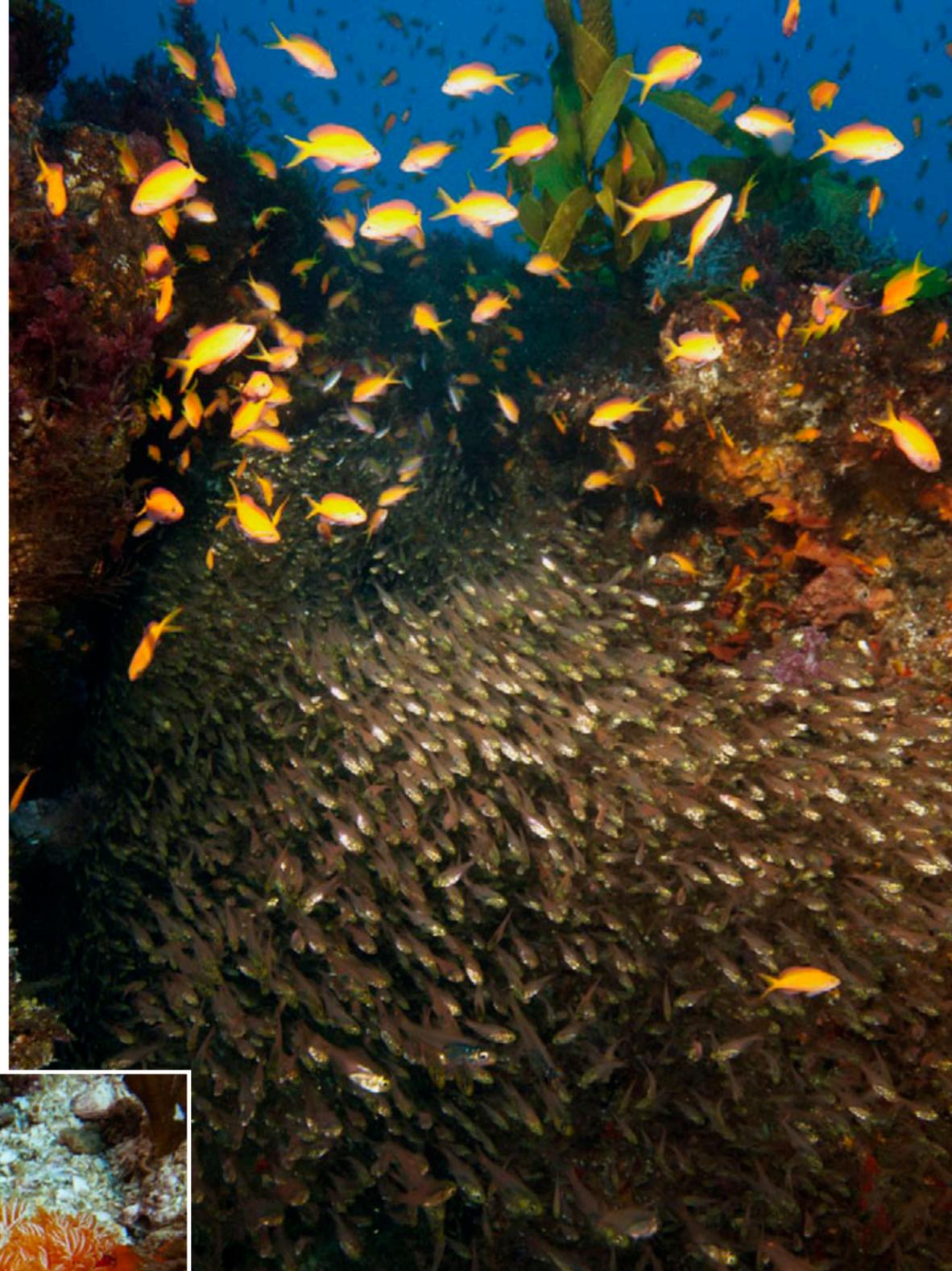
common name. Back at the surface and still buzzing, I turned to Jon. "Oh my GOD!" I exclaimed. "What an amazing dive. That honeycomb moray was the biggest I have ever seen!" Jon grinned. "Everything is bigger in Africa!"

**Vasco's**

Eager for more, our next destination was Vasco's, two 2km offshore and a 30-minute ride away. Much shallower than Deep Reef and half the distance from shore, Vasco's gets its name from metre and a half long anchor deeply embedded into the reef. Rumour has it that it dates from the time of Vasco de Gama, who passed through the area in the late 15<sup>th</sup> century.

out in nearby Tofo by renowned manta researcher Dr Andrea Marshall.

