

# Indonesia's Dragon Isle Komodo

CLOCKWISE: The brilliant colors of a fire urchin; An impressive view of the surf break below Uluwatu; Komodo dragon



**Komodo Island kept bobbing in and out of my field of vision as we continued to circle in water that was churning. I could almost see the Pacific colliding with the Indian Ocean.**

**Ali, one of the many talented dive guides from the luxury liveaboard *Arenui*, popped up from the depths and shouted, "The current is going off!"**

The negative back roll entry couldn't come soon enough, and promptly, we were plummeting downward in cool blue water swirling with life. Ali was right, the current was pumping, and we worked hard to get down to depth—all the while, jacks and fusiliers were cutting lazily through the water as if there were no resistance at all.

We were here because when two oceans meet, there is magic to behold. The cool, nutrient rich

waters of the Pacific combine with the warm shallow waters of the Indian Ocean are the perfect recipe for thriving life and diversity. Add into the mix a living volcano and deadly oversized lizards and you have yourself Komodo National Park.

The area of Komodo is comprised of three large islands, Komodo, Rinca and Padar as well as 26 more, and was originally protected in 1980 for the dragons themselves. However, later exploratory diving,

Text and photos by  
Abigail Smigel Mullens





Komodo



CLOCKWISE FROM LEFT: A snorkeler enjoys crystal clear waters and white sand beaches; One of the visitor's for which Manta Alley was named, located in Tora Langkoi Bay along the south coast of Komodo; Pink Beach magic—a green sea turtle, schooling fish and sun rays. INSETS: Colorful flora of Indonesia

we swam into a flatter patch of the dive site known as Crystal Rock and had a reprieve from the impressive current. Here, brightly colored soft corals bloomed around us, and the fusiliers and trevally continued their tango of cat and mouse above our heads.

When the sun suddenly became blocked, all our heads snapped skyward to witness the fusiliers compacting tightly into a seemingly endless school, as the trevally made their move. It was impressive, and I sensed that we were not the only ones on the reef observing the action.

Continuing on, we again fought the current and connected our

reef hooks to the cusp of the reef. Below us, we beheld the show of white-tip sharks and the occasional



largely by Larry Smith, revealed the wonders below the land of the lizards. Hence, the park, in its entirety, was designated a UNESCO World Heritage Site in 1991.

**Diving**

Skirting the edge of the seamount,





grey reef shark while our regulators ceaselessly vibrated against our mouths.

Both Crystal Rock and Castle Rock are dive sites where one could feel the power of Komodo's unpredictable and infamous currents. But to really experience the bounty these nutrients' yield, we had to travel south, and add another layer.

The waters in Horseshoe Bay, at the southern end of Rinca Island, harbor constant and unpredictable upwellings of cold ocean water from the Savu Sea. These currents carry nourishment and spark phytoplankton blooms that on one hand drop the

visibility, but on the other produce the most resplendent reefs I have ever laid eyes on.

Tucked in Horseshoe Bay is Cannibal Rock, named for a voracious Komodo dragon observed eating another. To say the reefs are flourishing is an understatement.

Here, life thrived and critters jostled for precious real estate. As we slowly sank down the wall that comprised this dive site, I heard our talented cruise director, Debbie Benton, giggling through her regulator and pointing. On the wall, tucked into some sponges, was the tiniest juvenile warty frogfish I had ever seen. How she spot-

ted it, I will never know.

The icing on the cake was located at the base of the wall in all his pink glory—a paddle flap rhinopia. He shifted to show me his best angle, and I snapped a few photos. The dive just got better as we continued—nudibranchs, sea apples, anemonefish, eels, crabs and more frogfish. I was dazzled by the shades of purple and green, as we made our way up the wall.

In this area, night dives became even more appealing than an early cocktail on the upper deck of our splendid boat. Although they were shallow, 45 feet at most, the black,

CLOCKWISE FROM TOP LEFT: A tight school of fusiliers swim past a soft coral covered rock off Crystal Rock; A pink Paddle Flap Rhinopia mugs for the camera; One example of the unique and gorgeous nudibranchs found in Komodo (*Eubranchus mandapamensis*); Juvenile anemonefish in purple anemone



Komodo

lunar landscape was host to some of the most bizarre critters most of us hoped to find.

I was seeking the bobbit worm. Named after the infamous Lorena Bobbit, this creature is the stuff of nightmares. It has an opalescent, segmented body, topped with incisors that look like they were put there for a reason. Even more disconcerting is that for the three to six inches exposed there is liable to be nine feet more below the sand.

On our second dive at Torpedo Alley, I responded to much tank clinking and swam to a group of at least six divers surrounding one such critter. Apparently no one else had brought their camera, and they ushered me into the stew pot to shoot. As I lined up for my first frame, I looked up and noticed I was suddenly alone with a bobbit worm. One flash of my strobes and the thing emerged two more inches. What was I dealing with here? I wracked my brain but couldn't think of any diver tales of bobbit worm attacks. I shot a few more frames and swam off, looking over my shoulder as I went.

At the opposite end of the spectrum are Komodo's manta rays. One of the best locations

to consistently see these gentle giants is at Manta Alley, located at the southern tip of Komodo Island—although the day boats will tell you, Takat Makassar.

Here, the currents smashed up against the rocks concentrating phytoplankton for feasting. Small mantas skimmed the surface above us while the occasional

large manta swam low across the bottom, over the tops of the divers as if patrolling the deep. These mesmerizing creatures would hover motionless for several seconds and then, with one beat of their expansive wings, disappear into the blue.

Of course, we walked with the



CLOCKWISE FROM ABOVE: Glassy sweepers swirl under a coral outcropping; A lizardfish secures dinner; A cuttlefish profile; Juvenile clown frogfish in the reef



A temple attendee in Bali (left); A small Balinese temple goer (below); One of many Balinese temples (right)

# Komodo



A temple offering in Bali (left); A resident of the island of Bali, which flights to Labuan Bajo fly through (right); Something not to miss are Bali's colorful temples (far right)

Komodo dragons as well, the draw for almost 45,000 visitors a year. Unique to this area, they are found nowhere else in the world.

### Dive sites

Komodo National Park is comprised of several islands, the largest being Komodo and Rinca. This dive trip is a two-wetsuit trip with warmer waters along the north and waters cooled by upwellings along the south. Although cool water sounds less than appealing on a tropical vacation, with it comes nutrients that creates an explosion of life below the surface.

**Hot Rocks.** The dive guides will assure you that Gunung Api, the volcano on Sangeang Island, is "alive" rather than active. Black sand contrasts with the fluorescent colors of soft corals and crinoids creating a feast for the eyes. The volcano won't allow you to ignore its presence however, bubbles of gases escape through the black sand in streams that you can swim through.

**Castle Rock.** An exhilarating dive with strong currents, you will want to bring your reef hook for this one. Hook in and watch the show while whitetip reef sharks pace back and forth along the reef and trevally hunt fusiliers. Don't forget to take your eyes off the show to view lush soft corals all around you.

**Crystal Rock.** Just the tip of Crystal Rock juts out from the swirling waters, leaving no indication of the riches that

surround its submerged self below. Schools of anthias and fusiliers pulse over the rich underwater landscape of soft and hard corals. If you look into the deep blue you may catch a shark sighting.

**Cannibal rock.** This dive site got its name from the large Komodo dragon feeding on another of its kind when this area was being explored. Below, the richness of this reef will leave you



awestruck. Frogfish, nudibranchs, anemonefish and even rhinopias, if you're lucky. You won't even mind the cooler temps and green water.

**Torpedo Alley.** Torpedo Alley is named for the small electric stingrays that can be found here. This shallow dive makes for a productive night dive with usual suspects of frogfish, bobtail squid, skeleton shrimp and even the bobbit worm. Hop from interesting critter to even more bizarre critter for your entire dive at 30 feet.

**Manta Alley.** This is the spot for in Komodo for diving with mantas. It is located along the south coast of Komodo and harbors strong currents in relatively shallow water that the mantas love. Feeding lazily at the surface or hovering

with what seems like no effort at all, these animals are a sight to behold.

The diversity of life that we witnessed, large and small, land and sea, will keep me coming back to this very special place. A dive location anywhere else in the world will be hard pressed to top it. ■

*Abigail Smigel Mullens is an underwater photographer based in San Francisco, California. She specializes in both underwater children's portraits and travel/lifestyle underwater photography. See: [www.seastarportraits.com](http://www.seastarportraits.com) and [www.abigailsmigel.com](http://www.abigailsmigel.com)*



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CLOCKWISE FROM TOP LEFT: Underwater photographer, Abigail Smigel Mullens; Residents of Bali's Uluwatu temple; Not a bad view from an Indonesian villa's pool; A Komodo dragon walks along Rinca Island; The *Arenui* with a late afternoon glow

# fact file



## Komodo, Indonesia



SOURCES: US CIA WORLD FACT BOOK, SCUBADOC.COM, E-MED.CO.UK

**History** Komodo National Park was established in 1980 and was declared a World Heritage Site and a Man and Biosphere Reserve by UNESCO in 1986. Initially created to conserve the Komodo dragon, the park now encompasses marine species as well as terrestrial.

**Geography** The Komodo National Park is a national park in Indonesia located within the Lesser Sunda Islands. The park itself includes the three larger islands of Komodo, Padar and Rincah, as well as 26 smaller ones, with a total area of 1,077 square miles.

**Climate** The climate is one of the driest of Indonesia with annual rainfall between 31.5 and 40 inches. The dry season runs from May to October and the average temperature runs about 100 degrees fahrenheit.

**Population** Approximately 4,000 people live within the park. These inhabitants are members of villages that existed prior to the park's inception in 1980. Just outside the park's borders the population increases dramatically with

a number just under 17,000.

### Currency

Local currency is the Indonesian Rupiah. American dollars are also widely accepted here. There are a handful of ATMs in Labuan Bajo, but your best bet is to bring cash to avoid the high exchange rate.

**Language** Indonesian is the official language here, with a smattering of local languages spoken as well. Additionally, many people speak English.

**Health** Malaria and diarrhea are problems in the villages within the park due to the scarcity of fresh water, especially during the dry season. All of Mesa island's water is brought in from Labuan Bajo.

RIGHT: Location of Komodo on global map  
BELOW: Location of Komodo on map of Indonesia



Park is on a liveaboard as there are no resorts within the park itself. However, if you choose not to book a liveaboard, Labuan Bajo is a great destination for day trips to the park for scuba diving as well as experiencing the majestic dragons.

### Getting There

The jumping off point for Komodo is Labuan Bajo. Flights are almost daily from Denpasar, Bali via the four airlines Merpati, Lion Air, Trans Nusa and Indonesia Air Transport. Your liveaboard will more than likely assist in booking this leg of travel.

**Web sites**  
Indonesia Tourism  
[indonesia.travel](http://indonesia.travel) ■

**Decompression Chamber** Unfortunately there is no decompression chamber in and around Komodo. The closest chamber is located in Bali, Indonesia.

BALI, INDONESIA  
Sanglah General Hospital  
USUP Sanglah Denpasar Jl.  
Diponegoro, Denpasar 80114  
62-361-227911 extension 232

**Planning Your Trip**  
Currently the only way to sleep in Komodo National





ANDREY BIZYUKIN

# Issues with cyanide fishing

**The coral reefs of Komodo are amongst the richest in the vast Indonesian archipelago and yet, despite being designated U.N. World Heritage Site and a National Marine Park, they continue to be plagued by the twin scourges of cyanide and dynamite fishing.**

The remoteness of the 202,340-hectare reserve means that it is extremely difficult to police the marine park, and rogue fishermen take advantage of this to ply their incredibly destructive practices.

There are conflicting reports as to the severity of these practices, with dive operators and conservationists saying the government is not doing enough to protect the area while Sustyo Iriyono, the head of the marine park authority, said problems are being exag-

gerated and denied claims of lax enforcement.

Iriyono said park rangers have arrested more than 60 fishermen over the past two years, including a group of young men captured recently after they were seen bombing fish in waters in the western part of the park.

One of the suspects was shot and killed after the fishermen tried to escape by throwing fish bombs at the rangers, Iriyono said. Three others, including a 13-year-old, were slightly injured.

"You see?" said Iriyono. "No one can say I'm not acting firmly against those who are destroying the dive spots!"

Dive operators beg to differ and say enforcement has dropped dramatically since 2010, when the government reclaimed sole control of operations.

For two decades before that The Nature Conservancy, a U.S.-based nonprofit organization, had helped the government confront destructive fishing prac-

tices in the marine park by creating "no-take zones", protecting spawning areas, putting coastal areas off limits and using park rangers, navy personnel and local police to enforce the restrictions.

Then in 2005, the government gave a 30-year permit to Putri Naga Komodo, a nonprofit joint venture company partially funded by The Nature Conservancy and the World Bank to operate tourist facilities in hopes of eventually making the park financially self-sustaining.

Entrance and conservation fees, previously just a few dollars at the time—went up significantly giving the park, with around 30,000 local and international visitors annually, a budget of well over US\$1 million. But outraged government officials demanded that the funds go directly into the state budget and the deal collapsed in 2010, when Putri Naga Komodo's permit was terminated.

