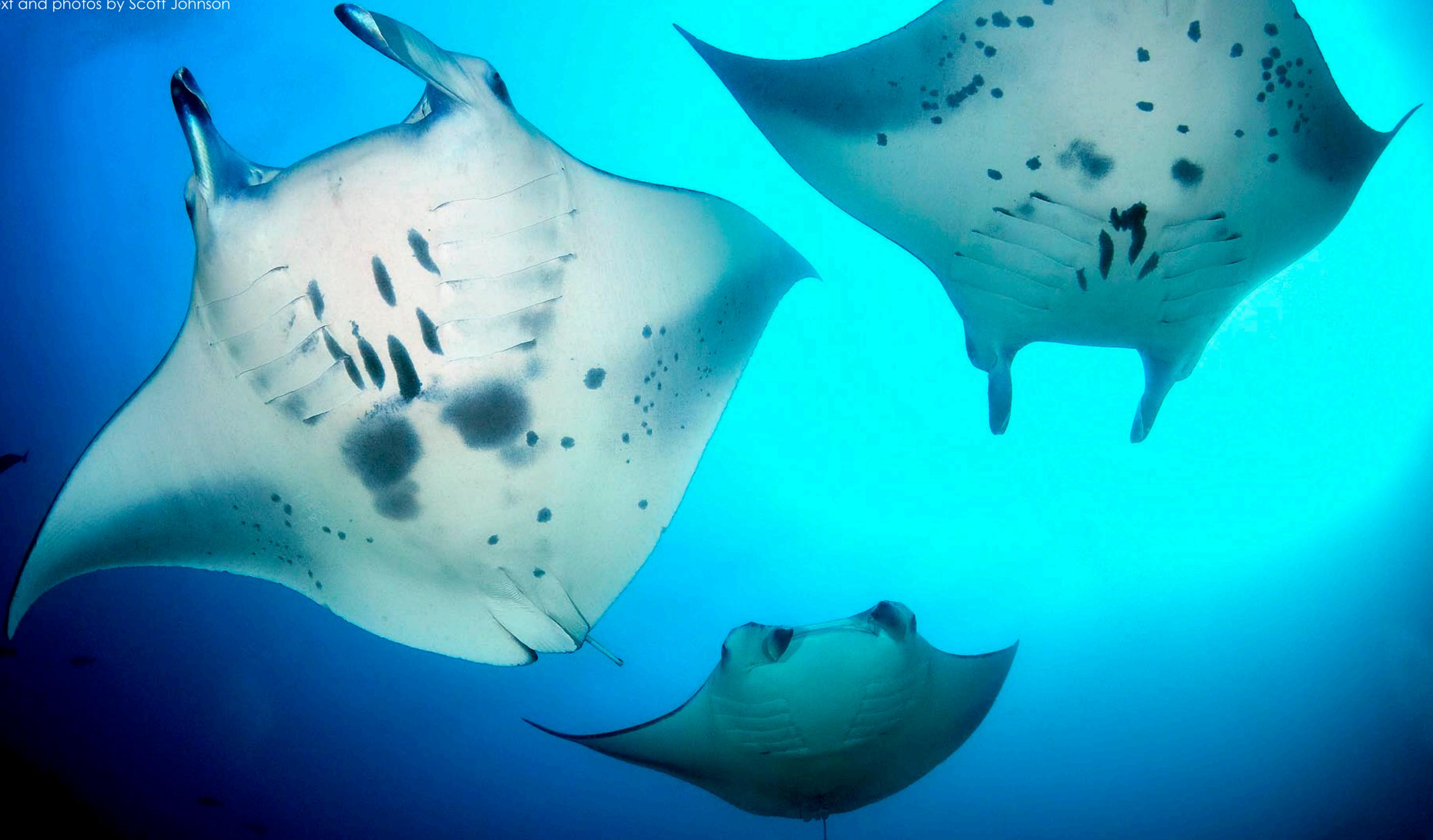


Maldives *Sumptuous Diving*

Text and photos by Scott Johnson





A dhooni, Maldivian style sailboat, at Four Seasons Resort (above); Massive school of bluestripe snapper (right) at Banana Reef, North Male' Atoll; Friendly honeycomb moray eel (below) being cleaned by bluestreak cleaner wrasse. PREVIOUS PAGE: Resident manta rays circling at Lankan, North Male' Atoll

I eagerly plunge into the refreshing, blue water at Miyaru Faru off South Male' Atoll and begin to drift with the rest of my group as the stiff current pushes us along. Within minutes, I spot one of my favorite marine animals extended from a hole near the bottom. I quickly exhale and spread my arms wide to simultaneously descend and slowdown so as not to overshoot the area.

The surrounding coral outcroppings offer protection from the current and allow me to focus on the impressive honeycomb moray (*Gymnothorax favagineus*) that seems as curious of me as I am of it. The beautiful eel sways back and forth as if to some siren's melody that only it can hear. I compose a

series of shots through the viewfinder of my Aquatica AD7000 housing, pausing only long enough to reposition the two Sea and Sea YS-250 strobes. The viz is limited due to the sand being stirred by the outgoing tide, but I persevere in hopes that at least one of the images will be decent.

My dwindling remaining bottom time forces me to leave the friendly moray and gradually work my way to fresh air. When I surface, I spot the *dhooni* (the infamous Maldivian style of boat that epitomizes "a slow boat to China") highlighted in the glow of the setting sun, but far away. Apparently, the rest of the group rode the current throughout the dive while I surfaced close to where I entered.

As I reach for my SMB (surface marker buoy), a speed boat appears out of nowhere and passes much too close for comfort. The dwindling ambient light means I need to inflate the SMB sooner rather than later. Before I can

even begin to blow into the SMB, I hear someone clear his throat behind me. I turn to see two uniformed crewman standing on the bow of a yacht and a couple sipping champagne on a platform above them.





One of the beaches (above) and swimming pools (left) at the Four Seasons Resort



The Maldives Aggressor liveaboard

The crewman on the right says, "We saw that idiot race his boat dangerously close to your position and thought you could use our assistance. Would you like us to take you to your vessel?" Stunned, I simply nodded my head in agreement. The crew helps me aboard, and the couple insists I be given a glass of champagne. Thus, I am transported "James Bond" style back to the *Maldives Aggressor's* dhoni, holding a glass of bubbly and chatting with my rescuers. My dive mates roar with laughter when they realize it is me and yell in unison, "It figures!" This is the perfect ending to another glorious day of diving in the Maldives.

The Flower of the Indies

The Republic of Maldives is comprised of 26 geographical atolls that collectively resemble an elongated, jeweled necklace running north/south

and are situated slightly above the equator in the Indian Ocean. An atoll, which is derived from the Maldivian word *atholhu*, is the product of fringing reefs that originated from the sides of a volcano and then continued to grow towards the surface as the volcano receded back to the ocean floor. The resulting ring-shaped barrier reefs have a foundation of lava and dead coral, protect a central lagoon and are separated from each other by channels that lead for the lagoon to the sea. Since atolls are built from colonizing corals, they are limited to tropical and sub-tropical oceans that possess the warm water and plentiful nutrients needed to support such creatures.

The Maldivian atolls, which are part of the submarine mountain range called the Laccadives-Chagos Ridge, are intermittently spread over 56,000 sq mi (90,000 sq km). They protect



Oriental sweetlips at dusk off South Ari Atoll; Private villa beach, Four Seasons Resort (top left)

almost 2,000 islands, only 200 of which are inhabited. Ninety-nine percent of the Maldives is ocean and only 186 sq mi (300 sq km) of the country is above the water's surface!

Marco Polo called the Maldives the "Flower of the Indies". Polo obviously had fine taste. I have visited many countries and islands throughout my career, but I have never flown over a more beautiful island nation. The low flying sea planes provide the perfect vantage points for soaking in the brilliant white sand beaches, statuesque palm trees and exquisite shades of blue, from the dark blue sea to the turquoise waters outlining the atolls. The scenery is absolutely breathtaking.

A dive holiday here is like staging your own version of *Lifestyles of the Rich and Famous*. The natural settings and idyllic private island resorts offer lavish get-

aways that are beyond mere opulence. Pampered cycles of dive-eat-and-relax allow you to indulge personal passions, while making it easy to forget the hectic pace of modern life.

My own *Rich and Shameless* episode features a stay at the luxurious Four Seasons Resort at Landaa Giraavaru and charters on the Four Season's *Maldives Explorer* and *Maldives Aggressor*. This combination of land-based resort and liveaboard (safari boat in the Maldives) charter is the ideal way to both explore and soak in the enchanting surroundings. Impeccable service is the norm. To be candid, the unrelenting effort to appease and even anticipate my every need throughout my stay has left me a bit paranoid. I keep waiting for a hand to materialize whenever I need to wipe my nose or other less visible body parts.



Maldivian anemonefish in a magnificent anemone at Maaya Thila, North Ari Atoll

Curious hawksbill sea turtle at Muthaafush Thila, Baa Atoll



South corals, Back Faru, North Male' Atoll; Longnose hawkfish, Vaadhoo Thila, Raa Atoll (top)

Lyretail anthias and hard coral cover at Radhdhiggaa Thila, South Ari Atoll

The currents rule, the divers drool

The Maldivian underwater world is even more rich and extravagant than any terrestrial man-made setting. More than 1,000 species of fish and 200 species of coral are present. Currents carry you along healthy reefs adorned in hard and soft corals. Brightly colored anthias dart among coral heads, while large schools of bluestripe snapper and neon fusiliers move in unison as they cling to or sweep over the reef. Yes, currents dictate

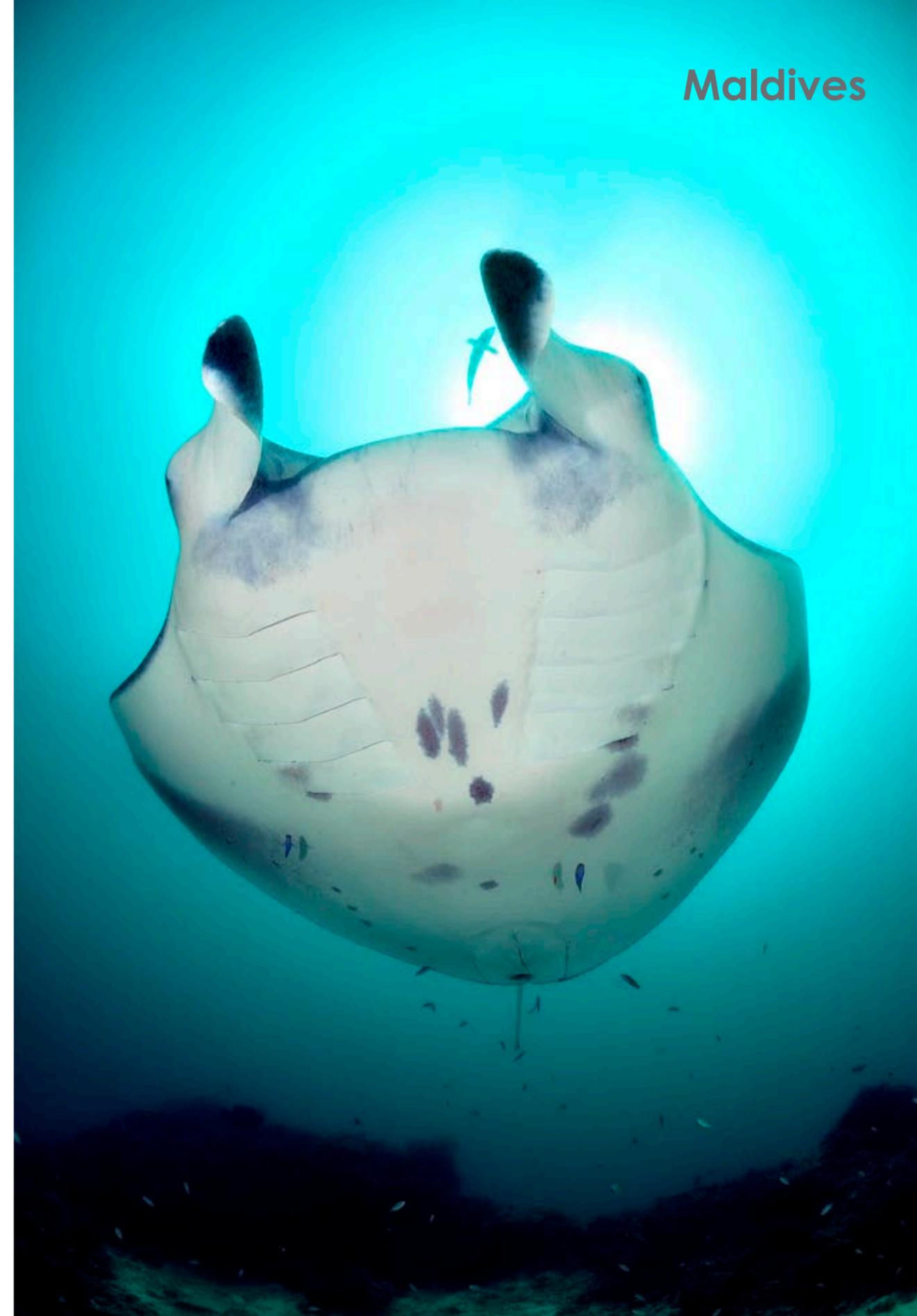
the location, direction, pace, difficulty and even the excitement of the dives.