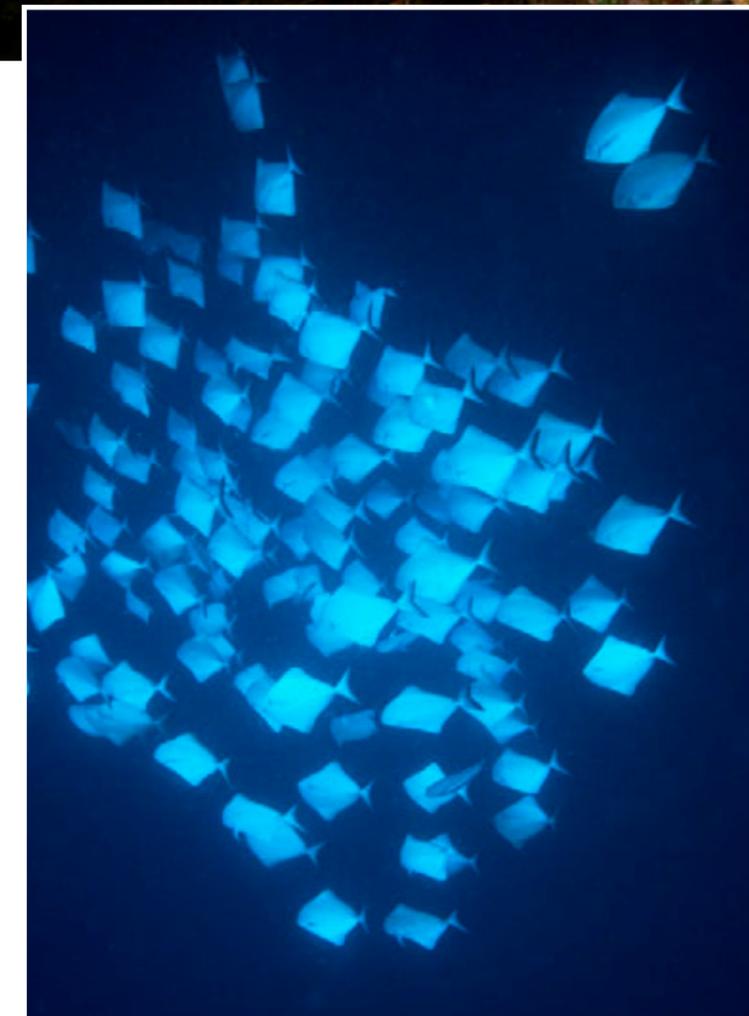
Alas, today wasn't that day, as the mantas had been absent for nearly a month. Jon theorized they had sought refuge in the cooler waters of the deeper reefs to escape the warm water temperatures. I was beginning to think my trip might prove to be one



of those "great moments in bad timing" scenarios.

Despite the absence of mantas, there was no shortage of ray action. Partially obscured by a rocky over-

hang, a massive blotched fantail ray sat immobile on a coral-encircled patch of sand. Easily two metres across, it was the biggest ray I had ever seen. By dive's end, we spotted four more, along with a spotted eagle ray and a pair of Jenkins whiptail rays. Add some whitetip sharks along with snappers, nudibranchs and a shimmering





school of glassfish interspersed with copper sweepers and it all added up to an action-packed 55 minutes!

My memory card bursting, we headed for home and the moment I had been dreading all morning: The beaching. "Hang on" Jon exclaimed as he opened both engines to full throttle and raced towards shore. Not knowing what to expect, I twisted my body perpendicular to the boat, grabbed a rope with my right hand and the metal pole above the tanks with the left. BIG mistake! Upon hitting the beach, the duck ground to a halt. I, however, kept going. Propelled forward, I flipped over, landing

on my back wedged between the tanks and the side of the boat as everyone gawped with a mixture of shock and amusement. Fortunately, the only thing hurt was pride, and I couldn't stop laughing.

Back at the resort, I quickly discovered I got a lot more than the 100-plus images on my flash card. In the rush to get ready, I forgot one very significant item: sun block. The African sun proved merciless, and by our mid-afternoon return, my hands and face resembled a freshly boiled lobster!

The remainder of the week consisted of an identical pattern, with morning dives on the outer reef followed by afternoon dives inshore. As a result of the prodigious fish life, my wide-angle lens remained firmly affixed to the camera. Each morning, we visited a different site within

the deep reef system including Dean's Drop, Arcadia and Yogi's Den. Each bore similar characteristics, with coral shrouded walls and a spectacular array of large creatures. The mantas, however, remained maddeningly elusive.

Several dives at Vasco's revealed a wide range of creatures both big and small, from mating Spanish dancers, morays and octopus to green and loggerhead turtles, whitetip sharks, rays and potato groupers. On one dive, the water was literally pulsating with legions of jellyfish. Fortunately, they were on the non-stinging variety.



**Area 51**  
A pair of dives at nearby Area 51 proved equally prolific. At 1.2km in length and named after the American UFO hotspot,

CLOCKWISE FROM ABOVE: Green turtle resting on the reef; Potato bass; Zavora reef scene; Jellyfish



CLOCKWISE FROM LEFT: Diver and reef off Zavora; Quadricolour chromodoris pair; Manta; Purple-edged ceratosoma; Guitar shark resting on sea floor

it boasts flying saucers of a different kind. A shallow 6m cleaning station is a favourite haunt of mantas, which have been known to circle the flat-topped pinnacle in formation while waiting for a space to be cleaned. In theory, anyways as there were still none to be seen. They had been around, however.