■

**„If the sharks die,  
the oceans will die!“**

Andrew Cobb, Ambassador Sharkproject South Afrika



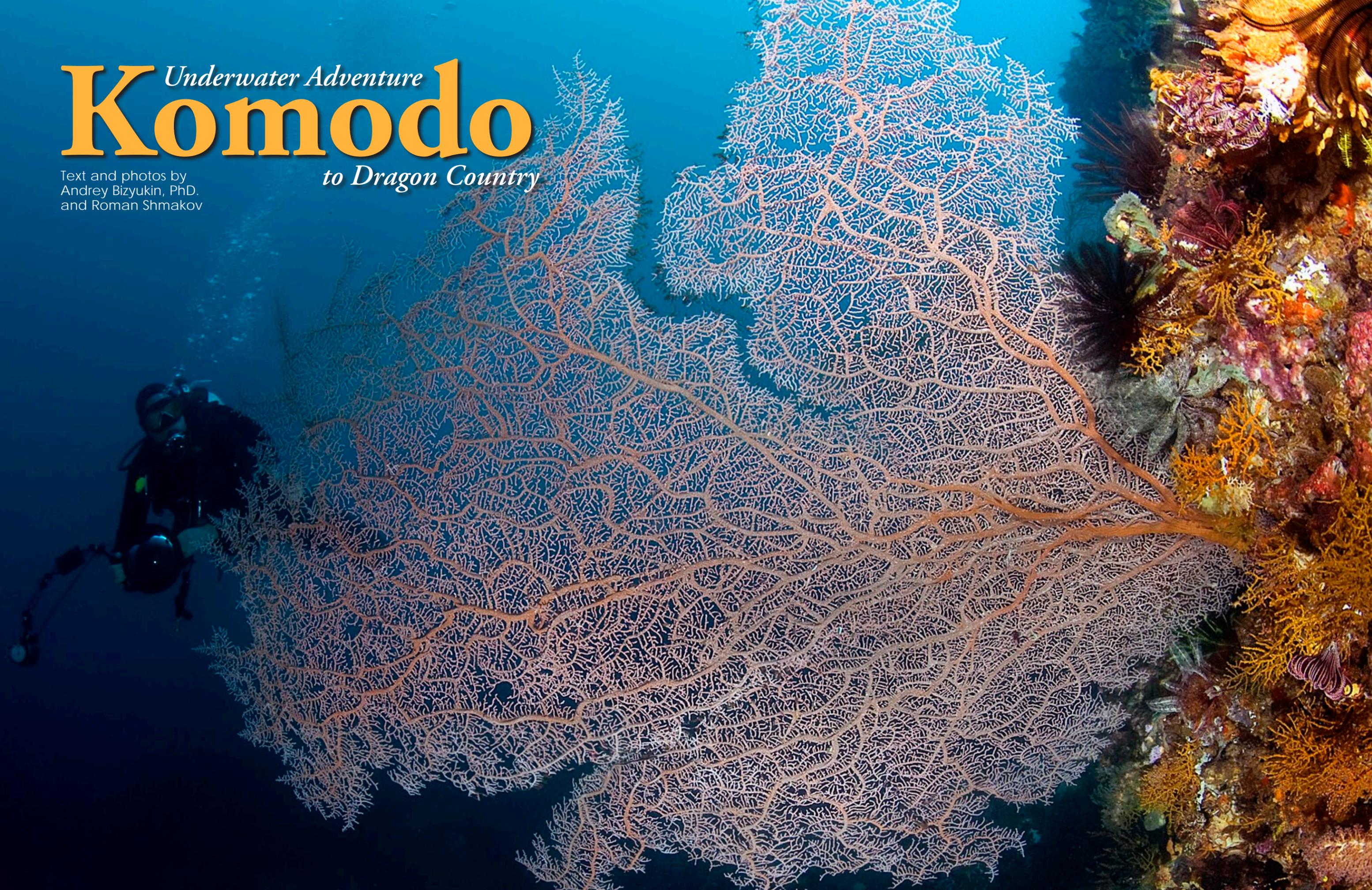
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**SHARKPROJECT**  
www.sharkproject.org

# *Underwater Adventure* **Komodo**

Text and photos by  
Andrey Bizyukin, PhD.  
and Roman Shmakov

*to Dragon Country*





# Komodo



Komodo is a wildlife paradise both on the surface and underwater, with many quiet bays hidden from prying eyes—an ideal haven for pirates. Frogfish (right)

The new year was coming—the Year of the Dragon on the Chinese calendar—when an old friend of mine called from Singapore and told me about the amazing diving on Komodo Island, where the last living dragons on our planet still existed. In anticipation of the Year of the Dragon and the possibility of diving off the island of the descendants of dinosaurs made my heart beat faster, pushing me to pursue this adventure.



Komodo dragons. PREVIOUS PAGE: Diver and giant gorgonian at Komodo

Our plane landed at Denpasar International Airport. We took a short trip to the Benoa marina and stepped onto a large, two-masted, four-decked schooner with a magical name, *Damai-II*. The luxury boat with a length of 40m and a width of nine meters was designed for only ten guests, primarily underwater photographers. The vessel had a sculpture of a graceful mermaid under the bowsprit and the largest diving deck we had ever seen.

The photography room was equipped with specialized

areas for ten cameras, as well as tables and shelves for complete comfort when working with the equipment. Individual seats were equipped for each diver including a bench with a personal locked cylinder and an individual snow-white tub with fresh water for rinsing of underwater photographic equipment. All these features were of course immediately fascinating to us. There was a joyful smile on each team member's face. The large cabins had all the amenities. Fresh plush towels and bathrobes reminded



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CLOCKWISE FROM ABOVE: Tropical storms with thunder and lightning followed our liveaboard and dazzled us almost every night; Feather star; Brilliant soft corals; Clownfish in anemone; Giant sponges (right)

me that we were in the heady realm of luxury.

**The journey**

Our ship moved slowly between magical mountainous islands under the unfamiliar constellations of the southern hemisphere. A

bright moon lit our way. Light sea breezes soothed me. There were distant flashes of lightning in the night sky and faraway sounds of thunder. In anticipation of the approaching tropical storm,



I sank into sleep with thoughts of what it would be like diving Komodo, a place that made it onto the list of the Seven Wonders of the World in 2012.

**Sangaung Island.** On the way to Komodo, we did a couple of dives close to Sangaung Island. An underwater eruption created the broken valleys and hills of the island with the peak of its highest mountain reaching 1,200m, covered with black volcanic sand. Few

people have had the opportunity to sunbathe on a beach of black sand. I wondered what was underwater.

We dived at the cape, which protected us from tidal currents, and the water visibility immediately amazed us—about 30m. We started the dive in 29°C water. At depth, we passed through a thermocline and met 26°C water temperature. Right away, my 3mm wetsuit seemed too cold.

The underwater landscape of the island was a vast meadow of black volcanic ash—sand

partially covered with fresh colonies of corals and sponges. An unusually bright variety of colors immediately caught my eye. The corals seemed to be the same as everywhere else, but they looked much brighter and more saturated in color—astounding. We were immersed in an underwater canyon six to eight meters wide with completely vertical walls. It was dotted with huge gorgonians in purple, brown and green



Huge corals full of pygmy seahorses enchant divers for a long time



Nudibranches, big and small sea-horses, multi-colored mimic octopuses and giant-sized frogfish are typical at many of Komodo's dive sites

**Hot Stones.** Our second dive here was at the Hot Stones dive site. Volcanic bubbles of hot gas came out of the black sand, boiling gently as they rose to the surface. We explored a lava cave and saw an underwater forest of huge soft corals in the black sand, a unique sight with the combination of brightness and color. All of this diversity and variety created in our minds the feeling of being in another world, where one could still see the

creation of a natural masterpiece of color, poured against a background of black sand.

**Bima Inlet.** Despite our passionate desire to see the Komodo dragons as soon as possible, our guides strongly advised us to spend one more day diving on Bima Inlet (a site with a very fuzzy bottom). The first impression of the dive was just awful—full of muddy water. The visibility was about three meters. All it took was one awkward movement of the fins and muddy clouds lifted up from the bottom, covering everything with a thick layer of silt. But after a few moments of letting the silt settle, we started to look more closely through the murky

haze. We froze in surprise. We began to pick out the outline of a huge frogfish, unprecedented soft corals and large sea-horses. Just a few yards further were two eye-catching striped shrimp and a few frisky octopi merging with the environment. Sand wafted outward from the writhing edges of these strange creatures with legs sticking out in all directions (like a new species of sea urchin). We then realized that we were in a macro-lover's paradise.



We paid closest attention to three frogfishes of various colors (yellow, black and red spotted). The yellow one was swimming around us, posing for photographers at different turns. The black one followed the red one relentlessly, so that the camera always framed two

shades, gray bushes of black corals, huge sponges, as well as stunning caves filled with curious fish.

We combed the bottom of the canyon in search of leopard sharks, which had been seen here at a depth of 40m just ten days ago by divers who came before us. My pressure gauge showed my air dwindling, but still, no

sharks. The underwater landscape around was truly unique. To avoid the strong current, we had to quickly retreat back to the surface through a nearby canyon. We followed the computer's advice, made a micro bubble stop and returned back to the warm, sunny world of humans.





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THIS PAGE: Komodo diving is an unforgettable paradise for macro photography

frogfish and a diver.

At one point, the yellow frogfish climbed onto a diver's back and inspected him from top to toe, not forgetting to look into the lens of his camera at the same time. Finally alone after the underwater photographers had enough of shooting and turned away from the frogfishes, the yellow one looked longingly after the retreating humans, already upset by the divers' neglect, and crept back into his cozy nest under a huge rock. After 85 minutes of immersion, rejuvenated by so many impressions, I came back on board the ship with only 40 bars in the tank.

**Diving Komodo**

At last, we anchored off the long-awaited country of the Dragon. We had been anxiously waiting to dive Crystal Rock and Castle Rock,

the two sites known as the best dive sites of Komodo. From the protected bay, we went out in a small speed boat in the direction of the three rocks standing in open sea about a kilometer from the shore.

Our guide told us that it was very important to know the direction and strength of the currents in order to be able to get the whole group of divers quickly underwater. Once in, we fell like stones onto the reef. Indeed, the force of the current was so strong that it literally pushed us to the wall. We constantly had to deal with strong current. Air consumption increased several times beyond average, especially if you were carrying your camera underwater.

Our team members had various levels of diving



experience, so we flew over long distances at different depths. I lost my friends quickly and caught a stone, hung on for a minute to catch my breath and looked around. Somewhere at



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THIS PAGE: Komodo is an exciting place for marine biologists looking for new species, discoveries and scientific descriptions



the bottom of this 'Big Blue' there just had to be a shark. With this in mind, I rushed towards the depths. At 30m, a gentle sandy slope appeared. A pretty blacktip shark emerged out of the blue haze, heading straight towards me. It examined me curiously, all around, making a circle and dissolved into the endless sea. At the bottom, I could see a few sharks in the depths, but they were too far away from me to take any good shots.

Then came the time to go back. I walked along the wall of the reef, as close to the slope as possible, fighting the current, trying not to break the camera, carefully controlling the air flow and regulating my breathing. At

three meters below the surface, the current was so strong that it literally tore at my flesh. And when, after a safety stop, I put myself into the hands of the underwater monster, I flew away like the last autumn leaf ripped off by hurricane winds. The boat, waiting dutifully on the ocean surface, quickly came to pick me up and delivered me back to the world of people where there was once again comfort and the calmly pacifying talk of food and the traditions of the world that surrounded it.

**Castle Rock.** Before the second dive, I was hoping that it would be more productive in terms of underwater



CLOCKWISE FROM TOP LEFT: Decorator crab; Frogfish; Painted porcelain crab; Moray eel; Boxer crab; Banded coral shrimp; Candy crab



The great underwater biodiversity of these sites attracts many curious and keen visitors, but few can fly to the opposite side of the planet to dive here often. CLOCKWISE FROM LEFT: Green sea turtle; Reef octopus; Harlequin sweetlips; Cuttlefish; Blue-spotted stingray; Porcelain crab



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photography than the last one. But the dive on the next site, Castle Rock, was exactly the same. Forty minutes of endless fin-kicking and only four black tips sharks, plus some Napoleonfish, an octopus and corals, corals, corals. It was very difficult to take pictures in such strong currents. A photographer feels like a member of an audience riding in a compartment of an underwater highspeed train, outside of which slip by countless wonderful pictures.

A diver named Jeff tried to swim forward as fast as he could against the current in order to take a picture of our whole group dangling off our reef hooks. But when he was still raking a few meters ahead, he suddenly turned around to take pictures, quickly and deftly catching the reef with a hook and lifted up his feet. He immediately found himself in an upright position, head down, and flying over us, making acrobatic flips. In the next moment, he disappeared behind a small rock, where he managed to hide from

the flow.

We all climbed up via a buoy rope and were almost horizontal in position because of the strong current. Those who lost their grip just drifted away into open ocean. After such an extreme dive, a new nickname was coined for us—Flag-team divers—meaning a bunch of divers, caught on corals by hooks, who flutter in the strong current like flags.