The diving is defined by a reef's formation, size and depth as a *kandu*, *faru*, *thila* or *giri*. A *kandu* is a channel that connects a lagoon to the open ocean. These dives often produce strong currents and should only be attempted on an incoming tide that carries divers into the safety of the lagoon. The incoming tide also provides much better visibility than the outgoing variety. A *faru* is

a circular reef within a channel that extends to the surface. Its outer edge is exposed to the open ocean and often a prime location for spotting pelagics and large schools. *Thilas* are oblong or circular reefs within an atoll with tops 6m to 12m (20ft to 40ft) below the surface. Their steep walls are pocked with overhangs that are lined with soft corals and filled with fish. A *giri* is like a *thila*, but smaller and reaching within 1m to 3m (5ft to 10ft) of the surface.



Yellowmargin moray eel at Miyaru Gaa, South Ari Atoll



About the only way to spend a week diving here and miss them is to scuba in a pool or keep your eyes closed. Lankan or Manta Point off North Male' Atoll offers one of the many shallow-water Manta Ray cleaning stations scattered throughout the archipelago.

ments. I watch 17 large mantas sweep over the divers' heads and take turns being cleaned. The rays' movements seem to be perfectly choreographed as they dance and yet avoid one another in such a compressed space. The other divers, like me, are in awe at the performance. The mantas were there when we arrived and remain even as we watch them during our respective safety stops.

The color, variety and action on even these "simple" dives can be a bit overwhelming if you take the time to soak in the entirety of your surroundings. For example, I made three consecutive dives on another manta ray cleaning station located in Hanifar Bay, Baa

Prior to the dive, guests are instructed to find a spot just below the top of the small reef so as not to obstruct the manta's move-

Marine marvels

Manta rays (*Manta alfredi*) are the signature marine animal in the Maldives.

THIS PAGE: Resident manta rays are commonly sighted throughout the Maldives archipelago





Atoll. On the first dive, I used a Tokina 10-17mm fisheye lens to photograph four majestic rays that repeatedly circled the site as they were cleaned by industrious blues-treak cleaner wrasse (*Labroides dimidiatus*). The second tank and a 60mm lens allowed me to frame an exquisite, white leaf scorpionfish (*Taenianotus triacanthus*) as it yawned and seemed to proudly pose. The third dive and a super macro set-up yielded shots of a male coral cardinalfish (*Apogon properupta*) incubating eggs in its mouth. The manta rays, leaf scorpionfish and coral cardinalfish were often within 20ft (6m) of one another at intervals throughout the day. I needed three dives and three alternate perspectives

on this tiny site to even begin to appreciate some of the wonderful treasures it had to offer.

I spend a week at Hanifaru Bay working from Guy Stevens' research dhoni. Guy, a marine biologist whose work is supported by the Save Our Seas Foundation and the Four Seasons Resort at Landaa Giraavaru, is the founder of both Manta Trust and the Maldivian Manta Ray Project. His passion for the mantas, Hanifaru and marine conservation is clearly evident. Guy endures long days with his research assistants identifying and tracking the elegant rays, as well as studying their behavior from the surface and underwater. He has concluded there are two different species of mantas in the

Maldives: residents (*Manta alfredi*) and pelagics (*Manta birostris*).

Hanifaru is about the size of a football field, but Guy faithfully monitors it during the *Hulhangu* (the southwest monsoon or wet season) for a much different kind of spectacle. When the conditions are right, a veritable buffet of plankton flows into the bay and gets trapped. This causes some unknown dinner bell to ring and prompts hungry mantas to arrive in mass.

Guy has frequently spotted as many as 200 mantas and multiple whale sharks (*Rhincodon typus*) with their maws agape, all feeding on the plankton at the same time. I gave Guy a you-gotta-be-kidding-me look, as I simply could not



Mouthbreeding male coral cardinalfish, Hanifaru Bay, Baa Atoll

CLOCKWISE: White leaf scorpionfish, Hanifaru Bay, Baa Atoll; Diver with whale shark, Sunset Reef, South Ari Atoll; Manta ray being cleaned, Lankan, North Male' Atoll; Resting leopard shark, dusk dive, Maamiggili Out, South Ari Atoll





White collar butterflyfish (left), Banana Reef, North Male' Atoll; Slipper lobster (above), South Ari Atoll; Idyllic spa bungalows at the Four Seasons Resort (right), Landaa Giraavaru



Hanifaru Bay Plankton Party may ultimately lead to its demise if protective legislation is not implemented and vigilantly enforced.

Snorkelers and divers now regularly outnumber the marine animals and are a threat to one another, as well as the hungry creatures. I personally witnessed divers being dumped on other divers and snorkelers by dive operators that were either neg-



fathom how any water could be left in the bay with so many large animals packed inside it. I eventually concluded he was not pulling my fin as I, too, spotted numerous mantas during my dives there. Besides, he had video and pictures to prove it. Only South Africa's Sardine Run can rival this awe-inspiring feeding aggregation.

South Ari is usually your best chance to swim with whale sharks in the archipelago. Juveniles are regularly spotted feeding near the surface here and seem to be rather tolerant to us humans. The *Aggressor* whale shark procedure is pretty simple. The captain positions the dhoni well ahead of and parallel to a shark. Guests are then told to quietly slip into the water and wait for the animal to appear.

Of course, "quietly slipping" usually translates

into jumping and splashing. And, "waiting" generally means the guests swim as fast as they can in all directions.

The plankton-feeding sharks do not seem to be moving fast when observed from the boat. The "in water" experience is altogether different. The sharks blow by you with the bare minimum of effort, so each snorkeling opportunity is fairly short. Even so, the cumulative effect of repeated encounters results in an exuberant, grateful and tired group.

Saving paradise

Paradise is never won or maintained without sacrifice. The discovery and subsequent fame of the



Hard corals on Sunset Reef, South Ari Atoll

Banded coral shrimp with eggs at Dhigali Reef, Raa Atoll



Male', the bustling capital city of the Maldives, offers many sightseeing options and is just a ten-minute boat ride from the airport

ligent or poorly trained. Boats sped through the human mass, and I was amazed no one was seriously injured. I left Hanifaru wondering if it would take the death a tourist to make the government do the right thing. Fortunately, I was wrong.

Guy, and the rest of the Baa Atoll community, have finally worked out a management plan for Hanifaru Bay with members of the Ministry of Housing and Environment. The Management Plan for Hanifaru Marine Protected Area will be part of the Atoll Ecosystem Conservation Project and implemented over two years. It will eliminate scuba diving in the bay after 2011, limit the number of snorkelers and provide funding for the ongoing conservation efforts.

The Marine Discovery Center at the Four Seasons Resort at Landaa Giraavaru is at the forefront of numerous critical conservation efforts. In response to a 1998 mass coral bleaching event that killed 90 per-

cent of the coral above 45ft (15m), it launched a coral propagation project with Reefscapers that has transplanted almost 70,000 coral fragments since 2005, with a survival rate of 80 percent.

The primary goal of this project is to develop heartier strains of coral that are more resistant to prolonged water temperature spikes. Healthy reefs play vital roles in sustaining the marine life, fueling the growing tourism industry and protecting the Maldivian flat islands from high waves that could decimate the nation.

No nation is more threatened by global warming than the Maldives. It is the lowest country on Earth with an average ground level of only 5ft (1.5m). Its highest point is only 8ft (2.4m). Scientists have predicted rising ocean levels may make the Maldives uninhabitable by 2100. The nation's former President, Mohamed Nasheed, held the world's first underwater cabinet meeting on 17 October 2009 to

sign a resolution entitled, *SOS From The Frontline*, calling for global cuts in carbon emissions. The document was presented at the Climate Summit in Copenhagen, Denmark, two months later.

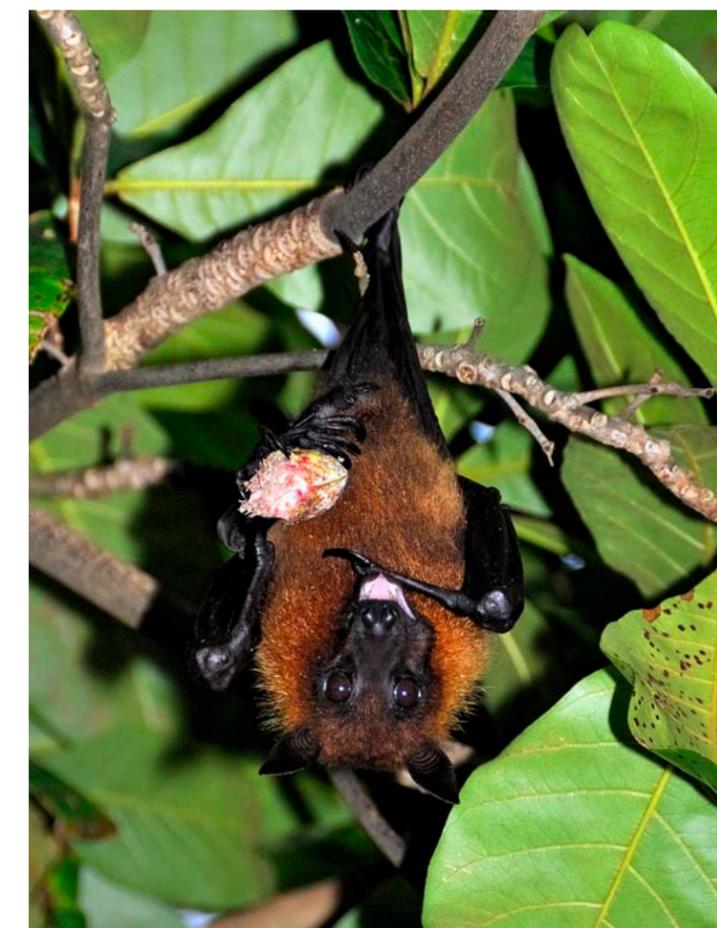
The President has committed to making the Maldives the first carbon neutral county by 2020 and is setting aside a portion of the country's annual tourist income to potentially purchase land in India, Sri Lanka or Australia for his people should global warming drown paradise.

Go batty

There is little to do on land in the Maldives, except relax, soak up some rays, get to know the friendly locals and/or try other water activities, such as surfing. My favorite past-time is watching the large fruit bats (*Pteropus giganteus ariel*), which are active around the clock. Most fruit bats I have encountered elsewhere stay hidden during the day, but the



Plumeria adorn the Four Seasons Resort grounds



Feeding Indian flying fox fruit bat



Marching yellow starfish on Miyaru Faru, South Ari Atoll (above); Swarming glassy sweepers at Kudhadoo Beyru, South Ari Atoll (right); Dhonis anchored off South Ari Atoll (bottom)



Maldivian bats do not have to worry about predators and thus do not fear the sunshine. The best time to photograph them is in the evening when they are feeding on fruit. I look for trees with ripe, low-hanging fruit and more often than not, one of bats will arrive to feast while I am flash away.