On one dive, Jon plucked something from the bottom and finned over to show me. At first, I didn't understand the greyish chunk's identity but through a combination of creative mime coupled with Jon's mirthful expression, I quickly realized

remotely close. Some rapid-fire tank banging by Jon caught my attention. Ahead, on the periphery of vision, I could barely discern a colossal silhouette before it vanished in the gloom. Back on the surface, Jon informed me this was a hulking three-meter-long brindle bass.

After the tantalizing glimpse at Area 51, we

what it was: manta pool!

Descending to a vast sandy area at 20m, we were treated to a rare sight—a two-meter guitar shark. An undersea oddball looking like a curious amalgamation of shark and ray, it was extremely shy and bolted before we could get

were rewarded with a fantastic guitar shark encounter the next day at Deep Reef South. Unlike the previous skittish individual, this specimen proved quite tolerant, holding its ground as it rested on the sand at 32m. Five of us settled on the sandy bottom, camera shutters firing furiously. Once the others moved



off, I decided to move closer. Scarcely believing my luck, I inched forward until the creature's pointy snout was brushing my domeport! After a few more shots, it had enough and languidly swam off, settling down a few metres away.

That wasn't the only surprise Deep Reef had to offer. While swimming into a distinctly chilly thermocline at 28m, Manuel gestured excitedly ahead. Out of the gloom, a distinctive pair of silhouettes were heading our way. Mantas! Scarcely able to believe my eyes, the graceful giants came to within metres of our euphoric group. Literally poetry in motion, they swam alongside us for ten spellbinding minutes. Although they weren't the giant species, a manta is still a manta and my drought had finally been broken.





**Sponge City**

After a week of shooting wide angle, I was eager for some macro and Jon had just the place. Only a few kilometres from shore, Sponge City was Yara's favourite nudibranch location. Entering the water, it didn't take her long to find some photo subjects. A large flat area at around 16m was

home to abundant purple-lined nembrothas, one of which was in the process of consuming an ascidian. Nearby, a purple-edged ceratosoma added a vivid splash of colour to the drab undersea vegetation.

I soon happened across the site's distinguishing feature—a large cleft in the seabed wide enough for a diver to swim



**Mozambique**

through. Descending to 20m, I finned through the narrow opening, careful not to damage any of the corals lining the wall. A crevice revealed a pair of quadricolour chromodoris nudibranchs. However, getting a shot proved to be the undersea equivalent of playing Twister.

Standing on the sandy bottom with less than half a metre on either side, I attempted to get some images, which quickly proved easier said than done.

Totally engrossed with my photography, I heard beeping, which I assumed to be the conservative computer of one of the other divers. After shooting a while longer, I glanced at my computer and my eyes bulged. That had been my own computer and I was now into deco. Make that a LOT into deco! The nudibranchs were quickly abandoned as I ascended



CLOCKWISE FROM FAR LEFT: Purple-lined nembrotha; Geometric moray eel; Reef scene at Zavora; Coral trout



for my safety stop, which ended up being 15 minutes (my new all-time record).

As I sheepishly explained my predicament to Yara via hand

signals and perplexed expressions, I could discern her laughing into her regulator. With ample time to spare, I kept myself amused by photographing the endless parade of jellyfish swimming past. Back on the boat, I sheep-



**Great Wall South**

On my last dive at Zavora, Murphy's Law made an unwanted appearance. For our inshore dive, Jon had decided on Great Wall South. With my laptop crammed with wide-angle images, I switched to macro. Minutes into the dive, I was scouring the wall for macro subjects. I had just happened upon a scorpionfish when a frenetic bout of tank banging heralded the arrival of something significant. Whirling around, my stomach sank. Cruising right in my direction was a leopard shark. Photographically helpless with my macro lens, it cruised by at arm's length. Curses!

**Tofo**

After a superlative week, it was time to bid adieu to Zavora and move on to my next destination. Situated on the Ponto do Barra peninsula 22km from Inhambane, the small town of Praia do Tofo—or simply Tofo—has emerged as one of Mozambique's premier tourist destinations. Boasting an imposing sweep of Indian Ocean beachfront, Tofo (pronounced *tofu*) is home to a broad array of beach villas, restaurants, Internet cafes and dive centres. Compared to the wilds of Zavora, it might as well have been Waikiki Beach.