**Shotgun.** Our next dive was at the Shotgun dive site. This was a narrow strait where there were two



currents meeting each other. Hence, the water turned into raging foam at the surface of the strait. We started the dive 500 meters from the entrance to the strait. It was easy for us, as the weak current accelerated gently and

slowly. Its gathering speed carried us forward. A wide channel filled with corals growing on the white sand opened up before our eyes.

We paused near some huge black corals. A large flock of glassfish lived in the corals' branches. We took photos and kept to a smooth pace in our underwater flight along the slope





Underwater photographers can spend hours underwater with great enjoyment and an incalculable number of small, beautiful creatures. CLOCKWISE FROM LEFT: Crinoid shrimp; Blue seastar; Whip coral shrimp; Hairy squat lobster; Yellow sea cucumber; Various nudibranchs; Zebra crab



## Komodo



slingshot, I flew up to a depth of four meters, just above the edge of the underwater ridge. Zipping along the current, I dodged huge bumps along the coral reef, all the while shielding my camera with my hands and body. This place had very strong currents, and divers were really flying around like bullets fired from a gun.

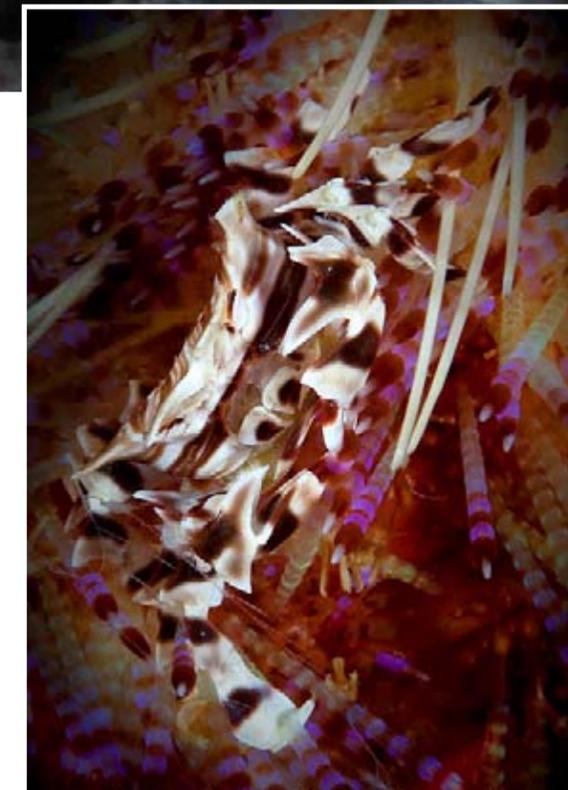
### Komodo dragons

Our boat maneuvered between mountainous islands. We checked bay after bay for a good anchor site. These quiet bays were well-hidden from prying eyes—ideal havens for pirates. Most of the large and small islands had symmetrical slopes, which was



of the broad, spacious ravine. We followed a turtle, which didn't like pesky photographers and used the current to easily escape his pursuers.

There was a visible sloping wall of an underwater ridge ahead, which blocked the channel. Here, the water slowed down near the bottom, forming a huge seafood pot. All around us was a soothing quiet. It looked like a great place to take pictures of tropical fish. But a strong current caught me again, and like a stone slung from a





indicative of their volcanic origins. This area of Indonesia was one of the most seismically active zones on the planet. For an experienced volcanologist, it would be immediately clear that the whole surface of the land was relatively recent (in geological terms) and rose out of the water. However, despite the relative youth of this land, it was inhabited by the descendants of one of the most ancient inhabitants on Earth—the Komodo dragon—a creature that evolved many eons ago.

We anchored in a quiet, enclosed bay called Horseshoe Bay. It was surrounded by Cannibal and Head Pelican rocks. Our ship had already been spotted from the shore by two Komodo dragons, which emerged from the jungle onto the open sandy beach. They sniffed and got accustomed to our ship. They headed into the water to get even closer to us, trying to choose a new victim perhaps or maybe looking for some human remains.

There are more than a thousand dragons living on Komodo. Their main sources of food are buffaloes, pigs, deer and monkeys (macaques). But Komodo dragons do not disdain humans. At the first opportunity, they courageously attacked people, thus demonstrating that only they were the true hosts of Komodo Island and did not want anyone else to share their land.

The normal life expectancy of dragons

THIS PAGE: Komodo dragons are the real bosses of the island. They patrol their land, keeping all unsolicited guests at a distance, even if they are humans

is only 50 to 60 years. They mate once a year in the hottest season. The male digs a few shallow pits in the ground. The female lays a few dozen eggs in one of these pits. Then both parents leave the eggs in this underground incubator.

Hatched dragons emerge from the ground after nine months. They are always hungry and ready to hunt prey as soon as they come out of the nest. But they have to escape to the trees, hunting birds and other small inhabitants of the rainforest, in order to avoid becoming victims of their own parents, who are apparently not averse to cannibalism.

The preferred hunting method of an adult Komodo dragon is to lie in wait for a victim and then make a surprise attack, with a quick bite to its prey, at least once. Even if the potential victim



flees after one bite, it has still been inflicted with an extremely toxic range of microbes, which are very comfortable breeding in the mouth of the Komodo dragon. Even one bite of a dragon is enough to kill a huge buffalo, which will die within a week of a bite. Some potent bites of the dragon are enough to kill a large animal after only an hour and a half. The cause of this quick death is sepsis. After an attack, a Komodo



Komodo

dragon will then haunt its prey constantly, until it dies, and finally, eat it.

The favorite hunting time of Komodo dragons is in the morning when the sun has risen and temperatures warm up. Komodo dragons have attacked one ranger of the national park. He was rescued and survived only by sheer luck. I asked the local rangers: "Do dragons dive?" It turns out that none of them had ever seen a dragon diving, but we all knew that they came up to their necks in sea water and spent a long

time seeking out something in the coastal waters.

Dragons also do not leave out divers as a potential meals on Komodo. There was a case when Komodo dragons attacked divers who came ashore out of the water instead of off a boat. So, here on Komodo, it is necessary to always respect the territorial claims and gourmet tastes of the local residents, day and night.

**Cannibals Rock.** After making close acquaintance with the dragons, we continued our introduction with underwater world of Komodo and ready for next dive on Cannibals Rock, with a range of 27°C to 32°C water temperature depending on depth. The sea was overflowing with life. Underwater, there were

The team placed a buoy, and we leaped into a strong current dive descending to ten meters very quickly. We got on top of the rock, trying to hide from the current and descended to a depth 30m. There should be hammerheads and white tips sharks here. We were promised barracudas and stingrays, too. We went even deeper and crossed a second thermocline. The water temperature dropped to 28°C, and immediately much more life was visible in the cool water—big fishes, jacks, rays and sharks—but too far away from us to take good pictures. It was nice to see these deep sea inhabitants in their natural conditions. They were all such beautiful creatures.

white octopus, sleeping nurse sharks, lots of lemon-colored nudibranchs and huge black coral bushes—in general, a paradise for the underwater photographer, or a person addicted to the contemplation of beauty.

The way back to the surface was a constant battle with the current,



Along the perimeter of the bay, there were always hungry and constantly vigilant Komodo dragons watching from behind us.

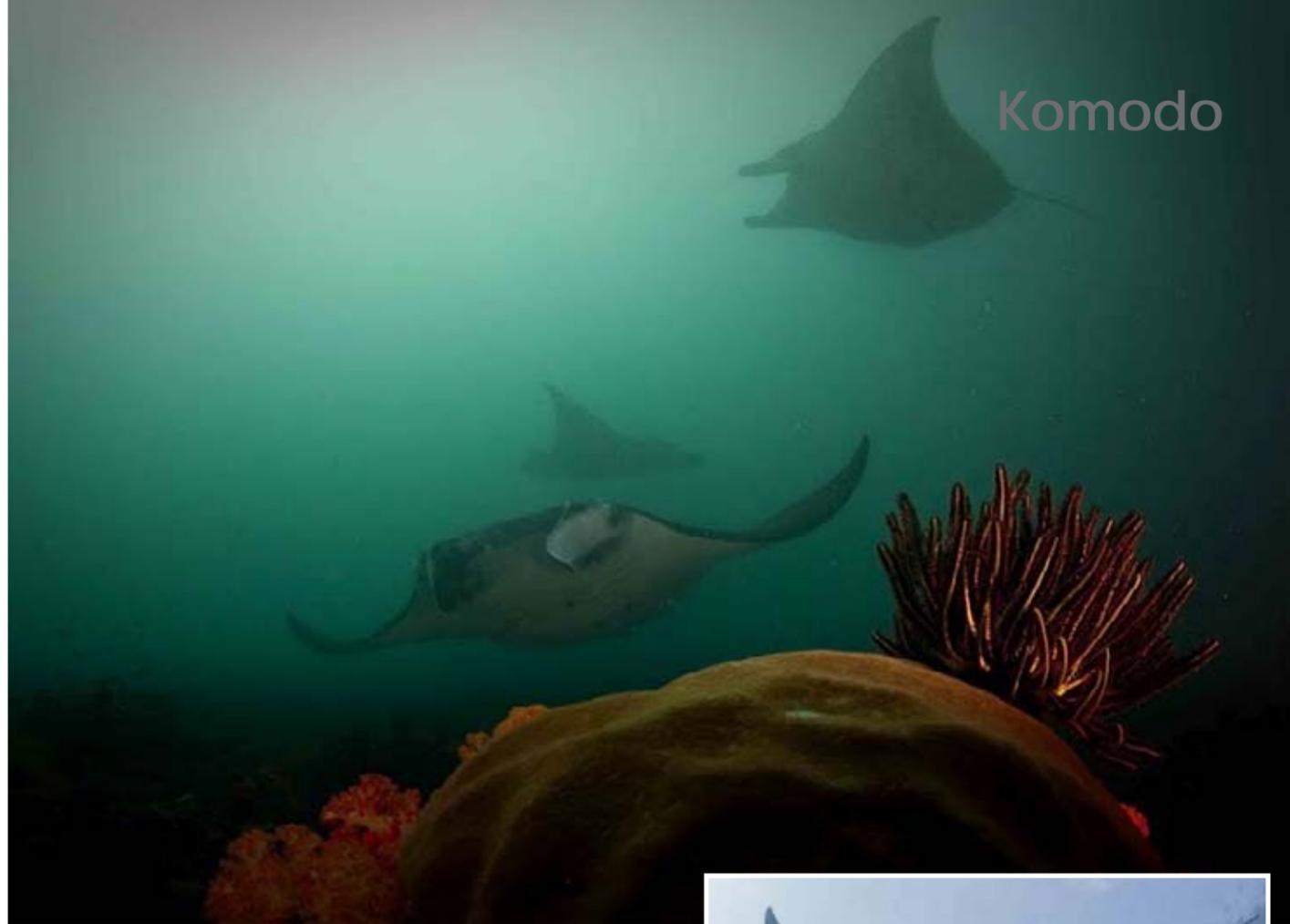
**Rodeo Rock.** We tested our strength at Rodeo Rock, a dive site on the reef at the entrance of the bay.

CLOCKWISE FROM TOP LEFT: School of glassfish; White octopus; Bamboo shark; Scorpionfish; Nudibranch (inset)



Komodo is the country of sharks. They prefer deep, cooler water, which is not so easy for divers to get to. But we were happy to take pictures of at least a few of them: sleeping nurse sharks (above), a friendly group of whitetip reef sharks (right) and the very rare bamboo shark (top right)





Komodo



which brought us a lot of trouble. Someone lost a lid at depth, another was taken almost a kilometer out to open sea, and someone else picked out the buoy. It is not an easy job for the underwater photographer here, if he or she is going to capture pictures of this underwater Rodeo on camera.

**Manta Alley.** On our last day on Komodo Island, we went to the Manta Alley dive site. This was a narrow and short channel between the Pacific and Indian oceans. And here was the strongest current, as always. But this place had been for many years chosen by large oceanic mantas.

They gathered here in groups of several dozen individuals, and their mouths were wide open. They were relaxed, swinging huge wings as they soared to meet the current, passing through a ton of water and plankton. We were in the mad

flow, clinging to the bottom and hiding behind rocks, trying to crawl up close to them with but one wish—to make another stunning shot.

We had three dives with the mantas at Manta Alley. Time flew by quickly, as if in one breath, with our enthusiasm for the mantas. The beauty and perfection of these fascinating marine giants did not leave us indifferent. The great shots captured will long remind us of the amazing strait of mantas off the dragons' island.

**Afterthoughts**

With the help of our experienced dive operator, we were pleasantly impressed with the high level of professionalism and diving organization on Komodo. The crew team helped us not only to dive successfully and safely but also to actively engage in photography



during all ten days of diving in such difficult underwater conditions. It was a rare and unique opportunity to dive with professionals who gave us a chance not to be distracted by the little things but be focused only on the most important thing—the process of underwater photography.