Male'—the Maldives' bustling capital—is a ten-minute boat ride from the Malé International airport, which, like the many luxurious resorts, is located on its own island. Male' is packed with people and offers sightseeing options, such as the National Museum and the Grand Friday Mosque. It is worth a short visit at the end of your holiday, as you wait for your flight home, but the experience will likely leave you wanting to return to the solitude of a secluded atoll.

Hungering for déjà vu

From sea planes to dhoni rides to live-aboards, you can only explore a fraction of the Maldives' expansive territory during a single visit. The Maldives is definitely a multi-trip destination. I highly recommend splitting your time between a live-aboard and a resort to give your body

the chance to adjust to the new time zone and take the opportunity to stop and smell the "Flower of the Indies". The Four Seasons Resort at Landaa Giraavaru and the *Maldives Aggressor* will allow you to indulge yourself in the "Luxury Isles". The challenge is figuring out how to return as often as possible. Remember, paradise is indeed addictive. ■

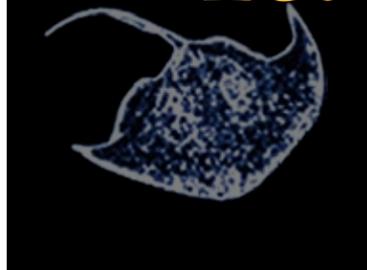
The author would like to thank Guy Stevens (www.mantatrust.org), *Four*

Seasons Resort Maldives at Landaa Giraavaru (www.fourseasons.com/maldiveslg), *Four Seasons Resort Maldives at Kuda Huraa* (www.fourseasons.com/maldiveskh), *Four Seasons Maldives Explorer* (www.fourseasons.com/maldivesfse) and *Maldives Aggressor* (www.aggressor.com).

Scott Johnson is a widely published U.S.-based photojournalist who specializes in marine, wildlife and travel subjects. See: Seascapesimages.com



fact file



Maldives



SOURCES: U.S. CIA WORLD FACT BOOK, VISIT-FSM.ORG

History The Maldives is located in the heart of the Indian Ocean shipping lanes. This has been both a blessing and curse in terms of the outside world's impact on its culture and way of life. The Maldivian history prior to AD 1153 is a mixture of conjecture and legend due to the lack of written materials and artifacts. The earliest inhabitants likely migrated from India and Sri Lanka. Sailors and traders braved the treacherous Maldivian reefs to collect fresh water, dried fish, fruit, coir (coconut husk) rope and cowry shells. The Maldives existed as a sultanate from the 12th century until 1887, when the archipelago became a British protectorate. In 1968, it became a republic, three years after it claimed independence. For 30 years, President Gayoom dominated the islands' political arena. Via single-party referendums, he was elected to six successive terms. In 2003, political demonstrations in the capital city of Male'

spurred the president and his government to initiate democratic reforms. These included a political system that was more representative of the people as well as expanded political freedoms. It was slow going, though, and the realization of some of the promised reforms was sluggish. Despite this, political parties were legalized in 2005, and in 2008, a new constitution was finalized by a constituent assembly. It was then ratified by the president in summer. In the fall of the same year, the first-ever presidential elections were held under a multi-candidate, multi-party system. The incumbent president was defeated and Mohamed Nasheed became the new president. He was a political activist who had in previous years been put in jail by the former regime. Challenges facing the new president included strengthening democracy in the country and finding solutions to drug abuse and poverty. Nasheed resigned in 2012, after several weeks of demonstrations in the streets following his firing of a top judge. Vice President Waheed then took over. In international climate change discussions, Maldivian officials have played a prominent role, as the

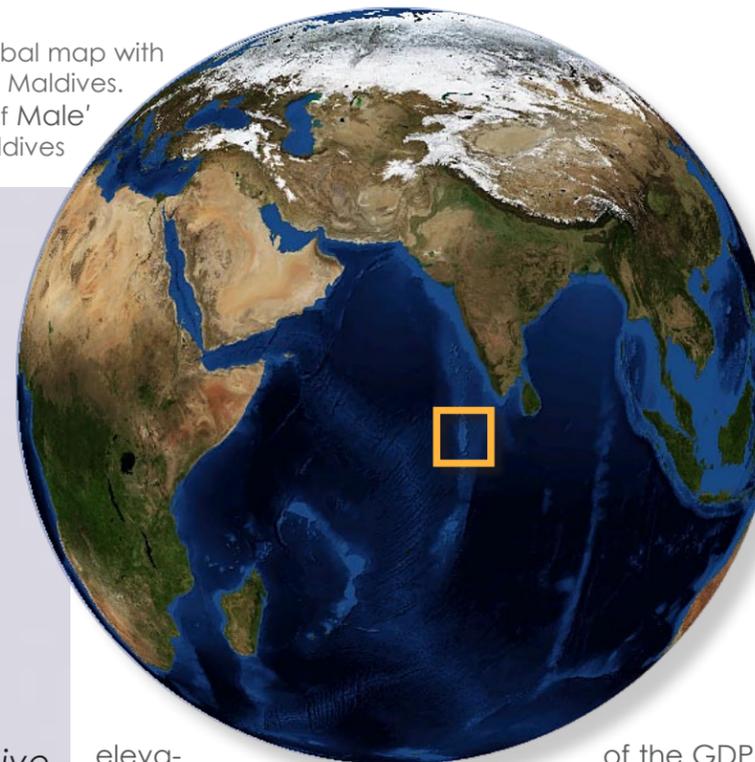
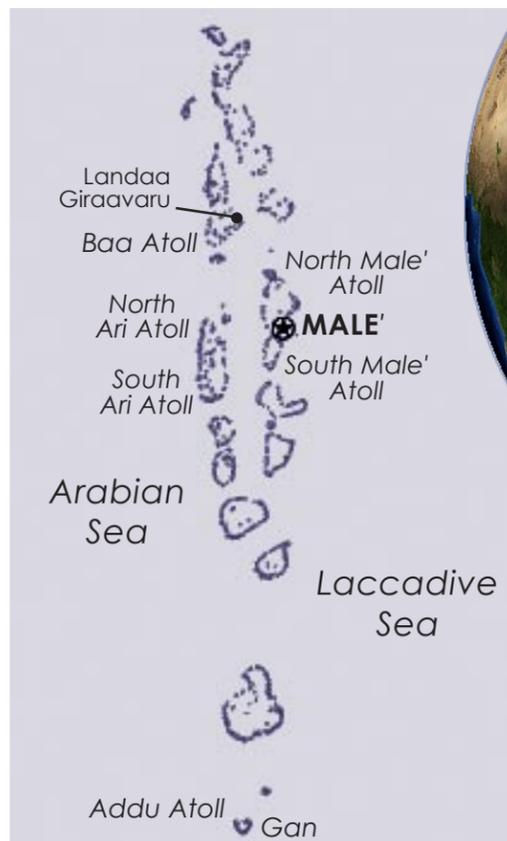
country is threatened by sea level rise due to its low elevation. Government: republic. Capital: Male'

Geography

Located in Southern Asia, the Maldives are a group of atolls in the Indian Ocean just south-southwest of India. Coastline: 644km. The terrain is flat, with white sandy beaches. Lowest point: Indian Ocean 0m. Highest point: a point in the Addu Atholhu, yet unnamed on Viligili 2.4m. Note: The country is comprised of 1,190 coral islands grouped into 26 atolls. There are 200 inhabited islands, as well as 80 islands with tourist resorts.

Climate Tropical, greatly influenced by the *Iruvai* ("dry" northeast monsoon that typically blows mid-November to April) and the *Hulhangu* ("wet" southwest monsoon in May to October). Air temperatures stay near 86°F (30°C) year-round. Natural hazards include tsunamis and rises in sea levels to which the country is vulnerable, as its islands have a low

RIGHT: Global map with location of the Maldives.
BELOW: Location of Male' on map of the Maldives



elevation. Water temperatures are consistently between 26.5-29.5°C (80-85°F) for- eign exchange. Fishing is a distant second and the gap continues to grow.

Population 394,451 (July 2012 est.) Ethnic groups: South Indians, Sinhalese, Arabs. Internet users: 86,400 (2009) Religion: Sunni Muslim

Currency The Maldivian Rufiyaa (MVR) is pegged to the U.S. dollar at 12.8. U.S. dollars and credit cards are widely accepted and often preferred. Exchange rates: 1EUR=20.74MVR; 1USD=15.41MVR; 1GBP=24.36MVR; 1AUD=16MVR; 1SGD=12.5MVR

Language Maldivian Dhivehi is the official language—it is a dialect of Sinhala with script derived from Arabic—but English is widely spoken in Male', at the resorts and by tourism service providers.

Dress is casual and comfortable. Swimming trunks, bikinis and other beachwear are common at resorts and on safari boats. Some guests prefer to dress a bit more

formally for dinner at the higher end resorts. Chests and thighs must be covered in Male' and on inhabited, non-resort islands.

Alcohol The Maldives is definitely not a BYOB destination. You are not allowed to bring alcoholic drinks into the Maldives. Even if you purchase duty free alcoholic items in the Singapore or Dubai airports en route to the Male' International Airport, these items will be confiscated upon arrival as bags are x-rayed. Only businesses specializing in tourism are allowed to import, store and/or serve alcoholic beverages, including wine.

Electricity 220/240 volt AC at 50 cycles; no standard socket types.

Driving Forget it! The Maldives only has 55mi (88km) of roads and over 80% of them are the crowded streets of Male'.

Getting there Singapore Airlines, Malaysian Airlines, British Airways, Emirates Airline and Qatar Airways offer direct flights from such cities as Singapore, Bangkok and Kuala Lumpur, in addition to major hubs in Europe and India.

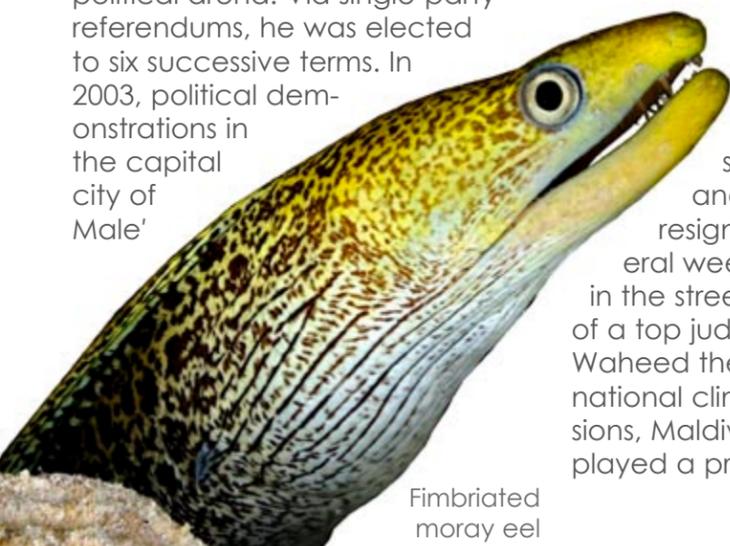
Entry/Visa A free 30-day visa is extended upon arrival.

Decompression chambers

Bandos Island Resort
Bandos Medical Clinic & Hyperbaric Center, tel: + 960 440 088
Kandoludhoo Island Resort
Kandoludhoo Divers Rescue tel: + 960 773 485
Kuramathi Resort
Kuramathi Medical Centre
Hotline +960 777 3485

Web sites

Maldives Tourism
www.visitmaldives.com



Fimbriated moray eel

Murter Island Croatia

Diving the Adriatic Sea



Drop-off covered with dense beds of red corals (left); View of the little port of Jezera and Murter Island (above); There are caverns and caves, too (right)

For quite a time, I had been wanting to go back to Croatia to see first hand what this young nation with ancient roots had to offer, both below and above the surface. Back in the 1980s, in the days when Prince and Michael Jackson were the dominant figures in popular music, I went there on a camping trip. It was before my diving days, but the pristine archipelago with its brochure-like, clear, turquoise waters was forever, clearly imprinted in my memory. For many years, the brutal civil war, which ravaged the Balkans and splintered the Yugoslavian federation, made it if not impossible then at least unwise to go there for a revisit. But finally, about a quarter of a century later, I was back, and this time, I brought lots of diving and camera gear.