Arriving late in the afternoon, Tofo Scuba was a bit of a shock after my week in the wilderness. Established a decade ago, it is a large operation with an extensive staff, most of them South African. My accommodation was right next door at the Aquatico's Beachside Casitas. The roomy interior featured a kitchenette and, best of all, 24-hour electricity and multiple plugs. For dinner, I ambled over to Dino's Beach Bar, a Tofo icon complete with internet café. With an expansive

ishly apologized to everyone and vowed it wouldn't happen again (on this trip, anyway).

On my last evening, Jon drove up to the lighthouse on a nearby hill. Although he said the keeper might not let us in, Jon was armed with a secret weapon—a couple of cold Manicas. The lighthouse keeper's stern countenance quickly melted into a smile and he opened the locked door. We ascended the winding staircase to the top, which offered commanding views of the entire area.



CLOCKWISE FROM FAR LEFT: Barracuda school; Blue-spotted stingray; Bigeye trevally; Surgeonfish

**Mozambique**

patio boasting great views of the beach, I tucked into a flatbread-style pizza watching the warm hues of late afternoon meld into dusk.

The next morning, I walked the few scant metres to the dive shop for breakfast. I met up with owners, John and Nikki Pears, who had just arrived from South Africa. Over coffee, John gave me a bit of info on the area

and its most famous undesea residents—the whale sharks. Research by Dr Simon Pierce of the Foundation for the Protection of Megafauna has revealed that Tofo has “the largest number of reported year round whale shark sightings in the world”.

Just to the south of Tofo's bay, an offshore area approximately one half-mile wide and four miles long, is



## Mozambique

grouper approached anticipating a handout. The fish were extraordinarily tame and had obviously been fed in the past. Although fish feeding has long been discouraged, it sure doesn't stop them from trying! A massive outcrop riddled with numerous outcrops and spires of rock, Hogwarts lived up to its namesake. Green tree corals sprouted from the walls while goldies swarmed in abundance along with semicircle angelfish, longnose butterflyfish, blue-banded snappers and white-barred rubberlips.

**Chamber of Secrets**

Situated smack dab in Whale Shark Alley, our next stop was The Chamber of Secrets. Boasting numerous swim-throughs and caves, the horseshoe-shaped formation featured walls ascending 6-8m from the sandy bottom. Unfortunately, surface conditions created an underwater maelstrom of sediment, wreaking havoc on the visibility.

As photography would be virtually impossible, I decided to just enjoy the dive. Lots of interesting sponges adorned the wall, while rocky overhangs harboured aggregations nudibranchs, red and white striped giant squirrelfish and red soldierfish. A large porcupinefish peeked from a crevice while a sandy patch below housed a well-camouflaged crocodilefish.

Enroute to Tofo, we kept an eye out for whale sharks, but it was too rough to snorkel even if we saw one. At the dive centre, the news was ominous. Conditions were expected to deteriorate over the next few days and diving prospects looked grim. The culprit was a cyclone over Madagascar. Although not heading in our immediate direction, it was already affecting surface conditions over an enormous swathe of coastline.

**Giant's Garden**

With conditions deteriorating, John wanted to get me out for one last dive at nearby Giant's Garden. The

Whale Shark Alley—a prime aggregation area. As they are often encountered travelling to and from the dive sites, stops are often made to snorkel with these gentle giants. Just to be safe, I fitted a second housing fitted with a domeport. Bring on the whale sharks!

**Hogwarts**

My first day at Tofo proved to be Harry Potter day. First up was Hogwarts—a 30-minute boat ride from the dive shop. Having mastered Zavora entry procedures in, I assumed Tofo would be no different. Wrong! Surface conditions had worsened overnight, making Zavora's sur-

face chop seem like a millpond by comparison. Also, due to a lack of shelter, the boat had to be put in right on the crashing surf. Dive guides, Darren and Damien, ensured everything ran smoothly and everyone got on board without incident.

A quidditch broom would have been a preferable mode of transport, as the ride

turned out to be pretty rough. Massive waves lashed the headland, making me grateful the site was a reasonable distance offshore. As in Zavora, locating the site was achieved via GPS. After several passes, the boatman moved into position and everyone entered the water.

Soon afterwards, a pair of hefty potato





day before, five mantas had been spotted there, so my fingers were crossed. With Darren and Damien as my able guides, we ventured into the surf. "This isn't so bad," I thought to myself. Moments later, my newfound optimism was quashed, as a particularly large wave sent me temporarily airborne. Fortunately, I had been tightly grasping the rope and stayed on board.

Continuously buffeted by big waves, steadying the boat proved to be a challenge, but we did a backward roll and quickly descended. In addition to visibility hampered by the conditions above, there was also some current to contend with. Their polyps extended, green tree corals scooped passing nutrients while Damien pointed out a pair of slipper lobsters hiding at the bottom of a barrel sponge.

Arriving at our destination at around 20m, we waited for the star attraction. Peering into the gloom, I barely discerned a pair of mantas cruising off the wall, but was too far away for photographs. Unfortunately, our bottom time elapsed far too quickly, and

we had to ascend with no further sightings.