*Associate editor and cave diver Andrey Bizyukin and rescue diver Roman Shmakov are underwater photographers based in Moscow, Russia. ■*

THIS PAGE: Scenes from Manta Alley; Black manta (right inset)



*The Oceanic Archipelago of*

# Madeira

Text and photos by Nuno Sá





Large anemone and diver at Baixa do Lobo

The oceanic archipelago of Madeira lies approximately 1,000km southwest of Lisbon, right in the middle of the Atlantic Ocean. Located between latitude 30° and 33°N, quite close to the Strait of Gibraltar almost the same as Casablanca (Morocco). Seven islands form the archipelago but only the biggest two, Madeira and Porto Santo, are inhabited and have a harbor and airport. The remaining islands and islets are divided in two small groups, the Desertas and the Selvagens, and are natural reserve parks due to their immense biological wealth.

Geographically, located in a subtropical region and conditioned by the southern branches of the Gulf Stream, the archipelago has moderate climate all year round, with no great yearly thermal amplitudes. Average air temperatures range from a maximum of 23°C to a minimum of 15°C, and water temperature hovers around 22°C in summer, gradually lowering to 18°C at the end of the winter.

As in most oceanic archipelagos, the sea topography lacks a continental shelf, reaching high depths at relatively short distances from the shores. These characteristics allow the sighting of ocean specimens such as large pelagic fish, manta ray, turtles and marine mammals in diving spots close to the shore.

The archipelago of Madeira has deep blue waters, with excellent visibility (20 to 35m on a typical summer dive) and



Hikers enjoy the rugged Madeira landscape (above); Diver explores the wreck of *Bowbelle* (left)  
PREVIOUS PAGE: Huge school of blue-striped snapper with diver at Garajau Natural Reserve





is home to some 360 marine vegetable species, together with 550 marine fish, 21 marine mammals and an enormous amount of invertebrates. The biodiversity of species that co-inhabit the waters of Madeira is unique worldwide. Being an oceanic archipelago, Madeira has not only Atlantic varieties of species, such as large pelagic fish, but also a wide-range of species from the North Sea to the Mediterranean, as well as some tropical species that have Madeira Island as their northernmost distribution limit.

## Diving

Madeira Island offers a wide range

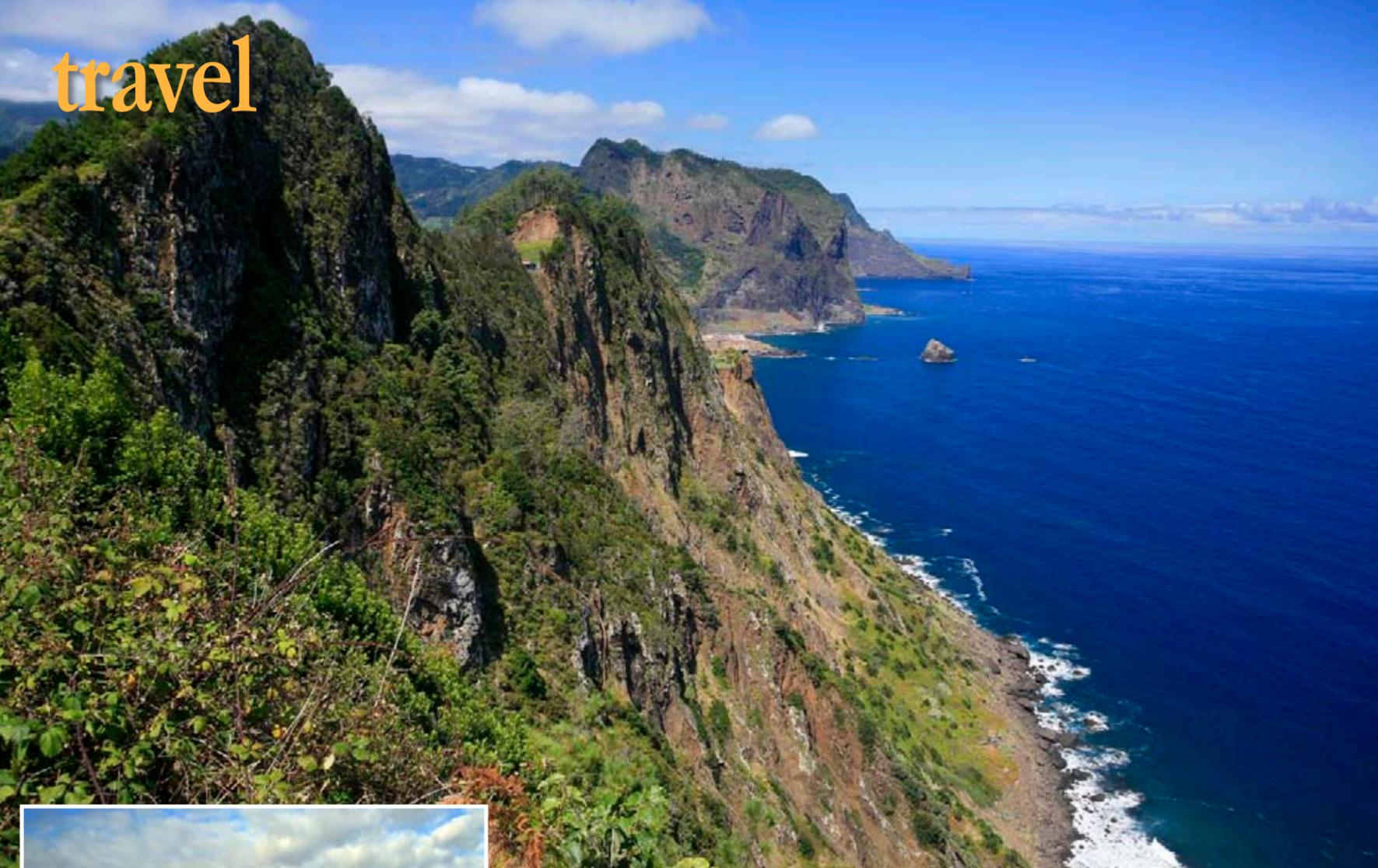
of diving sites, including several wrecks, cave dives and coastal dives. However the top dives on this island are concentrated in a small area called Garajau Natural Reserve. This protected area was the first exclusively marine reserve created in Portugal 23 years ago. Since then, the area has become populated by a wealth of flora and fauna.

This 376-ha (929-acre) natural reserve is located on the south coast of Madeira, not too far from Madeira's capital, Funchal, and has several diving sites marked by yellow marker buoys. Some of these dives can be made directly from the coast, with some diving



CLOCKWISE FROM TOP LEFT: Diver explores cave at Roca Mar; Seahorse at Reis Magos; Dusty grouper and diver at Garajau; Diver and sabre squirrelfish at Garajau





The beautiful Madeira coastline; Diver and school of blue-striped snapper at Garajau (right)



Beach at Porto Santo

centers offering direct access to the dive sites from the bathing areas of hotels.

Dives in the reserve include several cave dives, including a 35m-long cave (gruta da ponta da Oliveira) with a large air pocket inside where divers can reach the surface. It is often visited by the world's most endangered sea mammal—the monk seal (*Monachus monachus*).

However, the Garajau dive site is by far the most visited of them all, and definitely the top dive site on the island. Depth starts at about 15m but quickly descends to about 30m. During the summer time, the reserve comes alive with shoals of pelagic fish, which pass through the archipelago with the Gulf Stream, such as white trevally or guelly jack, yellowmouth barracuda, almaco

jack and greater amberjack and bastard grunt. Also towards the end of the summer, the graceful and elegant mobula rays can sometimes be seen slowly gliding over the divers.

Here you can also encounter large specimens of barred hogfish and comb grouper apart from all other species that are abundantly present at any dive such as several species of moray eels and colorful anemones. However, a particular species captures the special attention of most divers—the dusky grouper, considered the symbol of the Garajau Reserve.

Dusky groupers at Garajau are very large—they can weigh up to 60kg—but extremely playful and curios, usually following the divers along the whole dive. Due to their longevity—they live up to 50 years—and hospitality, regular visi-





tors can recognize particular individuals year after year, such as Malhado (Spotty)—Garajau’s oldest, largest and most famous grouper. Three or four dusky groupers can be seen on a typical dive at this site, many times competing for the divers’ attentions and usually swimming beside the dive masters that have know them for several years.

Also fun to observe are the large colonies of brown garden eels that in some places cover the sand bottom looking at the divers and quickly vanishing in the sand as they approach.



**Porto Santo**

Just 27 miles off the high rocky cliffs of Madeira, lies the small island of Porto Santo. Although close together these island’s landscapes could not be more different, as Porto Santo is a small island with a large coastal plane bathed by five miles of golden sandy beaches.

Less touristic than Madeira Island, it has a calm and easygoing trend to it and is also home to some of the archipelago’s

best dives and most pristine waters. With daily three- to four-hour-long boat rides and flight connections, visiting both islands for a one-week dive trip is certainly possible and recommended. Porto Santo also has a large marine protected area, with several dive sites in its borders. Distances to dive sites are, however, larger, and a short boat trip to the main dive sites is necessary.

Porto Santo is home to a huge biodiversity of marine species, which ranges from



CLOCKWISE FROM TOP LEFT: : Diver at *Pronto* wreck; Diver at Desertas Pedregal; The *Madeirense* wreck at Porto Santo; Cleaner shrimp services moray eel at Roco Mar; Fangtooth moray eel at Roco Mar



Madeira

CLOCKWISE: Rugged coastline of Madeira; Map of Madeira archipelago; Diver and big red seastar; Diver on *Bowbelle* wreck

dusky grouper, comb grouper, moray eels to large-sized common and round stingray, shoals of yellowmouth barracuda swimming in circles, white trevally, almaco jack and skipjack tuna.

The best and most well-known dive site in Porto Santo is without a doubt the *Madeirense* shipwreck. This dive alone makes a trip to this island worthwhile. The ship *Madeirense*—a ship that was used for decades to connect Madeira to Porto Santo—was sunk on purpose for diving in the year 2000.

Nowadays, it is filled with a panoply of diverse species from resident dusky groupers to large shoals of other fish. As in Garajau

Reserve, these groupers are very playful and enjoy the company of divers. As soon as divers start the decent to the wreck that lays verti-

cally on the 34m-deep sandy bottom, large schools of fish can be sighted and Big Lips—the wreck’s most curious grouper—usually leaves the wreck to meet the divers as they descend.

When approaching the top of the ship, we can usually sight large shoals of almaco jack, white trevally and yellowmouth barracuda all concentrating on the capture of small bogue (*Boops boops*) that wander in their thousands around the wreck. Exploring the inner areas of the ship’s bow, we may find other less curious dusky groupers and comb groupers always keeping an eye on the sandy bottom, where resting common stingray and spiny butterfly ray are usually sighted.



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CLOCKWISE FROM LEFT: Squat or sexy anemone shrimp, *Thor amboinensis*, at Roca Mar; Diver spies large triggerfish at Mamas; Nudibranch at Roca Mar

### Desertas and Selvagens Islands

Desertas Islands are a group of three major islets located 22 nautical miles away from Funchal and have been a natural reserve since 1995. Visiting these islands is possible with some dive centers and is a three-hour trip from Madeira Island.

The protection of the Desertas Islands and the launching of the natural reserve was mainly caused by the need to create conservation measures for the monk seal, whose population was in danger of extinction in Madeira. This species, classified as threatened (in critical danger) by IUCN, is the rarest seal in the world but can still be sighted on these islands. Its population in the archipelago of Madeira seems to be recovering now. It is currently estimated at around 25–35 specimens. Increase in population tends to increase the distribution area, which now includes some

spots in Madeira island.

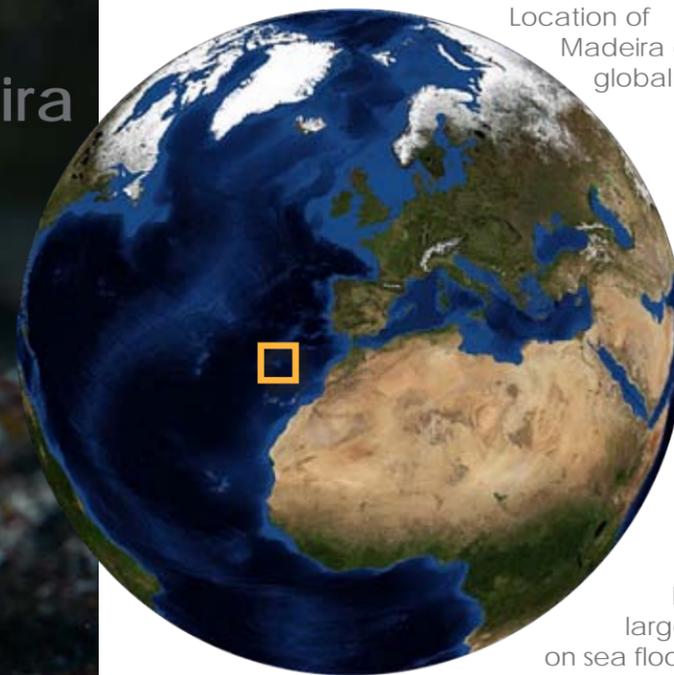
Only half of the reserve can be visited by divers, as the area most visited by monk seals is completely forbidden to navigation, bathing or diving.

The coastal area of Desertas is mostly characterized by steep cliffs only accessible through some rolled gravel beaches in some coastal spots. Its landscape is sculptured by constant sea and wind erosion, extending below the sea level where the rocky formations are true works of art from Mother Nature.