Text by Peter Symes. Photos by Andrey Bizyukin and Peter Symes

The Romans called the Mediterranean Sea, *Mare Nostrum*—our sea—which signals some degree of proximity and relative ease of access, at least if you live in Europe. With all the hassles at airports these days, the long waiting lines, intrusive security and still tighter restrictions on lug-

gage allowances just getting worse over time, destinations that I could possibly drive to rather than fly to were starting to look more and more attractive by the day. In this case, I ended up flying anyway, but at least I stayed within the same time zone, so no jet lag.

As I, one late summer day, once again stepped out into Dalmatia—the historic region of Croatia that

makes up the central part of the eastern coast of the Adriatic Sea—I was greeted with a landscape that had been baked all summer long by the scorching midday sun. There were lots of browns and yellows, colors of the soil and dried underbrush under the dusty green foliage. Villages nestled between orchards of olive trees covering the rolling hills were generally made up of quaint,





The promenade in the port of Jezera (above); A school of what we tentatively identify as some species of horse mackerel darting over a reef covered with red coral (left)

white cottages and villas with red, tiled roofs. In the distance, totally contrasting in colour and texture, I could see the glittering sea. It was the same turquoise colour I so clearly remembered.

Jezera

Nautilus dive center is conveniently located in the picturesque, little fishing village of Jezera on the island of Murter from where the stunning archipelago, including the marine reserve of Kornati National Park, is easily reached by a short boat trip.

The village clearly caters to a lot of tourists during the summer but not in an intrusive way; there are no major hotels or resort complexes, just a bustling harbour fringed with restaurants, boutiques, ice cream stalls, and booths selling jewellery and cheap souvenirs. There was a small hotel, but the most common form of accommo-

dation offered to tourists were rooms and small apartments rented by local owners of private villas.

So, we ended up with a local family who offered us a comfortable private apartment with a big balcony overlooking the port and the family's lovely garden full of fig trees hanging heavy with fruit. Booked through the very helpful and friendly staff of the Bisage Travel Agency in the center of town, Apartman Irena (www.murter-apartmani.net) run by Karlo Klarin and his family, was just a short walk to the marina and Lucica Beach. Karlo was, fortunately for us, also an official tour guide and native of Murter Island, with a wealth of information on the culture, history, attractions and activities of the island and fluent in no less than five languages: English, German, Italian, Czech and Croat.

The dive center is located right on the harbour front, not in a shop but



The omnipresent lush hard corals are one of the attraction for divers and underwater photographers



Small, hemispherical hard coral colonies (left) with large corallites of indeterminate species; Great viz (above) along the outer reef of Kornati Island; Typical scenery (top right) at about 25m depth; *Aplysina aerophoba*—a common species in the Mediterranean (below)

Diving

The dive boat was huge and very spacious. It was a fishing trawler of sorts, the size of a small Red Sea liveaboard, albeit not very fancy but with a large upper sun deck with benches and tables and room for at least a couple of dozen people. We steamed out towards open sea with a mixed crowd of divers and some of their families. At one of the tables, a couple of kids were totally absorbed playing with their Gameboys, while at another table, a team of divers were meddling with their cameras. There was a soothing, relaxed atmosphere.

Just getting to the dive sites felt



like a mini-cruise, as the vessel wove in and out of the many islets en route. The blue sea was dotted with leisure crafts, motorboats and sail boats, as we headed out towards the Kornati National Park.

Ranging over

35km, with 140 islands in an area of sea of about 320 squ km, the Kornati is the densest archipelago in the Mediterranean. In 1980, the 89 southernmost islands, islets and reefs of the Kornati archipelago were declared a national park, Nacionalni Park Kornati, protecting the islands and their marine surroundings. Kornat, which by far is the biggest of the islands is connected to the mainland by a drawbridge. There are no



in a building that was probably a converted warehouse of some kind. But no matter, it did the trick. There was ample space for storing kit in there and a sitting area with wi-fi, so you could enjoy a cup of coffee while uploading the day's harvest of images to Facebook.



Bright red and violet soft gorgonians adorn the Croatian reefs (left). OTHER IMAGES THIS PAGE: At very shallow depths, the reefs are a lot less colourful, but there are always some interesting critters to be found, which can entertain divers undertaking lengthy decompression stops

Croatia

to almost 100m. As we descended, I was struck with the clarity of the water, the viz was excellent. At first, there was not much marine growth to be seen; the rocks were covered only by some short seaweeds, but the good stuff was down deep. We levelled off at 40m and swam along what was almost a vertical drop-off. The wall was speckled with all sorts of small gorgonia, most of which I deemed to be red coral, *Coralium rubrum*. These corals are quite intolerant to sedimentation, so they grow on the rocky sea bottom in the depths, or on walls, or in dark caverns or crevices. The corals take the shape of small leafless bushes and grow up to a meter in height. They



permanent settlements on the islands but a few simple houses that most likely serve as cabins for leisure.

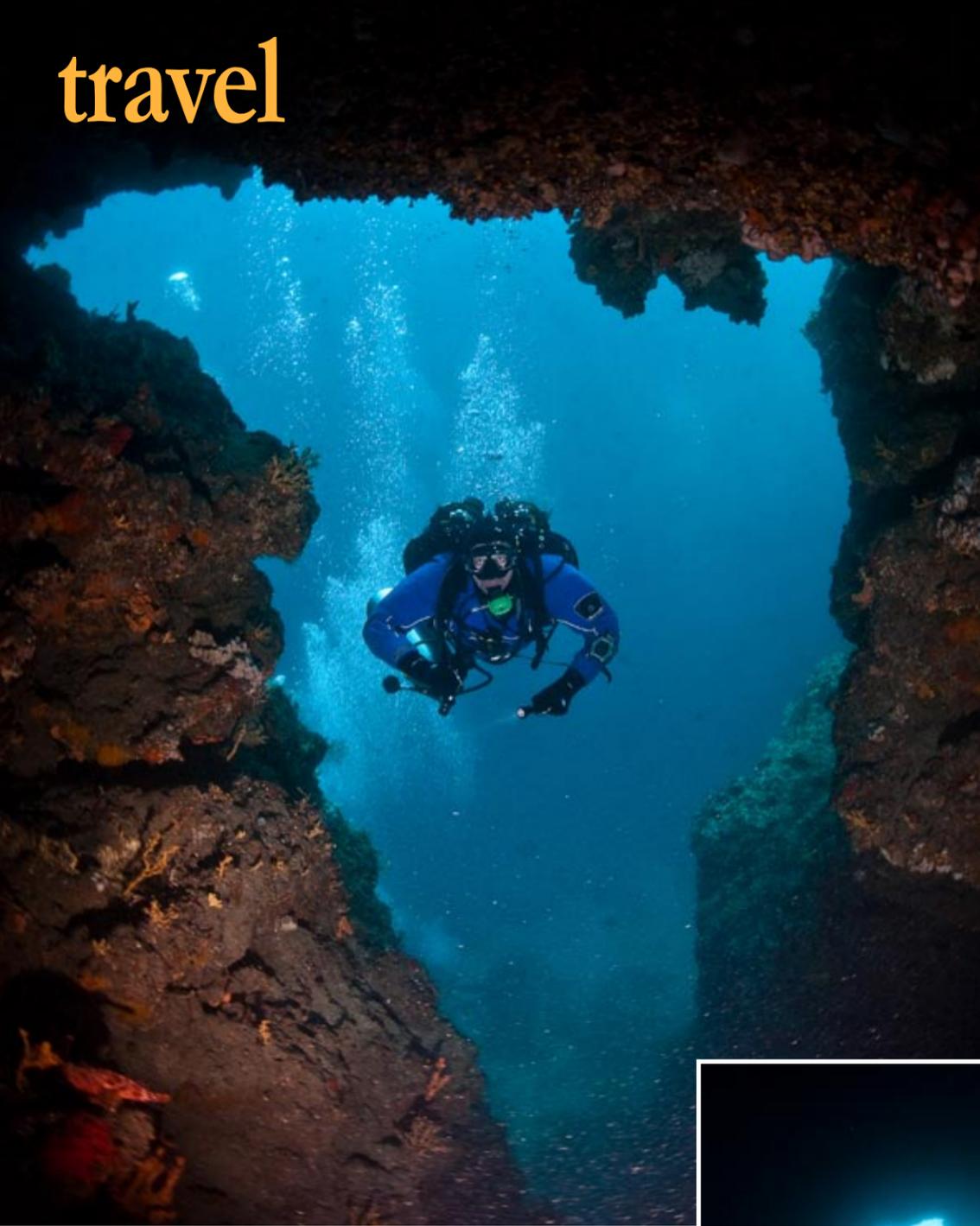
We moored along the outer edge of Kornati, facing the open sea, at a location called Panitula, which I understood was a popular dive site. The coastline was steep and rugged, but the seas were calm. I was teaming up with my old friend and fellow X-RAY MAG editor Andrey Bizyukin and his buddy Alexander who was in the Russian special forces.

Between two small islands, there was a shallow channel no deeper than 5-10m, which was a perfect staging area before going over the ledge that descended straight down



THIS PAGE: Many caves and caverns in the area provide yet another underwater activity

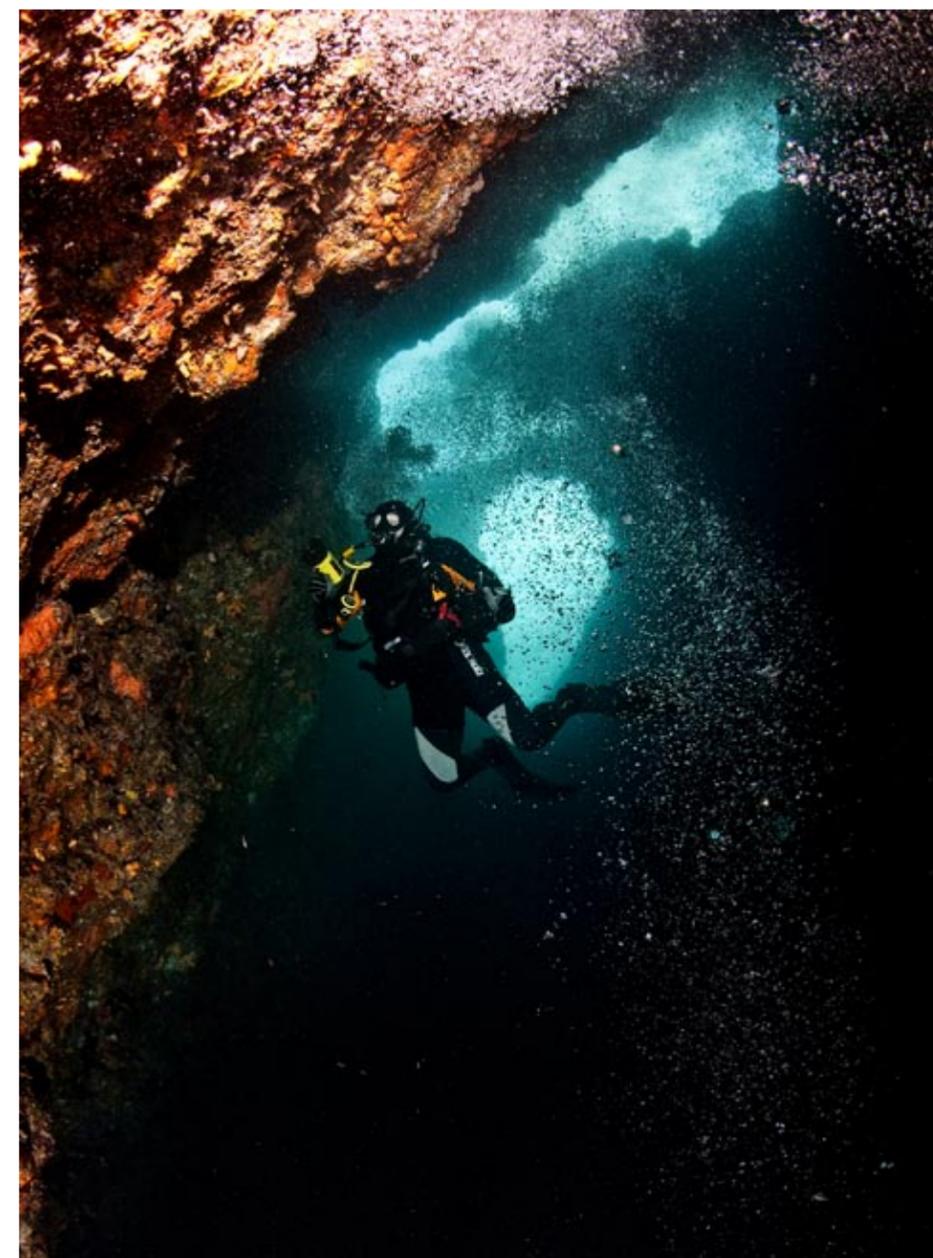
Croatia



insulation for a protracted stay at this depth—not that the gas reserves carried in a commonplace single tank and decompression limits permitted for much more time anyway. But the lesson was learned.