All was not lost, however. A large cleft in a rock face revealed a robust lobster. Boldly regarding me with beady eyes, I was able to get close enough so its twitching antennae grazed my domeport. Another free-swimming honeycomb moray obligingly posed for some photos, while a school of big-eye trevalley made several close passes. It was at that point I realized my strobes were only firing intermittently. Fortunately, some strategic cord jiggling ensured I was able to get some images. Such are the joys of water and electronics.



The dive had one more surprise in store. As we hovered in our safety stop, a devil ray appeared from the gloom, making several curious passes around our elated group. Then without warning, it rocketed to the depths below with an incredible burst of speed. My ray tally was now up to six species—a record for one trip.

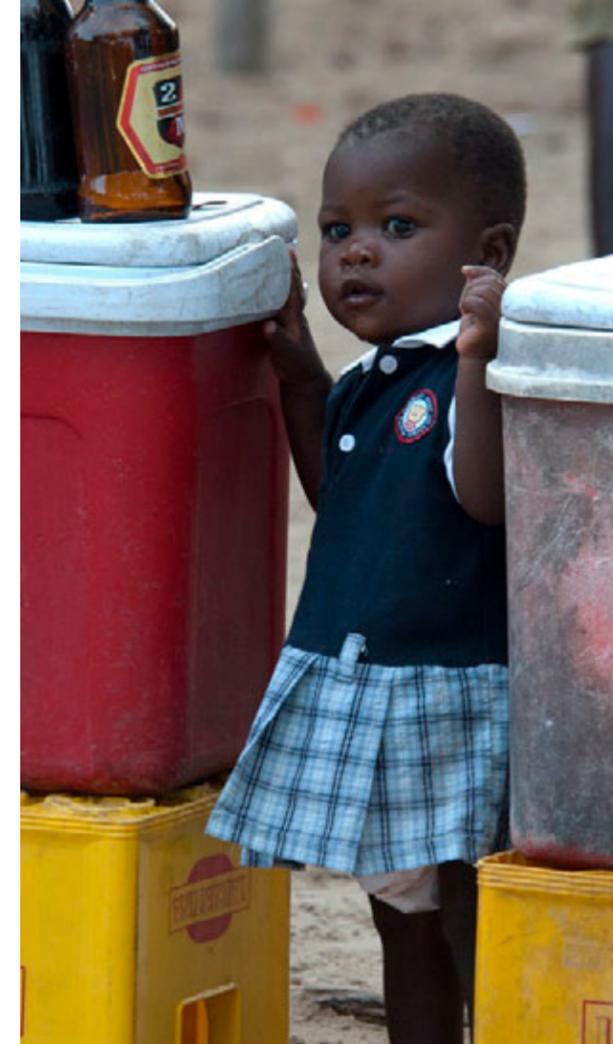
With the day's diving scuttled, I had a bite to eat at the dive centre's restaurant. While waiting for my food, I met Ritchie Van Wyck,



a young and extremely talented South African videographer based in Tofo. We watched some of his work

in the dive centre office, and it was extraordinary. Along with whale sharks and mantas, it included footage of

CLOCKWISE FROM ABOVE: Reef at Hogwart's; Devil ray; Lobster and sea urchin on reef; Honeycomb moray eel



Guest house at Tofo Lodge (above); Tofo Scuba (left) overlooks the sea; Scenes from the marketplace; Smells of barbecue chicken and hotdogs (far right) drift through the air of the marketplace



a small-eyed sting-ray, which, at 3m, is the world's biggest. Watching all the wonders on screen and not being able to dive bordered on cruelty!

Later in the afternoon, I wandered over to the photogenic local market, situated across the road from the beach. A perpetual hive of activity, vendors tempted passers by with a wide array of colourful batik clothing along with t-shirts, woven baskets and various bric-a-brac. Chicken, fish and sausages sizzled on grills, while market stalls were crammed with an array of fresh fruit, vegetables cashews and basic groceries. As my

Portuguese was non-existent, a few gestures procured me a big bag of mangoes and some ice-cold Manicas to take back to the room. One of the real joys of Tofo is its safety, being perfectly safe to walk around day or night.

The next day brought unwelcome news. With the typhoon lingering it appeared diving would be out for the remainder of the week. However, when one door closes another opens. John suggested we dive the lagoon at the

northern tip of the peninsula. According to Tibeia—the staff's resident macro fanatic—its sheltered waters were a haven for critters. Sold!

**The lagoon**

Transport was via a car and a decidedly battered land rover and with everyone aboard, we set out on the 30-minute drive. Pulling into a parking area near our destination, the car had to stay behind, as the road ahead (or lack

thereof) was only suitable for the land rover's four-wheel drive. The staff loaded our gear to transport it to the water's edge before coming back to pick up the remainder of the divers.

After the week's adrenaline-pumping entry procedures, the lagoon proved refreshingly sedate. The sheltered waters were quite calm, with scarcely a hint of wave action. The maximum depth? No more than three metres.