Diving in Desertas can mean a chance to witness large shoals of yellowmouth barracuda, white trevally, almaco jack and great lumberjack, and manta ray. In addition, it is also possible to encounter a sea wolf!

The Selvagens Islands, on the other hand, are located 163 miles south of Madeira and also have three major

## Madeira



Location of Madeira on global map

Lizardfish (left)  
Diver with large stingray on sea floor (below)

islands. However, diving activities are subject to permission issued by the Madeira Natural Park, and its distance from the other islands in the archipelago is enormous, which vastly limits the ecotourism activities in these islands.

All together, this group of islands has a bit to offer to every diver, from beautiful wrecks, cave dives, pristine waters, a healthy sea life, very reasonable weather year round and just a two- to three-hour flight from many European capitals.

Together with beautiful landscapes, hundreds of kilometers of walking trails, excellent bathing areas and the opportunity to see several species of whales and dolphins on a whale watching trip, Madeira is definitely a destination for keeping in touch with nature.

*Nuno Sá is an underwater photographer and author based on the Azores. Visit: [www.photonunosa.com](http://www.photonunosa.com)*

**HYPERBARIC CHAMBER:** There is one hyperbaric chamber available for the whole archipelago located on the island of Madeira.

**DESERTAS:** 22 nautical miles from Funchal.

**PORTO SANTO:** 42 nautical miles from Funchal.

**GETTING THERE:** SATA and TAP are the Portuguese airlines with daily connections to Madeira. Lufthansa, Spanair, Transavia, Continental, Easy Jet and several European airlines have regular direct flights to Madeira and Porto Santo.

**GETTING AROUND:** Connections from Madeira to Porto Santo: By boat – Porto Santo Line [www.portosantoline.pt](http://www.portosantoline.pt)  
By plane – SATA [www.sata](http://www.sata)

Madeira Tourism  
[www.visitmadeira.pt](http://www.visitmadeira.pt)



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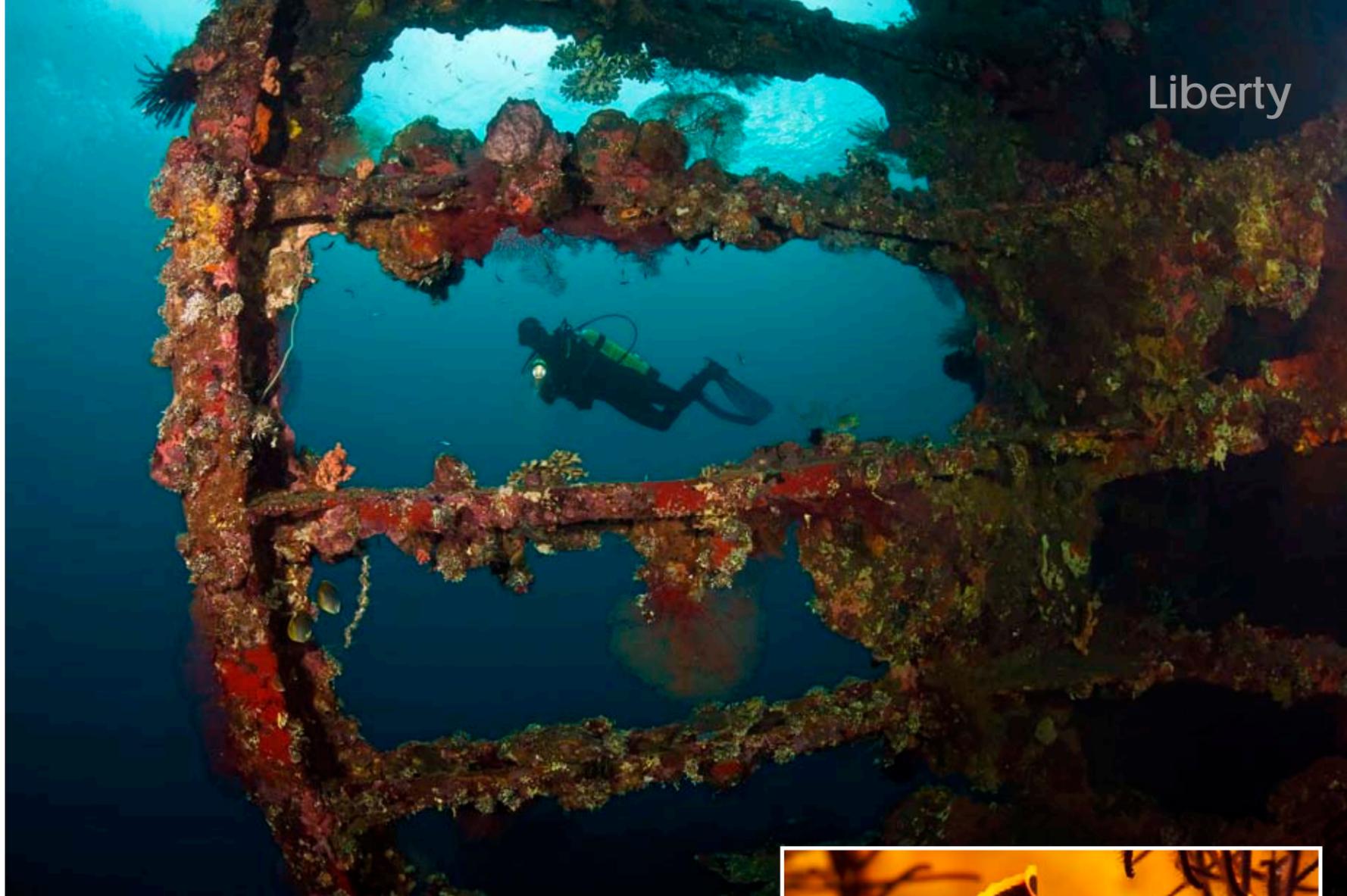
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# *Bali's Treasure* Liberty Wreck

*Microcosm of Life*

Text and photos by  
Don Silcock





THIS & PREVIOUS PAGE: Scenes from the wreck of the *Liberty*; Pinnate batfish (right)

The *Liberty* wreck has long been a dive that most divers aspire to have in their logbooks, but in recent years the wreck has graduated onto the backpacker “must do” list of experiences that have to be completed before reaching 25.

The first ones arrive just after eight and on a busy day, within the next hour the car park will be filled with a selection of cars, mini-buses plus the odd large coach and a quick walk around will expose you to a veritable United Nations of international accents. They used to come mainly from the east,

up the coast road and over the nearby mountains into the town’s main street—in fact, the only street—but now they are also being bussed in from the west and the new resorts that have been built in nearby villages where the real estate is cheaper.

This is Tulamben, the small town on the northeast coast of Bali, and “they” are the scuba diving tourists who come to experience the island’s most famous wreck, and arguably one of the best known wrecks in the world, the *USAT Liberty*.

I vividly remember my first dive on the wreck back in 1999 and how impressed



I was by the rich marine life and beautiful soft corals it supported, but I also recall being taken aback by the number of divers on the wreck.

That was some 13 years ago when there was no car park, only a hand-



full of dive resorts in operation, and it felt really crowded sharing the overall experience with 20-30 other divers.

These days, it is not uncommon to have more than 100 divers on the wreck during the busiest hours of the day, and in the peak seasons, those numbers can easily exceed 150!

So, is the *Liberty* wreck still worth diving, or is it being killed by its popularity and become a mere shadow of its former pristine glory?

**Liberty Insider's Guide**

If you had asked me last year, "Have you dived the *Liberty*?" I would have waxed lyrically about the various experiences I have had on the wreck and how I have learned to dive it early in the morning before everybody arrives. Plus, I would have told you about the various hot-spots you should visit on the wreck to see a particular type of fish or coral.

But then I realized that although I

had indeed dived it dozens of times over the years, I could still manage to get lost on it and did not possess the intimate knowledge of its topography that I needed to write a definitive article on this famous wreck.

So, I approached Tony Medlow of Tulamben Wreck Divers to see if he would help me write an "insider's guide to the *Liberty* wreck", and to my delight, my email was answered within minutes. The next week, I was

on my way back up to Tulamben.

Tony and his wife, Dot, are very well-known in the Australian dive industry as the people who developed the Exmouth Dive Center and scuba diving on Ningaloo Reef, in Western Australia, and also helped set-up the whale shark Code of Conduct that has been a key part of the successful interaction with whale sharks there.

Tony and Dot have been diving the *Liberty* wreck since the early

Longnose hawkfish (above); Diver in huge school of jacks (top); Bumphead parrotfish and diver on reef (right)





Liberty

THIS PAGE: Diver explores the architecture of the *Liberty* wreck, heavily laden with thriving corals and marine life

very early and then dive different sections during the day with specific objectives in mind.

His view is that the *Liberty* is basically a

that run down the northeast coast of the island into the mighty Lombok Strait. Those waters flush through Tulamben Bay and are the key to the sheer resilience of the wreck and its ability to regenerate.

The rich marine population of the *Liberty* has also learned to adjust to the daily influx of visitors. So, if you arrive during peak hours with a fish-eye lens to capture the bigger residents, you are likely to be disappointed. But if you adjust your timing and expectations around the rush hour(s), it's possible to have some incredibly

memorable dives.

**Early morning on the *Liberty***

I used to be utterly convinced that entering the water around 07.30 was the best time of day on the *Liberty*, but the truth is that you really should be leaving the wreck at that time to enjoy a hot breakfast and reflect on what you have just seen. Zero-6.00 is the witching hour if you want to start the day with a "bumphead moment", because around the stern—the usual entry point for the wreck—in about 15m of water, you will encounter a large school of bumphead parrotfish performing their morning ablutions before heading out for the day.

Early risers, the bumpheads spend the night down around the bow in about 25m of water where they can rest in the shelter of the hull. They congregate around the stern as the sun's rays start



1980s, and when they decided to sell their business in Exmouth, a move to Tulamben became the logical next step. They set up Tulamben Wreck Divers in 2001 in partnership with former dive guide turned local entrepreneur, Wayan Ambek.

Tony's very clear advice to me was that if I really wanted to experience the best the wreck has to offer I should start

microcosm of the best diving Bali has to offer, but it is more than just a dive site—the wreck is a living thing, nourished and sustained by the rich waters



THIS PAGE: More scenes of the coral-encrusted wreckage; Candy crab (right)



to penetrate and light up the wreck.

If you are lucky, you will get 15 to 20 minutes with them. With a bit of careful maneuvering—whilst keeping a wary eye on those formidable teeth—it is possible to edge up really close to the bumpheads, which makes for some memorable photography.

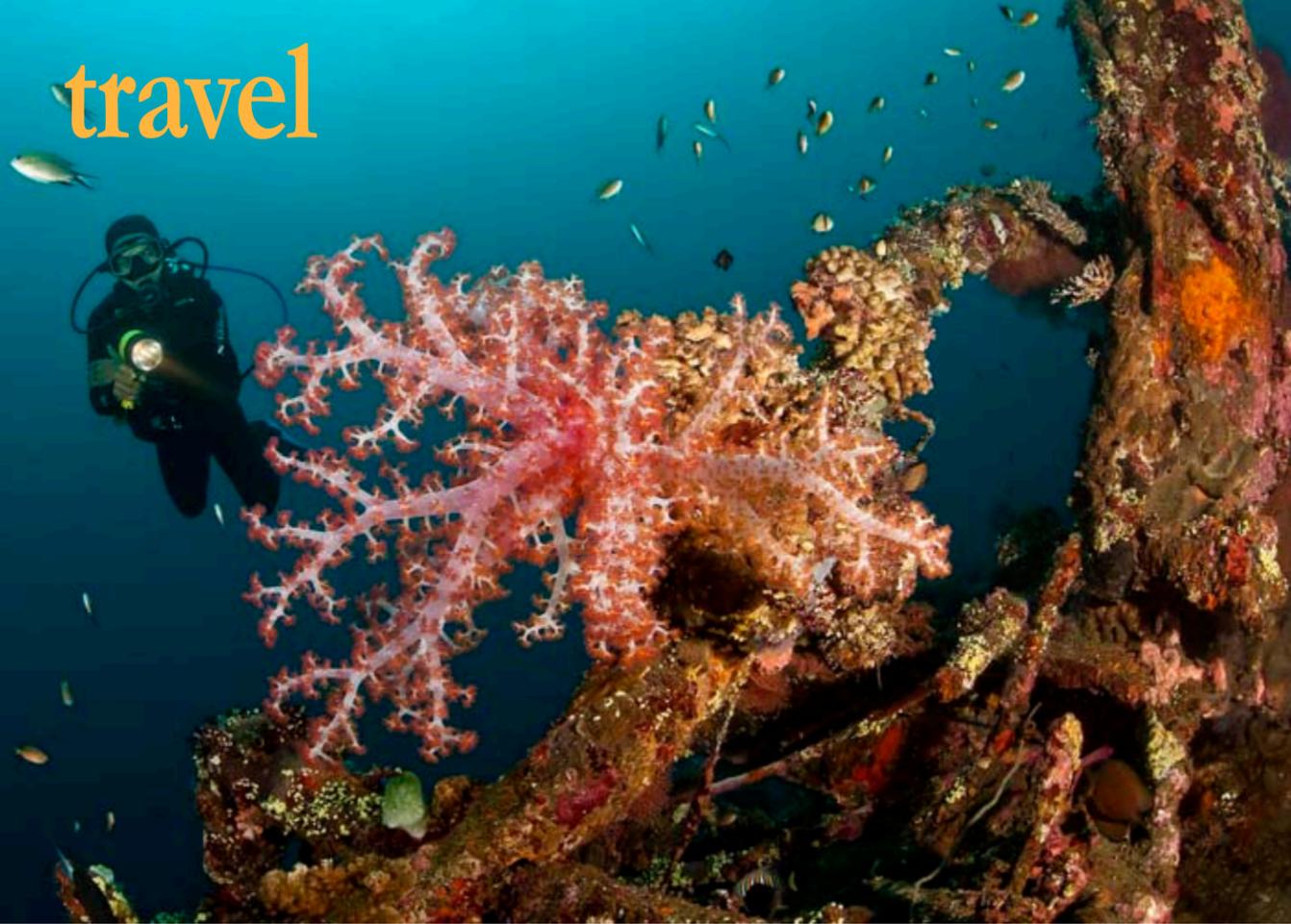
Early morning is also the best time for a random encounter with “George”, the giant barracuda that has made the *Liberty* his home. George appears to have lost much of his natural apprehension to scuba divers, and being a curious fish, will often come and eyeball you—offering a special Kodak moment if you are prepared, or one of immediate and imminent danger if you have never heard or seen him before.