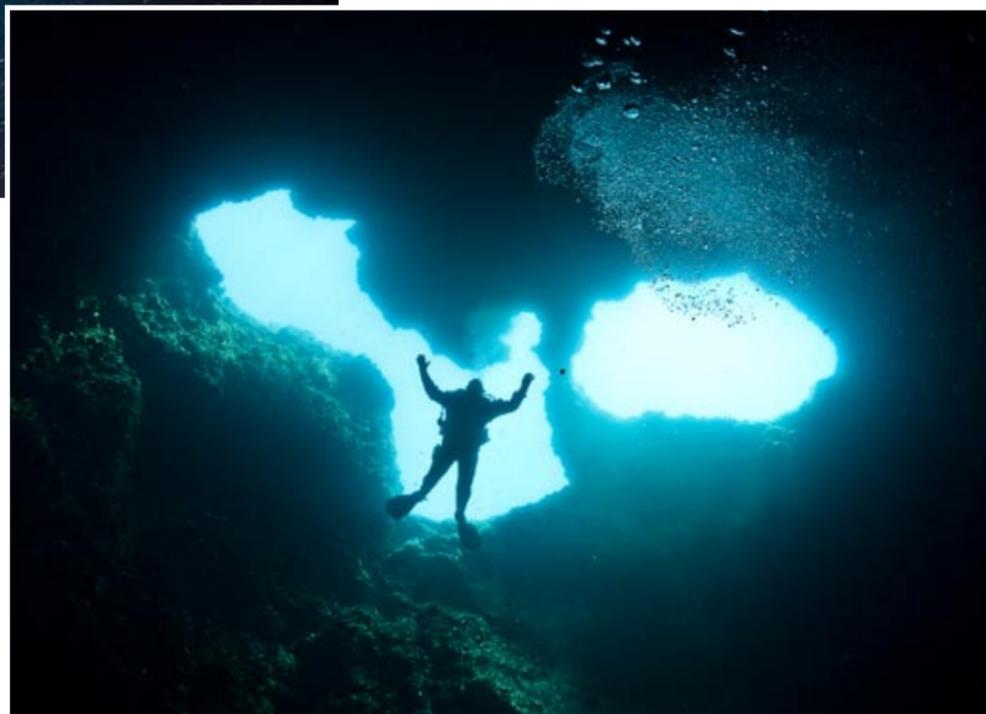
Before going on the trip, Andrey had advised me to bring my drysuit, too. I must admit, I did not quite believe it was necessary. After all, we were going to the Med in late summer. Surely, it had to be warm—and it was, only not at depth.

Looking around, I noticed that everybody else in the group was not only wearing a drysuit but was geared up in a technical fashion as well. Fortunately, I did heed Andrey's advice and brought a drysuit, too. Hav-



can be found at depths of ten to 300 meters below sea level, although the shallower habitats have been largely depleted. Owing to its intense and permanent coloration and glossiness, precious coral skeletons have been harvested since antiquity for decorative use in jewellery.

As we slowly propelled ourselves forward with patient measured strokes, keeping our pulse and air consumption as low as possible, I was starting to feel the cold creep through my 5.5mm wetsuit. While the surface and top layers were pleasurablely warm, we did pass through a thermocline under which the water was markedly cooler. With the pressure at depth squeezing my wetsuit, it no longer held sufficient



ing not worn it on this day, however, I was getting chilled, so I began to ascend.

At around 25m, I passed through the thermocline, and it was like stepping into a warm house on a chilly autumn day. Soon, I was all comfy again. Also, I was no longer steering right into a decompression stop obligation for which I wasn't really prepared nor properly equipped. For now, I was more than happy just to trail the group of 'tekkies' below me who had reached a



CLOCKWISE FROM FAR LEFT: Reef scenery with reef covered by a mix of sponges, algae, soft and hard corals; Scenery from the archipelago around Kornati National park; Juvenile rockfish, presumably *Scorpena notata*; Tomisa is a trawler adapted to taking out divers and snorkellers; Lunch served on the dive boat

shallower level, which, mind you, at 25m (82ft), was still not exactly shallow.

Looking around, the view, thanks to the great viz, was still spectacular. Not so many fishes were to be seen, though. But it was no matter; I was still having a good and most pleasant dive.

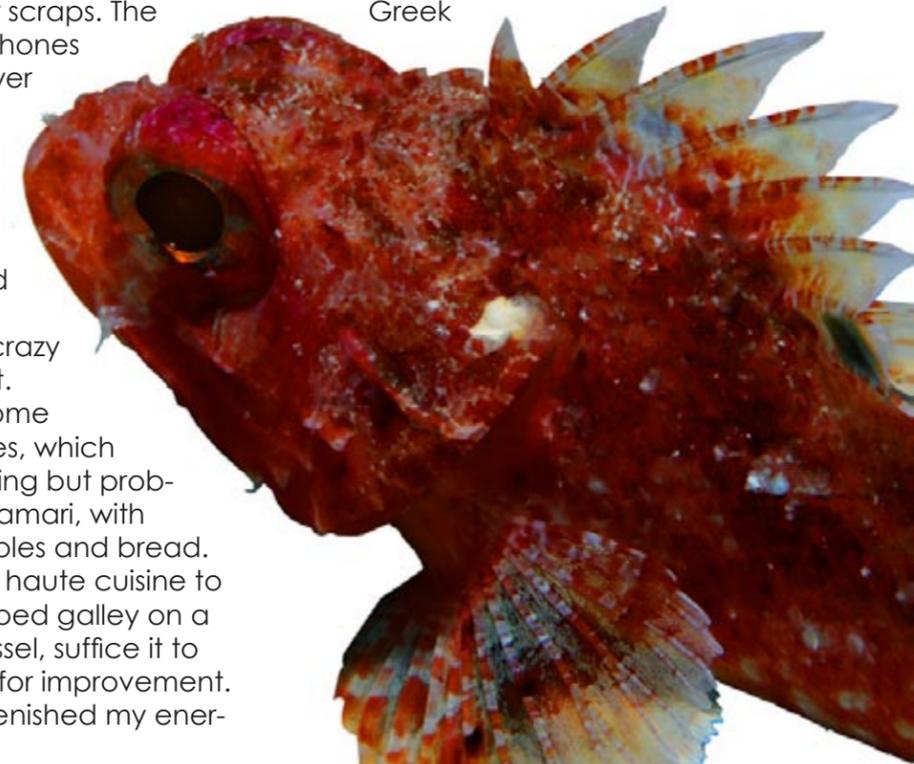
Interval

Lunch! One of the highlights of a good diving day, and I can think of much worse places to enjoy a meal than sitting on a deck with a view over this archipelago. It was quiet out there; aside from the subdued chatter around the ta-

bles, I could only hear a gentle splashing of wavelets breaking against the hull and the occasional screams from seagulls fighting over scraps. The constant ringing of phones and pressure to answer emails was so far out of mind—what bliss.

The meal was typically Eastern European: sturdy and hardy, without much finesse. I wasn't too crazy about it, I must admit. It was grilled fish of some indeterminate species, which reminded me of herring but probably wasn't, and calamari, with some boiled vegetables and bread. While I didn't expect haute cuisine to come out of a cramped galley on a converted fishing vessel, suffice it to say, there was room for improvement. It was okay and replenished my ener-

gies but hardly a selling point. I liked sipping the cool local white wine, though. It had a distinct piney flavour akin to the Greek





Retsina, the famous resinated white wine. Bearing in mind that I had more dives ahead of me, I restricted myself to one—well, all right—two glasses. We had a long lazy break, so they would wear off in time for the next dip.

Croatia

Croatia has such a complex history. Over the millennia, it has been part of numerous empires; from Ancient Rome and onwards, it became independent and then gobbled up again by some larger entity. In modern

THIS PAGE: Scenes from the village of Jezera and Murter Island



Examples of the hearty cuisine to be enjoyed in the many restaurants on the island (above and right)

times, it was part of Yugoslavia, declaring independence in 1991. The tensions in the already volatile region escalated into the Croatian War of Independence when the Yugoslav National Army and various Serb paramilitaries at-

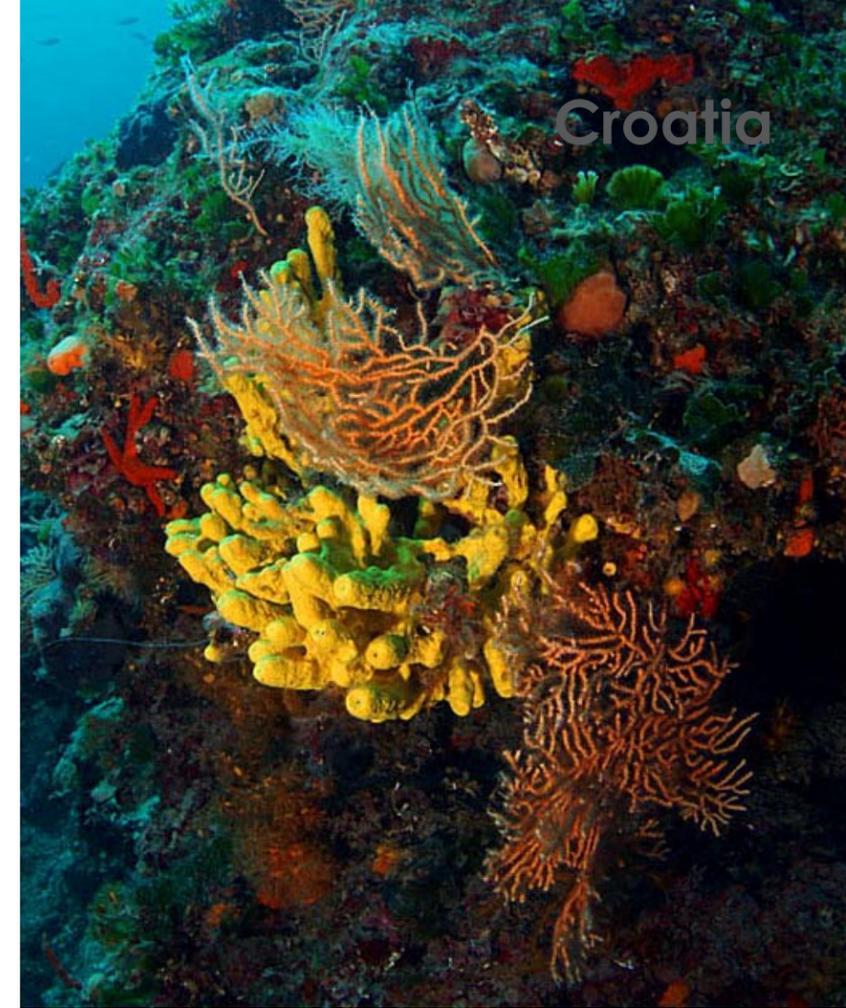
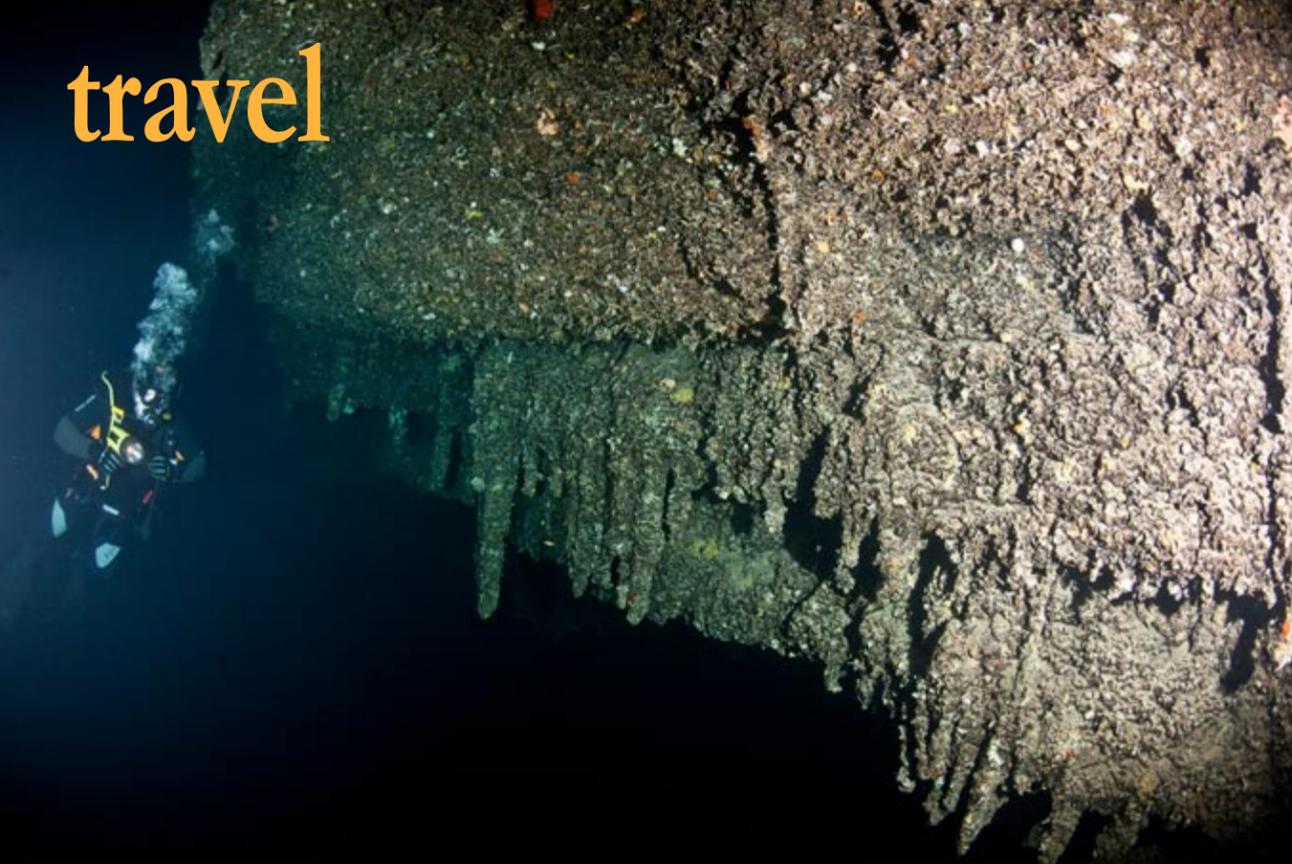