After gearing up on the beach, all that

was required were a few steps to the water's edge. As the lagoon was shallow, it was a bit of a swim to the deeper water. While it certainly won't win accolades in the beauty department, the lagoon's sand-covered bottom proved to be a macro mecca whose tangles of seagrass housed a bewildering diversity of strange creatures. Perfectly mimicking their surroundings, filefish hovered motionless amid the seagrass, while one small clearing revealed a diminutive



snake eel peering from the sand. With bodies adorned with an array of bizarre spines and protuberances, an array of blennies remained immobile only to dart off when approached too closely.

A plethora of sandperch patrolled the sandy areas along with legions of sea urchins. Crabs were everywhere, which was a rather surprising sight during daylight hours. They also appeared to be a prime entree on the local menu, as partially consumed remains were strewn everywhere by unseen diners. At one point, Damien motioned me over to a cluster of weeds. Closer inspection revealed a dark brown seahorse stretched out on the sand. In true sea-

horse fashion, it always looked the other way as I tried to photograph it. To counter the dilemma, Damien swam up to it. As it turned away and faced me, presto, I got my image.

We headed back to the lagoon the following day, and it didn't disappoint. Although things started slowly, the critter parade picked up during the dive's second half. However, there were some hazards to contend with. Retreating slowly to frame a sandperch, I inadvertently blundered into a cluster of urchins. As I was wearing open toed fins, my big toe scored a direct hit. Fortunately, no pieces broke off inside, but the ensuing dull ache was a reminder to be more vigilant of my surroundings.

Seeing another diver intently photographing, I approached to discover a tiny octopus peering out from the confines of a shell. It was easily the smallest I'd ever seen, barely larger than a fingernail. Nearby, I discerned a blenny peering from the opening of a green vase-shaped "thing". Boasting a horned, pink-tinged head with puckering lips, the nervous fish quickly retreated into its odd looking domicile. Moments later, it popped out for another peek. Our game of hide and seek continued until I was able to obtain some frame-filling images. I later discovered the "thing" to be a horse mussel.

Glancing at my computer, I realized our allotted hour was nearly up, so I turned

**ZAVORA MARINE LAB**  
The Zavora Marine Lab was established in 2009 to promote and facilitate research and conservation in southern Mozambique. Under the direction of B.Sc. M. (Ecotourism) Yara Tibiriçá (Iemanjá - Marine Conservation), the laboratory works in partnership with Mozdivers Zavora, Zavora Lodge and the Oceans Research.

Since its inception, the lab has developed vital research for the region and raised environmental awareness through a series of educational programs for both visitors and local communities. Zavora is one of the few places where both species of manta rays (*Manta birostris* and *Manta alfredi*) can be seen year-round and offers the unique opportunity to study a marine environment that has had minimal to no impact from recreational diving activities.

A number of projects are currently being developed to study manta populations, divers' impacts on mantas and their cleaning stations, diversity and distribution of nudibranchs, reef monitoring, socio-economic studies on dive tourism and the relative abundance of migratory humpback whales. Studies to date highlight the diversity of Zavora's marine life. Over 70 individual manta rays have been catalogued along with 83 nudibranch species (including a few undescribed species) and 214 fish species. In addition, four reef monitoring surveys have been completed.

Visitors wishing to learn more about marine science and the area's marine life may apply for a month-long internship program (limited space and CV required) or participate in a marine conservation scientific dive course focusing on manta rays (15 days of theoretical and practical field work, this program is exclusively for groups from six to eight people). ■

CLOCKWISE FROM TOP LEFT: Filefish displays ingenious camouflage blending into its surroundings; Snake eel pokes head out of sand; Crab; Dwarf lionfish



TOP LEFT TO RIGHT: Octopus eating crab; Seahorse; Lyre-tail sandperch; Porcupinefish

to swim for shore. At that moment, a peculiar shape caught my eye amid the undulating seagrass. Gelatinous in appearance, its spindly body bore a series of large flaps adorned with hair-like filaments. Perplexed, I realized this was no plant. Whatever it was, it was moving. Suddenly, its transparent "head" swelled disproportionately and proceeded to envelop some plant matter on the substrate. What on earth was I looking at? Back at the dive centre, the answer was soon revealed. It was a nudibranch—specifically, a *Melibe fimbriata* and a new species to add to my checklist.

Blenny in horse mussel



TECH DIVING

With the majority of its reefs beyond 30m, Zavora offers a plethora of opportunities for deeper and exploration diving. Previously, tech diving in Southern Mozambique had been limited to groups bringing all their own equipment, including compressor and a chartered boat. Mozdivers Zavora now offers technical diving and training through IANTD, opening up another realm of pristine, sites not yet dived.

An absolute must area is the wreck of the *Klipfontein*, a 160-meter-long cargo and passenger ship built in 1937 in Rotterdam for the Holland Africa line. On 8 January 1953, while enroute between Cape Town to Rotterdam, the vessel struck an object off the coast of Zavora and sunk within three hours.