At nearly six feet long, and equipped with some fierce-looking dental capability, George is a serious fish who graces you with his presence and moves on when his curiosity is satisfied.

If George is nowhere to be seen, you can go for quantity, rather than individual quality, and spend some time with the huge school of jacks that hangs out around the stern. Used to divers and snorkelers, the jacks will allow you to enter their midst if you do so slowly and carefully. A good model will allow you to create some stunning images in the early morning light.

There are usually very few other divers around. So, early in the morning, if you are lucky enough to be diving on a rising tide bringing

in clear water from the deep, once you have had your fill of the jacks, it is a great time to photograph both the stern and the bow of the *Liberty*. Both are large steel structures, which at first sight are difficult to recognize as part of a large ship, but if you take your time to understand the orientation of the wreck, it is possible to define them



Liberty



THIS PAGE: Huge soft corals; Resident school of bumpheads (above)

against the negative space of the clear blue water. A good model, carefully positioned, will add a nice touch of scale. At that time of the morning, because of the wreck's position parallel to the northeast shore of Bali, the sun will be behind you and will help to illuminate the structures despite the low level of the overall light.

The sheer prolificacy of the currents that run through Tulamben Bay means that the prominent large structures of the bow and stern are richly coated in marine growth, and the two guns that were mounted on those structures are hardly recognizable as deadly armaments anymore.

Prophetically, the gun on the bow now has a large flower like growth of gorgonian fan on its breech, which will make you

want to put that "If you're going to San Francisco" tape you have been saving into the cassette player of the VW Combi hippy wagon...

**Mid-morning, early afternoon**

From 08.30 in the morning, the car park will be filling up, and the volcanic stone beach will have a lot of divers getting ready to enter the water. This is the time to forget about the larger residents of the *Liberty* and its structures and concentrate on the smaller stuff that lives in the nooks and cracks of the wreck.

It is also when your dive guide

transforms from super-model to critter finder and becomes worth their weight in gold. Depending on how deep you meander on the wreck, the maximum bottom time you can probably expect is about one hour, and with the right guide, this can be a very productive period. On the other hand, if you





Diver hovers over the *Liberty* wreck (left and right); The volcano, Mount Agung, on Bali (lower left)

unlike places like the Lembeh Strait where critter locations are networked, in Tulamben, the location of a photogenic critter is kept as tight a secret as the U.S. nuclear codes.

That's why you need a good guide like Made Sadia from Tulamben Wreck Divers, who was the perfect combination of super-model and critter-spotter.

The *Liberty* wreck is not critter-



central like Lembeh Strait or the Twilight Zone, but it has a lot to see—if you can find it in amongst all the wreckage. The mid-section of the wreck is the most prolific area, but there is stuff all over the place, and a good guide like Made will know where to find it.

You can easily do two very productive and enjoyable dives mid-morning and early afternoon by looking down in amongst the wreckage and simply ignoring the promenade of scuba-diving tourists doing their obligatory circuit of the wreck above you.

**Late afternoon**

By about 15.30 the tourists are packing up and getting back in their cars and busses, and just like the house vendor after one of those necessary but very painful open houses, the residents of the wreck start to reclaim their home after everybody has left.

Usually, the visibility is not too good at this point because all the visitors have stirred things up a bit, plus the light fades rapidly, as the sun dips behind the 3,000m-high Mount Agung volcano that dominates Tulamben. But it is still a good time of the day to put a wide-angle lens back on your camera and photograph the beautiful and incredibly prolific soft corals around the deeper sections of the wreck's mid-section. It never ceases to amaze me just how rich these corals are, and very interestingly, how much they evolve over time.

I have been diving and taking

**THE WRECKING OF THE *USAT LIBERTY***

The *Liberty*, contrary to urban myth and what its name suggests, is not a Liberty class ship. It was actually built in 1918, at the end of WWI as a freighter in Kearny, New Jersey, by the Federal Shipbuilding Company, with a length of 120m and a beam of 17m. Its draft was 24m and had a gross tonnage of 6211 tons.

At the start of WWII, it was requisitioned, fitted out with guns on the bow and the stern, and then operated by the U.S. Army as a transport ship.

At 04.15 on the morning of 11 January 1942, it was torpedoed by the Japanese submarine *I-166* in the Lombok Straits, as it was passing through in a convoy of ships taking supplies from Australia to the Allied campaign in the Philippines.

Badly damaged, two of the destroyers protecting the convoy took the *Liberty* in tow to the ship repair facilities at Singaraja on the north coast of Bali, but the damaged ship was taking on so much water that it had to be beached in Tulamben Bay to prevent it from sinking.

There were no casualties in the actual torpedoing and all the crew was safely evacuated after the *Liberty* was run aground, but the imminent arrival of the Japanese forces in Bali prevented any of its cargo being salvaged.

The *Liberty* remained beached for another 21 years, providing a source of assorted hardware to the local villagers and a fishing platform into the deeper waters of Tulamben Bay until 17 March 1963.

On that fateful day, the nearby volcano, Mount Agung, which had been rumbling for several days, exploded with such violent seismic force that the rusting carcass of the *Liberty* was physically lifted and rolled down the slope, breaking its back in the process and leaving the wreck on its side some 40m offshore, parallel to the shore. ■

go alone you will probably finish the dive wondering what all the fuss is about.

The bottom line in Tulamben is that scuba diving is the only industry in town, and its relative prosperity revolves around visitors coming to experience the *Liberty*. So jobs in the town all relate, in one way or the other, to the wreck and the dive guides are the local alpha-males.

They all know each other, but



Woman of Diving Helper Club carrying air tanks

group has grown in numbers, as there always seems to be much more than 20 porters on duty whenever I have been in Tulamben.

The system works really well, whether you are day diving or staying at one of the resorts, as the porters just seem to appear when they are needed, nonchalantly hoisting at least two sets of gear on the heads before heading off down the beach. The group operates as a collective and pools their earnings and tips and the portage fees. So, make sure you give them a reasonable tip, because they are definitely worth it! ■

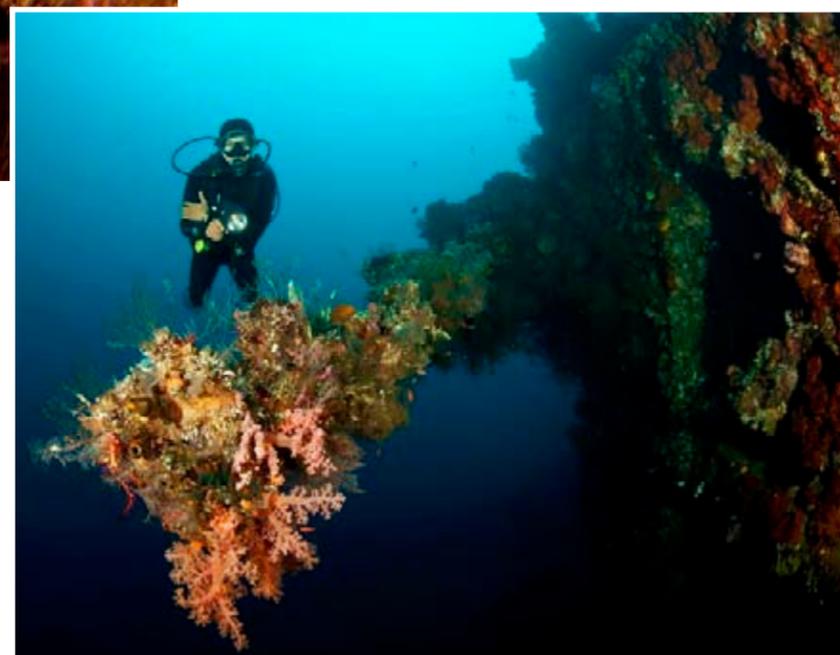
**TULAMBEN'S DIVING HELPER CLUB**

One of the things that always intrigues visitors to Tulamben is the sight of local women carrying multiple sets of diving gear on their heads. No mean feat in itself, doing it with what appears to be at least twice their body weight while walking along a volcanic pebble rock beach is something else!

Run by the villagers themselves, the Diving Helper Club was an initial group of 30 women who arranged to have 20 of their numbers always available on any given day to carry the heavy equipment of the diving tourists to where they want it. Started in 1978 by Pak Kari Yasa, the



Just look at the life! The *Liberty* wreck is a thriving ecosystem of marine organisms (left); Circling school of bumphead parrotfish with diver; Diver at forward gun (below)



photographs of the *Liberty* for over 13 years, and strikingly photogenic hard and soft corals in this area seem to come and go from year to year. Without a doubt, the heavy traffic of inexperienced and often deliberately over-weighted “resort divers” take its toll. But incredibly, the wreck seems able to regenerate itself. The only rational explanation of this regeneration phenomenon has to be the sheer fecundity of the currents that wash over the wreck, as they head for the Lombok Strait and the Indian Ocean to the south.

**After dark**

A night dive on the *Liberty* is a special

thing, but one that needs to be considered carefully because it’s easy to get lost and a little bit disorientated even during the day, so after dark, you can almost guarantee you will. The Tulamben dive guides know the wreck better than the backs of their hands—so would you if you were diving it every day of the week. They also know the best place to find stuff once darkness has fallen on the *Liberty*. So, do yourself a favor and use a guide to dive the wreck at night and experience it at its eerie best!

**Random encounters**

As the old saying goes, “you should have been here last week”—you will be

sure to hear that regularly in Tulamben, because the wreck acts as a beacon to the true pelagics of the Indo-Pacific. Mola mola’s are spotted regularly around the *Liberty* in the deep waters around the mid-section, particularly around August and September when they become quite common. Whale shark’s also put in periodic appearances. On my last dive of this trip, while I was down at the bow in the early morning light trying to get that front cover shot, a four-meter-long whale shark

was entertaining a group of Japanese divers at the stern. We emerged around the same time,

and while my Japanese was limited to “thank you” and “one more beer please”, I could tell they were very excited about something and eager to share their images.

That’s the thing about the *Liberty* wreck, you just never know what is around the corner, and it seems to possess an almost infinite capability to surprise and enthrall its visitors. ■

*Correspondent Don Silcock is based in Sydney, Australia. He travels widely in Asia and his website (Indopacificimages.com) has extensive information and imagery of the USAT Liberty wreck and other great dive sites across the Indo-Pacific region.*

# fact file



## Bali, Indonesia



SOURCES: US CIA WORLD FACT BOOK, SCUBADOC.COM, E-MED.CO.UK

**History** In the early 17th century, the Dutch began to colonize Indonesia. During WWII, the islands were occupied by Japan. After Japan's surrender, Indonesia declared its independence, but four more years passed with intermittent negotiations, recurring hostilities, and UN mediation before the Netherlands let go of its colony. Home to the world's largest Muslim population, Indonesia is the world's largest archipelagic state. Its government faces several challenges including alleviating poverty, preventing terrorism, consolidating democracy after 40 years of authoritarianism, reforming the financial sector, irradicating corruption, halting human rights violations by the military and police, and controlling avian influenza. Indonesia reached a historic peace agreement with armed separatists in Aceh in 2005, which led to democratic elections in December 2006. In Papua, a low intensity separatist movement continues to confront Indonesia. Government: republic. Capital of Indonesia: Jakarta. Main city of Bali: Denpasar.

**Geography** Indonesia is located in Southeastern Asia. It is an archipelago of islands between the Indian Ocean and the Pacific Ocean with a total coastline of 54,716 km. The island of Bali is

one of Indonesia's 17,508 islands, an archipelago located south of the equator where the Indian Ocean meets the Pacific. The tropical Indo Pacific region in which Bali is located is considered to be on of the world's richest ecologically biodiverse systems. Bali is in essence a volcanic island with the volcano, Mount Agung, revered as a great spirit by the local people, as its highest peak rising 3,142 meters above sea level. Another peak, Mount Seraya, which lies east of Agung, rises 1174 meters above sea level. Volcanic island with high crater peaks, deep valleys, cultivated lowlands, lush terraced rice fields and thick tropical forests in the highlands.