tacked Croatia. The war ended in 1995 with a total Croatian victory, as it achieved the goals it had declared at the beginning of the war: independence and preservation of its borders. However, much of Croatia was devastated and much of its economy was in ruins.

Today, the World Bank classifies Croatia as a high income economy. The

country will become a full member of the European Union in July 2013. It has clearly come a long way in a very short period of time. There are no longer any visible signs of the war, but what the Croatians now refer to as the Homeland War is still clearly a painful memory for many, even in this remote region of the country I was visiting, which saw little of the fighting.

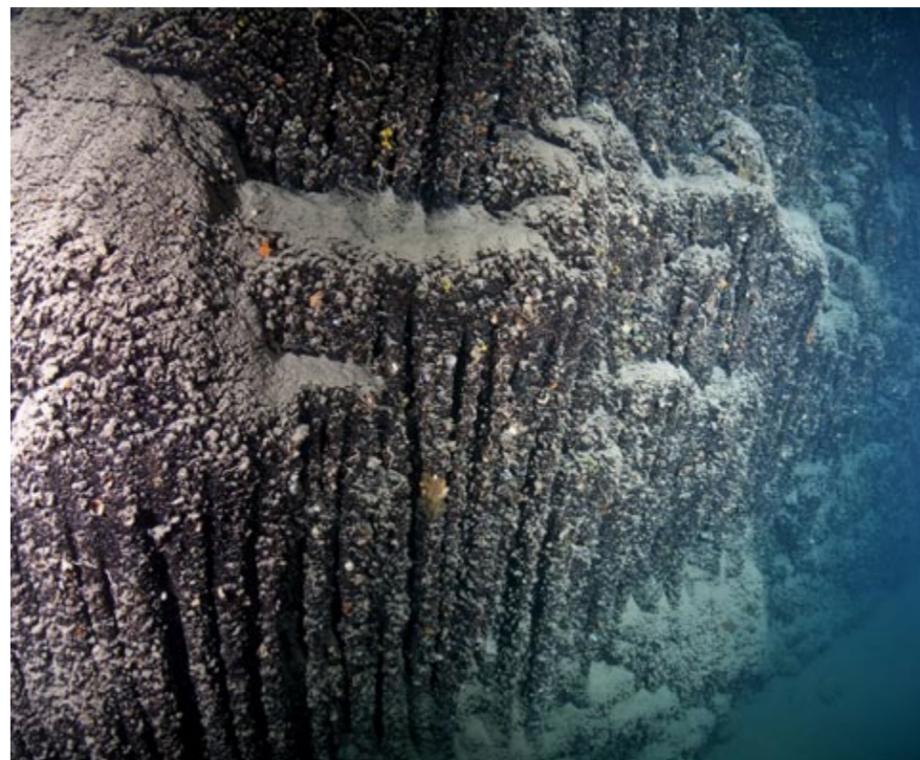
As a tourist, it just seemed so peaceful and well organised. The infrastructure



Croatia

was good, and the standards seemed as up to date as in any other modern developed economy.

As I looked around, seeing all the olive groves on the islands, I got to thinking about the long and colourful parts of this nation's history predating the recent war, from antiquity when Greek trading colonies were established, its inclusion in the Roman empire, the establishment of a Croatian kingdom in 925 AD, the fight



against the Ottomans and so on. I came to think that it was probably unfair to put all that much focus on these matters. But I suppose it's only human nature, given that most adults today will have some memory of watching the news of

the war on television.

In other ways, time seemed to stand still here. As I dipped my bread into the olive oil and looked around, I saw row upon row of olive groves, which seemed to have been here forever, and perhaps

Mediterranean region, and it is estimated that the cultivation of olive trees began more than 7,000 years ago, although the place, time and immediate ancestry of the cultivated olive are unknown. But it was already during ancient



THIS PAGE: Some underwater caves were created and stalactites formed in dry air before the Mediterranean basin was filled by water from the Atlantic via the strait at Gibraltar. It is still possible to find old stalactites underwater; Rockfish (above), possibly *Scorpena plumeri*; Assemblage of sponges and gorgonians (top right) form a colourful bouquet; Mediterranean feather star (right) is an unstalked crinoid, which feeds by filtering small particles of food from sea water with feather like arms. Tube feet covered with a sticky mucus trap any food that floats past

they have.

The olive tree is native to the

times that the Greeks observed that olive trees rarely thrived in a location far from the sea but rather thrived where other crops failed—upon the meager, water-deficient soils of these islands.

Dive sites

We were now anchored in a shallow, sheltered cove off a little

islet with a lighthouse perched on top. It doesn't seem much bigger than a

tennis court, and I understand the idea was to swim around it.



Once again, we were being told that gorgonians and other corals





The rockfish's camouflage is effective but one can still spot it by swimming slowly and looking closely at the reef; Small colony of golden cup coral, *Astroides calycularis* (below)

and zipped up the suit. Then, off I went.

I followed Alexander straight down the slope. He was once a paratrooper and it showed. I couldn't keep up with him, as he plummeted quickly toward the seabed far below. Once again, we didn't level off until we passed 40m, after which we swam along the wall poking into nooks and crannies looking for critters. I soon went into a shallow ascent along the reef to stay clear of decompression obligations, keeping visual contact with Alexander who just kept steaming full throttle ahead—too fast for me.

I prefer diving solo anyway, minding my own business and going about taking pictures without having particles kicked up into my face by divers with poor buoyancy control or situational awareness. Yet, it was not the same as diving alone. I was always maneuvering so I could retain visual contact with my buddy—if only he would just slow down a bit.

When using open circuit, I al-



could be found predominantly below 25m where there was a ledge and a small drop-off leading down to a flatter seabed at +40m.

Being all the wiser, I kitted up with my drysuit this time and twin tanks. Not that I was going technical on this dive; I just didn't want to be chilled, nor end up short on air, should I decide to go deeper in

pursuit of some better footage. As I didn't want to overheat before I got into the water—it was a nice warm summer day—I made sure that all the gear was completely rigged and the camera all set, as I donned

THE NEW W4



W4, where modern technology enhances old fashion diving. After 28 years of experience of making wetsuits we have put all our knowledge into this hi-quality suit with an eye-catching silverish retro/futuristic look. The 3D anatomical design, with pre-bent arms and legs with stretch panels and gender specific construction ensures a comfortable fit. Double smooth-skin seals at arms and legs, adjustable neck and a 10mm spinepad with an extra seal at the backzipper keeps the cold water out. All zippers in top class Vislon no10 from YKK. ToughTex panels at elbows and knees, Bonded HiQ Nylon Thread and 100% CR Neoprene in all panels. Quality is in the details. The W4 also features double computer strap anchors with anti slip, comfort front neck zipper, inner plush lining, seat and shoulder antislip reinforcement. The WPAD™ is a soft artfully constructed docking station located on the right thigh for our expandable pocket.

www.waterproof.eu





way up.

The small fields were all boxed in with ancient stone borders, and our path upwards wove in and out of small plots with different crops such as grapes for making wine, figs, olives, vegetables, orchards of fruit trees or just meadows of grass for grazing livestock.

As we made our way towards the summit, we were accompanied by a ferocious concert of cicadas trying to outperform



believe that these sponges were *Aplysina aerophoba*—a common species in the Mediterranean. I haven't been able to ascertain that they have any use, which is probably

deco, or a safety stop, can comfortably be conducted (i.e. simply by sitting on the bottom) that Alexander finally noticed me and looked at me with an expression I did not know what to make of in that instant. Only afterwards did I learn that he thought he lost me early on and couldn't find me, making him nervous. Yet, I was always within visual range and never lost sight of him. I just could not keep up with him while carrying a big camera, which wasn't very streamlined and could not be pushed through water very quickly.

Topside activities

That afternoon, I went for a walk with Andrey and his kids into the hills behind the village. There was a sweet and pleasant scent of herbs, pine, hay and wild flowers in the air.

The highest point on the island was Raduč hills. At 128m above sea level, it was not so rigorous a hike as to be restricted to fitness fanatics, but it was a vigorous walk that gave a decent workout and burned off that opulent but yummy ice cream cone topped with blueberries, nuts and whipped grin I had on the

dom and calm, which always translates into greater enjoyment—knowing that I always have a complete, redundant life-support system, should I have a technical malfunction of some kind.

With the sort of diving I was doing here, it was very much a case in point. I was not embarking on any technical diving in this location, only enjoying a wider latitude, such as not having to watch a clock frantically counting down the minutes to the end of my dive. I had time to look around because the double 12's on my back gave me a plentiful supply of air to muck about with for a time.

I slowed down, gliding slowly over a bed of marine grasses. Soon, I could pick out some critters—first, a purple *Flabellina nudibranch*, then an octopus contorting itself into an incredibly narrow crevice, then a pipefish. Among the grasses were small clusters of bright yellow marine sponges.

Sponges are not my forte, but consulting with guidebooks later led me to

why they are so prevalent in the shallower parts, but they are very decorative.

In one of the scientific descriptions I found online, these sponges were described as: "Bright yellow in life, turning characteristically dark greenish blue-black when taken out of the water, discolouring one's fingers. In alcohol, the black colour extends into the alcohol and also blackens labels to the point of becoming illegible." So, there you have it. There is always something new to learn about the sea. It's one of the things that makes diving such a great pastime.