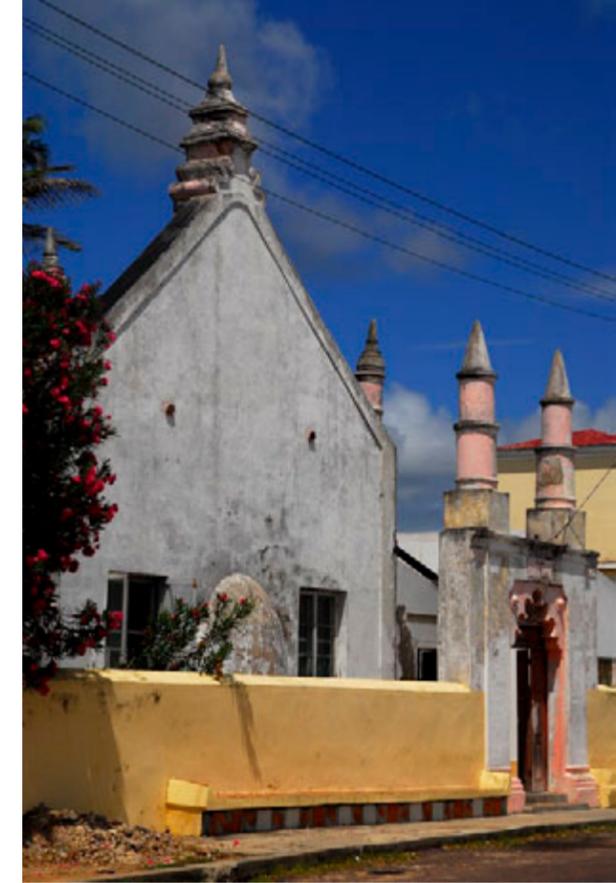
Situated six kilometers off Zavora point, the vessel rests on a sandy bottom at 53m. The stern remains largely intact, lying on her starboard side and separated from the rest of the ship. Most of the hull is inverted or "turned turtle", lying on her decks, with the bow broken off and pointing towards the surface. Ascending to 36 meters in places, the wreck and is surrounded by a debris field of remains and artifacts.

Much controversy surrounds the ves-

sel's sinking, as eyewitness testimonies, the captain's log and the findings of the tribunal that followed contain conflicting accounts. The initial theory, concluded by the tribunal and at least one passenger account, is the vessel struck charted rocks about one mile off shore and drifted to her present position. This is now disputed, as the rocks in question are part of a very long reef sloping down from six to more than 20 metres. A ship traveling at cruising speed would be more likely to run aground rather than drift away after a collision. The most popular theory is that the vessel struck a 'dead' German U-Boat floating just under the surface. However, with no conclusive evidence, the sinking of the *Klipfontein* remains shrouded in mystery.

Today, the vessel has since become a vibrant artificial reef, home to lush whip and bush corals and a thriving fish population. Highlights of a dive include massive resident brindle bass the size of a small car, the huge port propeller and a chance to see mantas. Large aggregations of trevally, kob and barracuda are routinely encountered over the wreck while Zambezi and spinner sharks have been observed both on the wreck and during the blue water decompression stop. ■





CLOCKWISE FROM LEFT: Tubastrea corals; Scenes from Inhambane street life; Inhambane Mosque (top right); Inhambane Cathedral; (bottom right); Tiny octopus in shell (inset below)

## Inhambane

With diving sadly finished, John arranged a city tour of Inhambane for my last day. A 20-minute drive from Tofo, Inhambane is one of the oldest settlements on Mozambique's east coast, having been a major port for Muslim

and Persian traders since the 11<sup>th</sup> century. A permanent Portuguese settlement was established in 1534 and became the site of East Africa's first Jesuit mission in 1560. Legendary explorer Vasco da Gama stopped by in the late 15<sup>th</sup> century, proclaiming it Terra de Boa Gente or 'Land of the Good People'.

A mixture of old world Portuguese

and Muslim culture, the sleepy provincial capital of 50,000 is renowned for its colonial and art deco architecture. The three-hour tour took in a variety of attractions including the museum, train station, a pair of mosques and the historic Cathedral of Nossa Senhora de Conceicao, which dates from the late 18<sup>th</sup> century. The area adjacent to the train station was somewhat eerie. Sitting astride tracks overgrown with weeds, decrepit steam locomotives and rolling stock sat where they were abandoned many decades ago.