**Time Zone** GMT plus 8

**Climate** Tropical, hot and humid. Temperatures range from a high of 31°C (88°F) to 25°C (78°F) low. Highlands are cooler and drier. Lowlands along the coast are pleasantly drier than



the main tourist areas in the south. Monsoons. The dry season takes place April through November, and the wet season, December through March. Natural hazards include occasional floods, severe droughts, tsunamis, earthquakes, volcanoes and forest fires.

**Environmental Issues** Deforestation, sewage, industrial water pollution, urban air pollution, forest fire smoke and haze

**Health** In Bali, there is no major risk. Unlike islands further east in the archipelago, there is no Malaria/Dengue fever in the



RIGHT: Location of Bali on global map  
BELOW: Location of Tulamben on map of Indonesia  
FAR RIGHT: Diver hovers over wreck of the *USAT Liberty*



northeast province of Bali where Tulamben is located. There is a very small risk for these diseases in the rural areas of the islands northwest. Unless you

are arriving from an infected area, smallpox and cholera vaccination is no longer required. However, do not drink the water. Buy bottled water from the better hotels and resorts. Watch out for Bali belly, temporarily upset stomach from unfamiliar, spicy foods. Outside higher end hotels and resorts, do not depend on proper heigene. Shower frequently. Dry thoroughly in extensive humidity. It is recommended to dry thoroughly and use medicated body powder when exposed extensively to the heat and humidity to avoid skin rashes and fungus, especially during the wet monsoon season.

When traveling in the rest of the country, be aware of the high degree of risk of food or waterborne diseases such as bacterial diarrhea, hepatitis A and E, and typhoid fever, as well as vectorborne diseases such as chikungunya, dengue fever, and malaria. Please note that highly pathogenic H5N1 avian influenza has been identified in Indonesia, but it poses a negligible risk with extremely rare cases possible among visitors who have close contact with birds (2008)

**Population** 3,000,000 (2011 est.); Religion: 87% Hindu, 3% Christian, 8% Muslim

**Visa** Travelers from most Western countries do not need a visa and are automatically given a 30-day stay permit upon arrival. Passports must be valid for at least six months upon arrival in Indonesia. Indonesian immigration is very strict. No work is permitted while visiting on a tourist visa.

**Indonesian Law** Very hard on drug offenders; the death penalty is regularly applied on narcotics couriers.

**Driver's License** A valid international driving license is required. Rental car insurance is highly recommended. Drive care-

fully. Traffic rules are not followed as well as in the West. Accidents are frequent.

**Currency** Indonesian Rupiah (IDR). Exchange rate: 1EUR=10,002 IDR; 1USD=9132IDR; 1GBP=14537IDR; 1AUD=9,500IDR; 1SGD=7,316IDR. Credit cards are accepted by most higher end resorts and businesses. Payment in US\$ cash and traveller's checks is widely accepted.

**Dive Season** All year round; Underwater visibility varies 15 to 35 meters during dry season, 10 to 20 meters during wet season.

**Decompression Chambers** Hyperbaric Medical Department Sanglah General Hospital USUP Sanglah Denpasar  
Jl. Diponegoro Denpasar80114 Bali, Indonesia  
info@sanglahbalihospital.com  
www.sanglahbalihospital.com

Rumah Sakit Angkatan Laut (Navy Hospital)  
Jl. Bendungan Hilir No.17 JAKARTA 12950, JAVA, INDONESIA  
Tel: +62-(0)21-2524974

**Web Sites**  
Bali Tourism Authority  
[www.balitourismauthority.net](http://www.balitourismauthority.net)  
Bali Guide  
[www.baliguide.com](http://www.baliguide.com) ■



*It's raining sharks in*  
**French Polynesia**

Text and photos by Andy Murch



## French Polynesia



Napoleon wrasse (left); Diver and silvertip shark (above)

Imagine if you had the opportunity to explore a tropical island nation split into five diverse archipelagos, collectively containing 118 exotic islands and atolls. Each one has its own unique underwater flavor and a traditional culture as complex and fascinating as any indigenous people's of the world. So far so good, but now imagine that out of those 118 fantastic destinations, you can only visit one.

For many divers, French Polynesia (FP) presents an impossible dilemma. Names like Tahiti, Rangiroa, Moorea and Bora Bora immediately spring to mind as must-dive destinations, but

for the discerning big game hunter, it all comes down to the mega fauna. If you stick your head underwater virtually anywhere in FP, you're likely to see sharks swimming around, but there is an atoll in the Tuamotu Archipelago where the sharks are so thick that they practically block out the sun—Fakarava. In our shark-free brave new world, that is a very rare sight indeed.

Fakarava is a mere one-hour puddle-jump from the capital city of Papeete on the big island of Tahiti. In turn, Papeete is a mere eight-hour flight with Air Tahiti Nui from Los Angeles, making it one of the easiest South Pacific destinations for North Americans to get to.

Exceeded in size only by Rangiroa, Fakarava is the second largest atoll in French Polynesia. Roughly rectangular

in shape, it is a pancake flat, coral encrusted donut that is as underdeveloped and picturesque as one could possibly hope for in a tropical paradise.

Fakarava's entire infrastructure consists of a few small villages, a handful of guest houses and restaurants, one beautifully rustic luxury hotel (the White Sand Beach Resort) and a pearl farm or two jutting into the inner lagoon.

Although well known among savvy European divers, there are so few tourists for much of the year that the island feels as though it has been deserted.

In stark contrast to Fakarava's peaceful terrestrial ambience, below the surface is a bustling metropolis of hard coral structures that form a continuous ring of healthy reef around the island.

*In Fakarava, its all about the sharks.*



The Coral Garden; Grey reef sharks and school of sabre squirrelfish; Day octopus (inset)

Paris to dive this protected atoll, and its not why I am here either. In Fakarava, its all about the sharks.

**Diving with the sharks**

There are two channels that allow tidal water to flow in and out of

Fakarava's 1,000sqkm inner lagoon: Passe Garue in the north and Passe Tamakohua in the south. I was told that the 800m-wide Passe Garue would make an ideal introduction to the marine wonders of French Polynesia, so I signed up with Top Dive Fakarava (FP's premier dive company with locations on many diver friendly islands). My only stipulation was that I wanted them to find me lots of sharks.

Barely ten minutes from the White Sand Resort Jetty, we stalled on a stretch of unbroken blue so wide and deep that it didn't really look like we were in the entrance of a pass at all.

Dropping into clear blue bottomless water, we kicked lazily and waited for the current to pull us into the channel. As the sea floor crept into focus, I could see dozens of shadows obscuring the coral heads below us. When



Grey reef sharks



All that pristine real estate supports a food chain as complex and abundant as the reef itself. From tiny threadfin butterflyfish to cow-sized Napoleon wrasse, Fakarava's fish species are diverse and extremely prolific. Schools of bright orange sabre squirrelfish hover under every available coral overhang and day octopuses ooze from one coral head to the next

in search of anything slower than they are. The reefs are in such good shape that in 2006 the entire island was listed as a UNESCO Marine Biosphere Reserve. That in itself is reason enough to visit Fakarava, but it is not why plane loads of French plongeurs fly all the way from



Diver watches a large gathering of grey reef sharks; Purple crown jelly (top right); More grey reef sharks patrolling the reef (right)

the gap closed, the shadows transformed into scores of grey reef sharks holding position with imperceptible effort against the rushing water that was quickly dragging us into the shallow lagoon.

Once the sea floor was within reach of our nitrox mix (nitrox is free and encouraged on all dives with Top Dive), we descended into the next available dip in the coral and held on. Countless grey reef sharks drifted past as though the current was a figment of our imagination. For the most part, the 1-2m long sharks kept their distance, but occasionally one would swim right up to our hiding spot and eyeball us closely before peeling off down stream again.

With a memory card full of grey reef shark portraits, we rose up into the full force of the flow and let it sweep us into the shallows where the current finally abated, and I was able to start exploring the reef itself. Above 15m, whitetip reef sharks lorded over a food chain mostly composed of bannerfish, various squirrelfish species and some enormous schools of bright yellow goatfishes. That was more than enough to keep me entertained until my safety stop where I bumped into some bright purple crown jellies (*Netrostoma setouchina*) lit up by the midday sun.

**Coral Garden.** In the afternoon we visited the Coral Garden—an immaculate

stretch of reef on the outer wall just beyond the north entrance. There were sharks there, too, but not in the impressive numbers that inhabit the pass itself. Visibility outside the lagoon was exceptional, so I panned as wide as my lens was capable and tried to capture the sheer magnitude of the reef.

For an hour we slipped over seamless fields of coral. There were no snagged hooks or discarded nets, no broken coral heads from boat anchors or clumsy divers and no sign of coral bleaching even in the shallowest spots. It was like being transported back in time to that golden age before we lost our way.

That evening I snorkeled around the house reef at White Sand and watched



CLOCKWISE FROM LEFT: White Sand Beach Resort; Blacktip reef shark; Threadfin butterflyfish; Whitetip reef shark; Bicolor parrotfish

the sky catch fire as the sun plunged into the lagoon. Not a bad introduction to French Polynesia, but the next day promised to be even better and possibly trump every day of shark diving I have ever had.

**Passe Tamakohua.** Top Dive provisioned one of their larger vessels, and we headed towards the much more remote Passe Tamakohua at the south end of the atoll.

After an hour of dodging rain squalls, we descended onto a reef so clogged with sharks that I could not have counted them if I had tried.

Thirty meters below the surface, hun-

dreds of sharks held their ground against the gentle current. The majority were grey reef sharks, but I could also see at least 20 silvertip sharks and a handful of large ocean going blacktip sharks (*Carcharhinus limbatus*) keeping to themselves on the far side of the pass.

We settled onto a small sand patch (disturbing a few whitetip reef sharks in the process) and then watched the slow progress of the parade. The sharks worked their way through the narrow channel until there was no more pass for them to navigate through, then they allowed the current to drag them to the back of the group and began the oxygen replenishing journey all over again.

We stopped and marvelled wherever the sky was so thick with bodies that it appeared to be raining sharks. I tried to estimate the size of the school by splitting it into sections, but by the time we had drifted out of the pass, I had reached a number that I found unbelievable even though I had

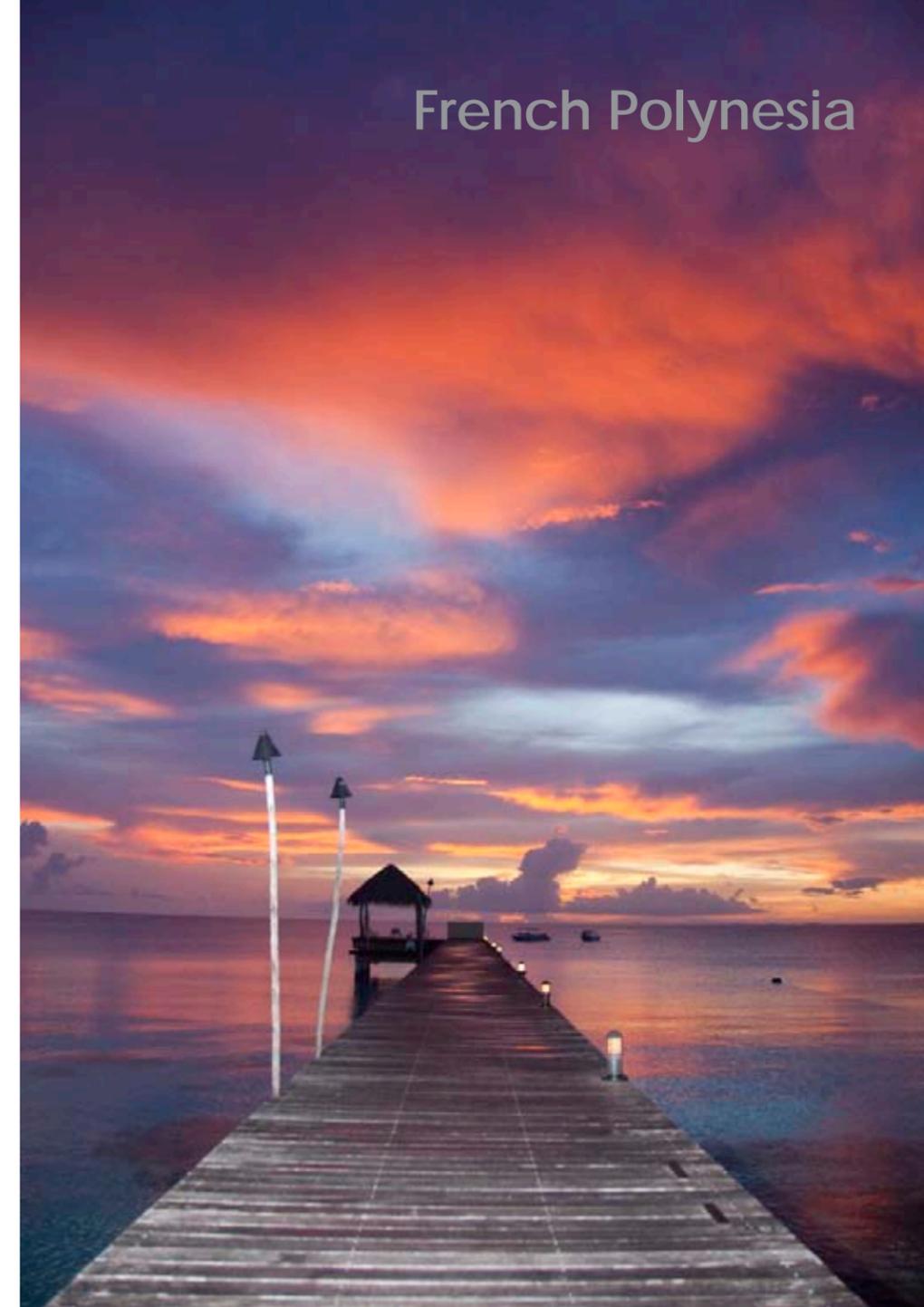
just witnessed it with my own eyes. For the record, I am going to run with a very conservative 500 sharks, but I am sure there were more in the shadows and further out in deeper water.