During my whole dive, I had kept our Russian paratrooper fixed in the corner of my eye, but now I saw him swimming somewhat frantically back and forth along the reef, as if he was searching for something. I gradually closed the gap until I finally flew to his side like a wingman for the remainder of the dive, which at this point was heading towards the shallows and the boat. It was only when we reached a plateau at around 5m where



CLOCKWISE FROM LEFT: Sponge cluster of *Aplysina aerophoba*—a common species in the Mediterranean; The archipelago also offers ample opportunity for great snorkelling; Idyllic view of donkey grazing in a field; Diver practising SMB deployment skills near the dive boat



ways dive twins—a double tank with two regulators—where available, even in the shallow end of the recreational range. I've never felt like it was overkill; it's always provided me with a sense of free-



Croatia

THIS PAGE: Views of Jezera from the hillsides surrounding the village. Walking through the winding narrow streets and pathways, there are things to discover around every corner



WATERFALLS OF KRKA NATIONAL PARK

Krka National Park which is only a short drive from Murter Island, encompasses an area of 109 square kilometers along the Krka River after which it is named and

which it encloses. It is characterised by exceptionally rich and varied flora and fauna, with more than 860 species and subspecies of plants that have been identified here. One of the most attractive parts of the park is *Skradinski buk*, which is a massive, clear, natural pool with high waterfalls at one end and cascades at the other. ■



sounds up to 120 decibels, which is among the loudest of all insect-produced sounds. Species have different mating songs to ensure they attract the appropriate mate. It is often difficult to make out the direction from which cicada song is coming because the low pitch carries well and because it may, in fact, be coming from many directions at once, as cicadas in various trees spur others to make noise in unison.

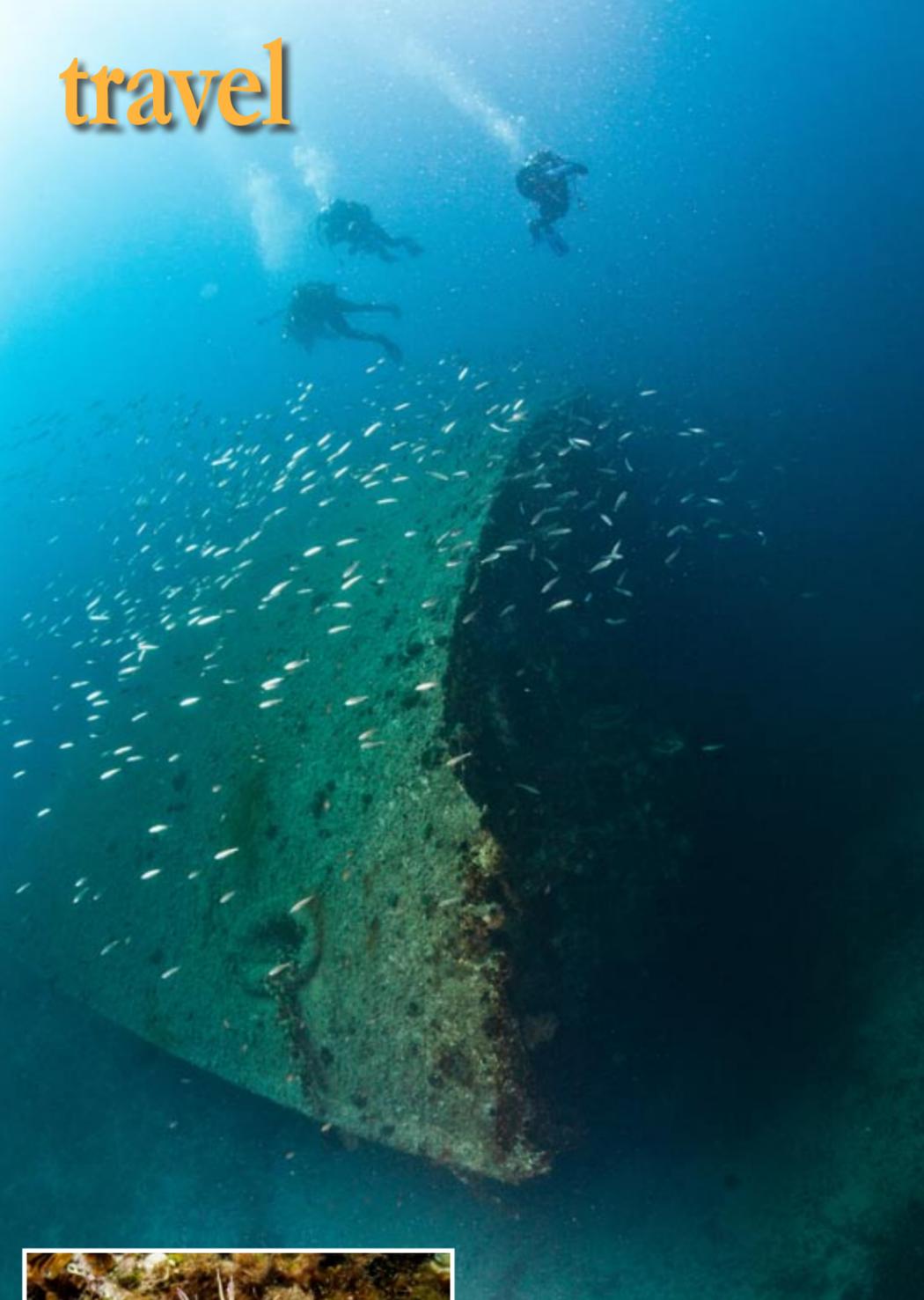
Cicadas are benign to humans and do not bite or sting. At the top, we had a spectacular view of the whole island and its four main villages—Tisno, Jezera, Betina and Murter—with their stone-vaulted streets and ivy-covered walls. Murter Island is only 18.6 sq km (7.2 sq miles) and yet, there exist different dialects in each village as well as a rivalry—a friendly one, I hope—between these villages, which are mere hiking distances apart, about which dialect is the proper or right way to speak. We are told that the oldest stone-built sites of cultural heritage on the island of Murter date back to the time of the Illyrians who built the hill fort of Gradina, which now lies between Murter and Betina, as well as the ruins that can easily be seen on top of the hill where a giant cross stands today. Near near Tisno, in Makirina

Bay stands the Romanesque church of St. Martin, which dates back to the end of the 11th century. In the same locality lie the remains of Roman villas, medieval tombs and a basilica. In a way, this little island embodies all I find attractive about going diving in the Mediterranean. The underwater scenery and marine life may not compete

well against the splendours of Raja Ampat, Fiji and the like, but what does? Considering that the whole package also includes history and culture enough to fill a year's worth of episodes on the Discovery Channel, good and healthy food, no less than eight national parks, cities with roots in antiquity or the Middle Ages within range of a day trip, hospitable people and a



one another. It was only the males that sang, and they do their most spirited singing during the hotter hours of a summer day. Some cicadas produce



seems littered with wrecks and archaeological artefacts from ancient Greek and Roman amphorae, to the many wrecks from the World Wars and some more modern ones. For passionate treasure hunters or wreck detectives, there are plentiful options to explore wrecks and artefacts at different depths, although a number of wrecks rests too deep for recreational divers.

While we did dive on a number of wrecks, one of the more attractive was the *Francesca di Rimini*—a cargo vessel that was sunk during WWII in circumstances which are not entirely clear. According to the most reliable sources, it was transporting ammunition for the German forces in North Africa and was anchored off the island of Kaprije, experiencing engine

problems when it came under attack by British aircraft and exploded.

The wreck now rests almost upright on a flat seabed at 50m, with a large

Croatia

part of the midship torn completely open by the explosion, which must have been massive. Due to the depth of this wreck—the deck starts at 40m—it is clearly not a dive for the inexperienced, as some decompression is virtually unavoidable. That aside, it is an uncomplicated wreck to dive, provided the sea is flat and the viz is decent. A downline mounted from a permanently moored buoy takes divers straight down to where they want to be. The superstructure is gone and so is the propeller. It is not known who salvaged it. Since the wreck still holds ammunition, including substantial amounts of artillery grenades, it has in places been covered with a steel net.

We descended through crystal clear blue water along the anchor line and passed through two thermoclines or marked temperature



THIS PAGE: Views from the wreck sites found around Murter Island

vast array of activities to indulge in, it is a pretty good deal overall. There is something for everybody, and it is easy, accessible and affordable to bring the whole family, whether you prefer to spend your time on the beaches or go visit monuments.

Wrecks

There is diving for all qualification levels from shallow reefs to caves and wrecks. The Croatian coast just

CROATIA

NP KORNATI



NAUTILUS.COM.PL



NAUTILUS.COM.PL

WRECKS



NAUTILUS.COM.PL

- FUN DIVING
- TECHNICAL DIVING
- EXCURSIONS
- ACCOMMODATION
- TRANSFER



NAUTILUS.COM.PL

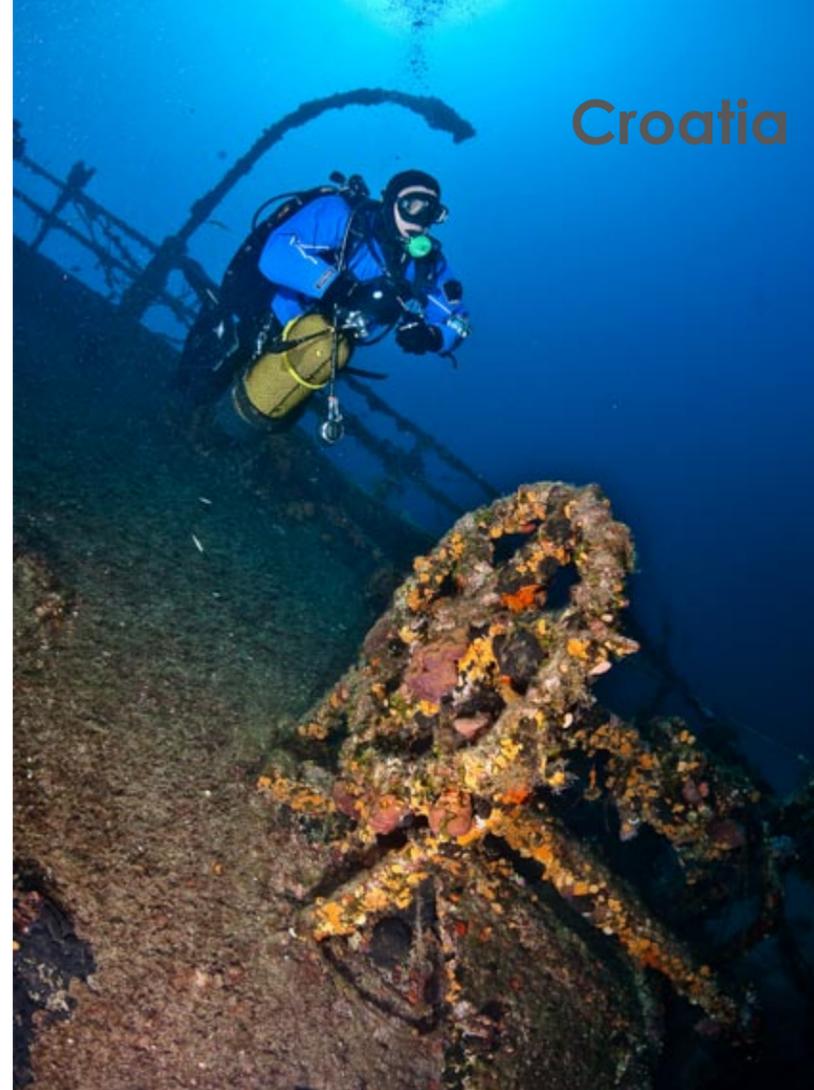
CROATIA, JEZERA
MURTER ISLAND





gradients at 5 and 21 meters depth. In the blue haze beneath, I started to make out the contours of what was once a proud ship. From the top of the bow, we went to the stern along the starboard side, reaching the maximum permitted depth. We entered the open doorway of the hold. It was dark inside, but in the

distance we could see a blue spot of light, which was the second hatch of the hold. The plan was to spend 15 minutes reaching the maximum depth (MOD) and pass through the hold by going in one entrance and out the other. Inside, we turned on our lights and went



on taking pictures inside the hold, as we went towards the front of the ship. The hold was full of sharp metal structures,

the port side of the ship. We carefully made our way past it, took some more pictures and went up to the port side of