Although my Tofo visit did exactly go according to plan, it was nevertheless highly enjoyable. It's easygoing tropical vibe combined with tantalizing glimpses of its undersea wonders had me eager to return. In the end, Mozambique proved to be nothing short of a revelation. During my two-week stay, I observed an array of creatures I'd always dreamed of. With its winning combination of fantastic diving and vibrant culture, it's a destination I look forward to experiencing again. Besides, the whale sharks will be waiting. ■



# fact file

## Mozambique



SOURCE: CIA.GOV WORLD FACTBOOK

**History** After nearly five centuries as a Portuguese colony, Mozambique gained independence in 1975. This was followed by large-scale emigration, a severe drought, economic dependence on South Africa, and a prolonged civil war which thwarted the nation's development until the mid 1990s. In 1989, the ruling Front for the Liberation of Mozambique (Frelimo) party formally abandoned Marxism. The following year, a new constitution provided for multiparty elections and a free market economy. In 1992, a peace agreement negotiated by the UN between Frelimo and rebel Mozambique National Resistance (Renamo) forces ended the violence. After 18 years in office, Joaquim Chissano stepped down in December 2004 and Mozambique experienced a delicate transition with his elected successor, Armando Emilio Guebuza, who promised

to continue sound economic policies that encouraged foreign investment. In October 2009, he was reelected to a second term. But, the elections were tainted by voter fraud, dubious disqualification of candidates, and Frelimo use of government resources in campaign activities. This resulted in the removal of Mozambique from the Freedom House list of electoral democracies. Government: Republic. Capital: Maputo

**Geography** Mozambique is located in Southeastern Africa. It borders the Mozambique Channel, between South Africa and Tanzania. Coastline: 2,470km. The terrain is mostly coastal lowlands, uplands in the interior, high plateaus in the northwest and mountains in the west. Lowest point: Indian Ocean 0m. Highest point: Monte Binga 2,436m.

**Climate** Mozambique's climate is tropical to subtropical. Natural hazards include severe droughts, destructive cyclones and floods in the central and southern provinces.

**Environmental Issues** Increased migration to coastal and urban areas have had adverse environmental consequences brought about by a long civil war and recurrent drought in the back country. Other issues include desertification and pollution of surface and coastal waters. There is also a problem with elephant poaching for ivory. The nation is party to: Biodiversity, Climate Change, Climate Change-Kyoto

Protocol, Desertification, Endangered Species, Hazardous Wastes, Law of the Sea, Ozone Layer Protection, Ship Pollution, Wetlands.

**Economy** Mozambique was one of the world's poorest countries at the time of its independence in 1975. Exacerbating the situation was Socialist mismanagement and a brutal civil war from 1977-92. In order to stabilize the economy, the government embarked in 1987 on a series of macroeconomic reforms. This action in addition to donor assistance and political stability since the multi-party elections in 1994, led to dramatic improvements in the nation's growth rate. Despite these gains, the majority of the population remains below the poverty line and the country remains dependent upon foreign assistance for more than half of its annual budget. Subsistence agriculture is the main source of income for the vast majority of the country's work force. Smallholder agricultural productivity and productivity growth is weak. Natural resources: coal, titanium, natural gas, hydropower, tantalum, graphite. Agriculture: cotton, cashew nuts, sugarcane, tea, cassava (tapioca), corn, coconuts, sisal, citrus and tropical fruits, potatoes, sunflowers; beef, poultry. Industries: food, beverages, chemicals (fertilizer, soap, paints), aluminum, petroleum products, textiles, cement, glass, asbestos, tobacco.

**Currency** Meticals (MZN). Exchange rate: 1USD=26.70MZN; 1GBP=43.31MZN; 1AUD=27.17MZN; 1SGD=21.98MZN

RIGHT: Location of the Mozambique on map of Africa  
FAR RIGHT: Location of Inhambane on map of Mozambique



**Population** 22,948,858 (July 2011 est.) Note: higher than average death rates due to AIDS. Ethnic groups: African 99.66% (Makhuwa, Tsonga, Lomwe, Sena, and others), Europeans 0.06%, Euro-Africans 0.2%, Indians 0.08%. Religions: Catholic 28.4%, Muslim 17.9%, Zionist Christian 15.5%, Evangelical Pentacostal 10.9%, Anglican 1.3%, other religions 7.2%, no religion 18.7% (2007 census). Internet users: 613,600 (2009)

**Language** Emakhuwa 25.3%, Portuguese (the official language) 10.7%, Xichangana 10.3%, Cisena 7.5%, Elomwe 7%, Echuwabo 5.1%, other Mozambican languages 30.1%, other languages 4% (2007 census)

**Health Issues** There is a very high degree of risk for food or waterborne diseases such as bacterial and protozoal diarrhea, hepatitis A, and typhoid fever; vectorborne diseases such as malaria and plague; water contact disease such as schistosomiasis; and animal contact disease such as rabies (2009)

### Decompression Chambers

National Hyperbarics  
Cape Town, South Africa  
**Nationalhyperbarics.co.za**  
Hyperbaric Medicine Centre, Durban, South Africa. 24 Hour Phone: 031 2685000

### Websites

Mozambique Tourism  
**www.mozambiquetourism.co.za**



Blenny in horse mussel