The reefs of Fakarava are very well stocked, but how that many sharks can survive in such a small area without decimating the resident fish populations is beyond me. The sharks do not look undernourished. In fact, they appear to be relaxed and content, but I wouldn't want to be a wounded fish in Passe

Tamakohua.

At the end of the dive, we surfaced in an area known as the swimming pool; a protected sandy spot where IndoPacific blacktip reef sharks (*Carcharhinus melanopterus*) and some even more enormous than usual Napoleon wrasse congregate in the hopes of scoring scraps from moored fishing boats. While the crew laid out a lunch of tropical fruits, pastries and delicious savory dishes (ah, the French!) I snorkeled with tiny blacktips; one eye firmly fixed on the intimidating mega-





wrasse.

Later, we visited a gorgeous pink sand islet where no footprints or other signs of humanity could be found. It should have been a dreamy way to wile away the afternoon, but the shark parade in Passe Tamakohua was so entrenched in my mind that I had trouble appreciating anything less intense.

The next day, we repeated the experience, but after three days of diving in the most shark-infested water I've ever had the pleasure of submerging into, I was forced to move on—curse inflexible itineraries! Fortunately, Fakarava is not the only French Polynesian destination with world-class mega fauna; 1500km away in mysterious Nuku Hiva, it's all about the whales! ■

*Andy Murch is an underwater photographer and shark expert based in Victoria, British Columbia, Canada. Visit: [www.elasmodiver.com](http://www.elasmodiver.com)*



CLOCKWISE FROM ABOVE: Diver at the Coral Garden; A pristine pink sand island at Fakarava; The Swimming Pool near Tumakohua Pass; Sunset at White Sand Beach Resort; School of crescent-tail bigeyes

# fact file



## French Polynesia



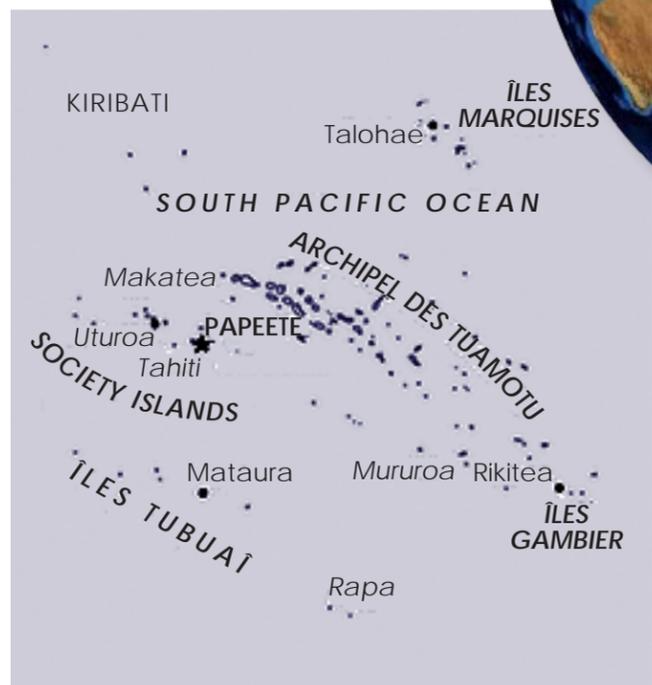
SOURCES: US CIA WORLD FACT BOOK, SCUBADOC.COM, E-MED.CO.UK

**History** During the 19th century, France annexed various Polynesian island groups. The French resumed nuclear testing on the Mururoa atoll in September 1995 after a three-year moratorium. Widespread protests followed. In January

1996, the tests were suspended. French Polynesia's autonomy has been significantly expanded in recent years. Government: autonomous overseas collectivity of France since 2003, employing French law. Capital of Indonesia: Papeete, Tahiti

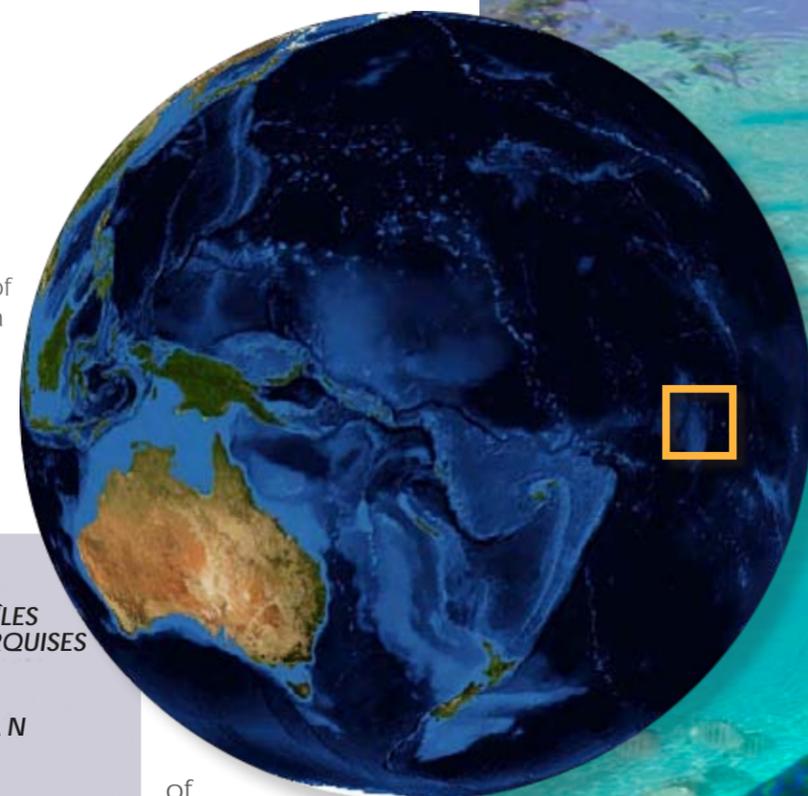
### Geography

French Polynesia consists of five archipelagoes (four volcanic, one coral) of Oceania, a region in the tropical Pacific Ocean. These archipelagoes include Archipel Des Tuamotu, Iles Gambier, Iles Marquises, Iles Tubuai and Society Islands. They are located about mid-way between Australia and South America, in the South Pacific Ocean. The terrain of the area is a combination of low lands with reefs and rugged high islands. Coastline: 2,525km. Lowest point: Pacific Ocean 0m. Highest point: Mont Orohena 2,241m.



**Climate** Tropical, yet moderate. Natural hazards: a few cyclonic storms in January

**Economy** Since France stationed military personnel in the region in 1962, French Polynesia has shifted from a subsistence farming to an economy in which a large part of the work force either works for the military or in the tourism industry. But the military contribution to the economy fell sharply with the halt of nuclear testing by the French in 1996. Tourism leads the economy with about one-fourth



RIGHT: Location of French Polynesia on global map

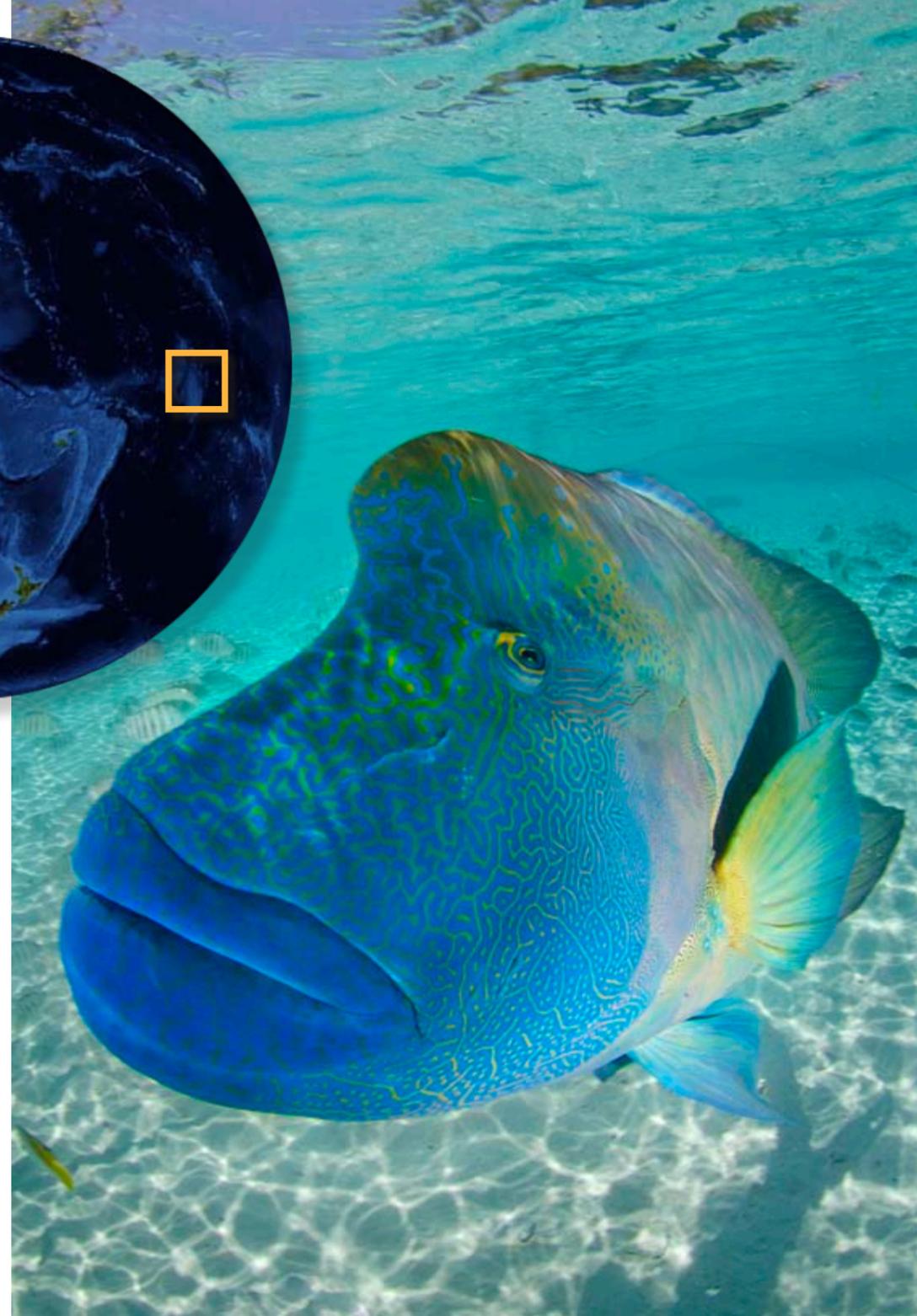
BELOW: Location of Papeete, Tahiti, on msp of French Polynesia

FAR RIGHT: Napoleon wrasse

of GDP and is a major source of hard currency income. Deep-sea commercial fishing and pearl farming are other sources of income. Agricultural products are processed primarily by a small manufacturing sector.

Development agreements with France focused primarily on creating new businesses and strengthening social services have benefited the territory. Natural resources include timber, hydropower, fish and cobalt. Agricultural production includes coffee, coconuts, vanilla, fruits and vegetables; fish, beef, poultry and dairy products.

**Population** 274,512 (July 2012 est.) Ethnic groups: Polynesian 78%, Chinese 12%, local French 6%, metropolitan French 4%. Religions: Protestant 54%, Roman



Catholic 30%, other religions 10%

**Languages** French (official) 61.1%, Polynesian (official) 31.4%, Asian languages 1.2%, other languages 0.3% (2002 census) Internet users: 120,000 (2009)

**Currency** Comptoirs Francais

du Pacifique francs (XPF). Exchange rates: 1EUR=119.33XPF; 1USD=90.05XPF; 1QBP= 146.36XPF; 1AUD=94.18XPF; 1SGD=72.77XPF

**Web Sites** Tahiti Tourism [www.tahiti-tourisme.com](http://www.tahiti-tourisme.com)



Tropical rain shower at White Sand Beach Resort