THIS PAGE: Divers explore the wreck of cargo vessel *Francesca di Rimini* sunk in WWII

so we had to be very careful not to damage the equipment or get stuck in tight spots. As we went through a passage in the hold, we found a huge hole with torn metal all over—this was quite evidently where that deadly torpedo struck

the stern. From there, we started our swim back to the bow of the ship. We threw a last sad look at the sunken giant and began our ascent. We still had a long decompression ahead of us even when we accelerated it by breathing pure oxygen at a depth of 6m before we could once again pop up into the strong Croatian sunlight, warm wind and good friends awaiting us top side. ■

fact file



Croatia



SOURCES: U.S. CIA WORLD FACT BOOK, VISIT-FSM.ORG

History Until the end of World War I, the region that now makes up Croatia was part of the Austro-Hungarian Empire. A kingdom was formed in 1918 by the Croats, Serbs and Slovenes which was called Yugoslavia after 1929. Under the heavy hand of Marshal Tito, Yugoslavia became a federal independent Communist state after World War II. In 1991, Croatia declared its independence from Yugoslavia, but it took four years of fighting before the occupying Serb forces were for the most part cleared from Croatian lands, as well as a majority of the ethnic Serb population in the country. In 1998, the last Serb-held enclave in eastern Slavonia was returned to Croatia, with the supervision of the United Nations. Croatia joined NATO in 2009, and in 2011, joined the European Union, with ratification in 2013. Government: presidential/parliamentary democracy. Capital: Zagreb

Geography Croatia is located in Southeastern Europe. It borders the Adriatic Sea and lies between Bosnia and Herzegovina and Slovenia. There is diverse geography in the terrain, with flat plains along the Hungarian border and low mountains and highlands near the Adriatic coast and islands. Coastline: 5,835km (mainland 1,777km, islands 4,058km).

Lowest point: Adriatic Sea 0m.
Highest point: Dinara 1,831m.
Note: Croatia is in control of most of the land routes from Western Europe to the Aegean Sea and the Turkish Straits; A majority of the Adriatic Sea islands are located off the coast of Croatia. There are round 1,200 islands, islets, rocks and ridges.

Climate Along the coast, Croatia has Mediterranean climate with mild winters and dry summers, while the interior has continental climate with hot summers and cold winters.

Environmental issues The country struggles with air pollution from metallurgical plants, which results in acid rain that is damaging the forests. There is also coastal pollution from domestic and industrial waste. Landmine removal



al continues as well as reconstruction of the nation's infrastructure after the civil strife in 1992-95. The nation is party to: Air Pollution, Air Pollution-Nitrogen Oxides, Air Pollution-Persistent Organic Pollutants, Air Pollution-Sulfur 94, Air Pollution-Volatile Organic Compounds, Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Endangered Species, Hazardous

RIGHT: Global map with location of Croatia

BELOW: Location of Murter Island on map of Croatia



Wastes, Law of the Sea, Marine Dumping, Ozone Layer Protection, Ship Pollution, Wetlands, Whaling

Economy While Croatia is still one of the richest of the former Yugoslav republics, its economy took a big hit during the war in 1991-95. During that time, the country's output collapsed, and it missed out on early investment in Central and Eastern Europe after the Berlin Wall fell. However, Croatia's economic outlook began to improve slowly between 2000 and 2007, with moderate but steady growth in GDP which was spurred by a rebound in tourism and consumer spending fostered by credit incentives. The worldwide economic crunch has affected Croatia since 2008, with the country's economy still struggling to recover. Challenges facing the nation include a high unemployment rate, an increasing trade deficit, a difficult invest-

ment climate and uneven regional development.

Population 4,480,043 (July 2012 est.) Ethnic groups: Croat 89.6%, Serb 4.5%, other ethnic groups including Bosniak, Hungarian, Slovene, Czech and Roma 5.9% (2001 census) Internet users: 2.234 million (2009)

Currency Ukuna (HRK) Exchange rates: 1EUR=7.58HRK; 1USD=5.68HRK; 1GBP=9.02HRK; 1AUD=6HRK; 1SGD=4.63HRK

Language The official language is Croatian 96.1% but English is taught in elementary schools and is widely spoken by younger staff in tourist areas, Serbian 1%, other languages including Italian, Hungarian, Czech, Slovak and German 2.9% (2001 census)

Health There is an intermediate degree of risk for

food or waterborne diseases, such as bacterial diarrhea, and vector-borne diseases such as tickborne encephalitis. There have been cases of highly pathogenic H5N1 avian influenza in this country, but it poses a very small risk with very rare cases possible among those who are in close contact with birds (2009)

Decompression chamber The Split Hyperbaric Decompression Chamber - IPM HRM Šoltanska 1, 21 000 Split Tel: + 385 (0)21 354 511

Web sites Croatia Tourism croatia.hr

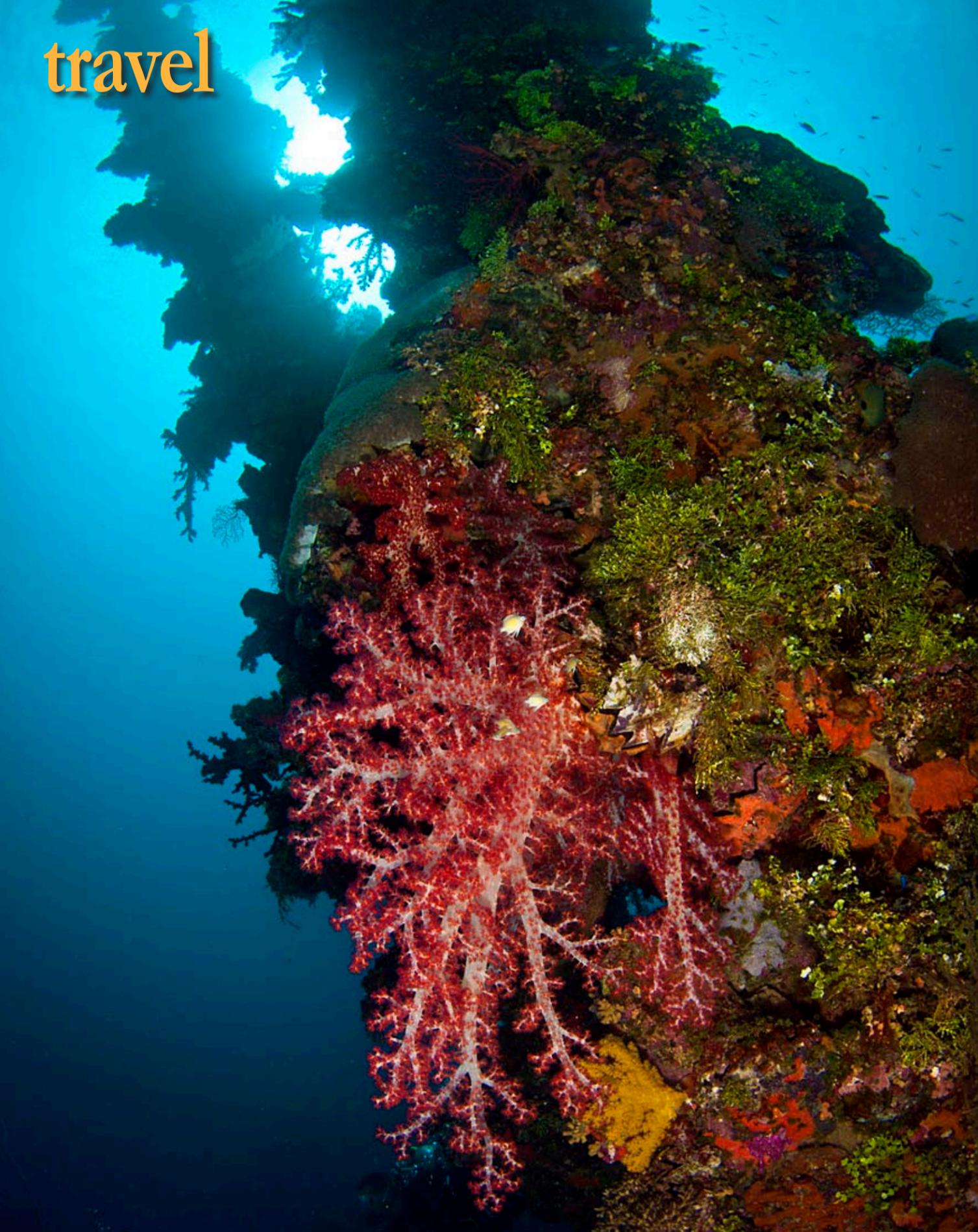


An underwater photograph of a shipwreck's interior. The scene is dimly lit, with two bright blue lights illuminating the space. The walls and floor are covered in coral and other marine life. The floor appears to be made of metal grating. The overall atmosphere is mysterious and historical.

Chuuuk

Wreck Junkie Heaven

Text and photos by Brandi Mueller



Coral growth on the wreck of the *Sankisan Maru*

Chuuk



View of Chuuk Island. PREVIOUS PAGE: Diver in interior of Betty plane

My dream history lesson includes a tropical Pacific island where I step off a beautiful boat soaked in sunshine the warm Micronesian waters and descend on a coral covered ship that was part of World War II. This dream and these ships came to life for me during a recent trip aboard the *MV Odyssey* liveaboard. Truk Lagoon, now known as Chuuk, is most certainly one of the world's greatest wreck diving destinations. These lush green islands with palm trees and calm blue waters make it almost impossible to fathom the immense battle that took place on the 17th and 18th of February, 1944.

Under Japanese occupation during World War II, Truk served as one of the Japanese Imperial Navy's main bases in the South Pacific Theater. Some compared it as Japan's Pearl Harbor. This logistical and operations base for the Japanese Combine Fleet served as the stage for the United States' attack called Operation Hailstone.

Known in Japan as *Torakku-tō Kūshū* (the airstrike on Truk Island),

the United States took Japan by almost complete surprise with two days of daytime and nighttime airstrikes, surface ship actions, and submarine attacks. Ordered by Admiral Raymond Spruance, Vice Admiral Marc A Mitscher's Task Force 58 included five fleet carriers (the *USS Enterprise*, *USS Yorktown*, *USS Essex*, *USS Intrepid*, and the *USS Bunker Hill*) and four light carriers embarking more than 500 planes. There were also seven

battleships, numerous cruisers, destroyers, submarines and other support ships assisting the carriers.

Airstrikes, employed fighters, dive bombers and torpedo aircraft were used in the attacks focusing on airfields, aircraft, shore installations, and ships around the Truk anchorage throughout the day and night. Many airplanes were destroyed as they were unable to take off, having just been delivered off cargo ships and still



CLOCKWISE FROM LEFT: Coral-encrusted mast of the *Fujikawa Maru*, with the *Odyssey* hovering overhead; Damselfish; The *MV Odyssey*; Damselfish looks out from a sponge on the *Fujikawa Maru*

being disassembled.

Although still a major success for the Americans, just a week before Operation Hailstone, much of the Japanese fleet's larger warships were sent to sea to be relocated out of Truk. This was probably due to the base becoming too vulnerable. But even with those ships gone, the Americans sank 12 Japanese warships, 32 merchant ships, and destroyed 249 aircraft. Many of the ships were loaded with supplies to be delivered to other parts of the Pacific and little of the cargo was recovered, thereby hindering the Japanese Navy in the Central and South Pacific and ending Truk as a threat to Allied operations in the Central Pacific.

Many ships sank and many lives were lost, but the ships of Truk Lagoon now serve a new purpose underwater. Reborn as artificial reefs, the wrecks have become covered with marine life and become home to schools of fish, anemones, corals, sharks and much more.

The wrecks of Truk Lagoon had been on my 'must dive' list for years, but Chuuk is a long way away from almost everywhere. Serviced only by United Airlines, a stop in Honolulu or Guam is required to get to Truk. My flights included eight hours to Honolulu, eight more to Guam, and a thankfully short two-hour flight to Chuuk.



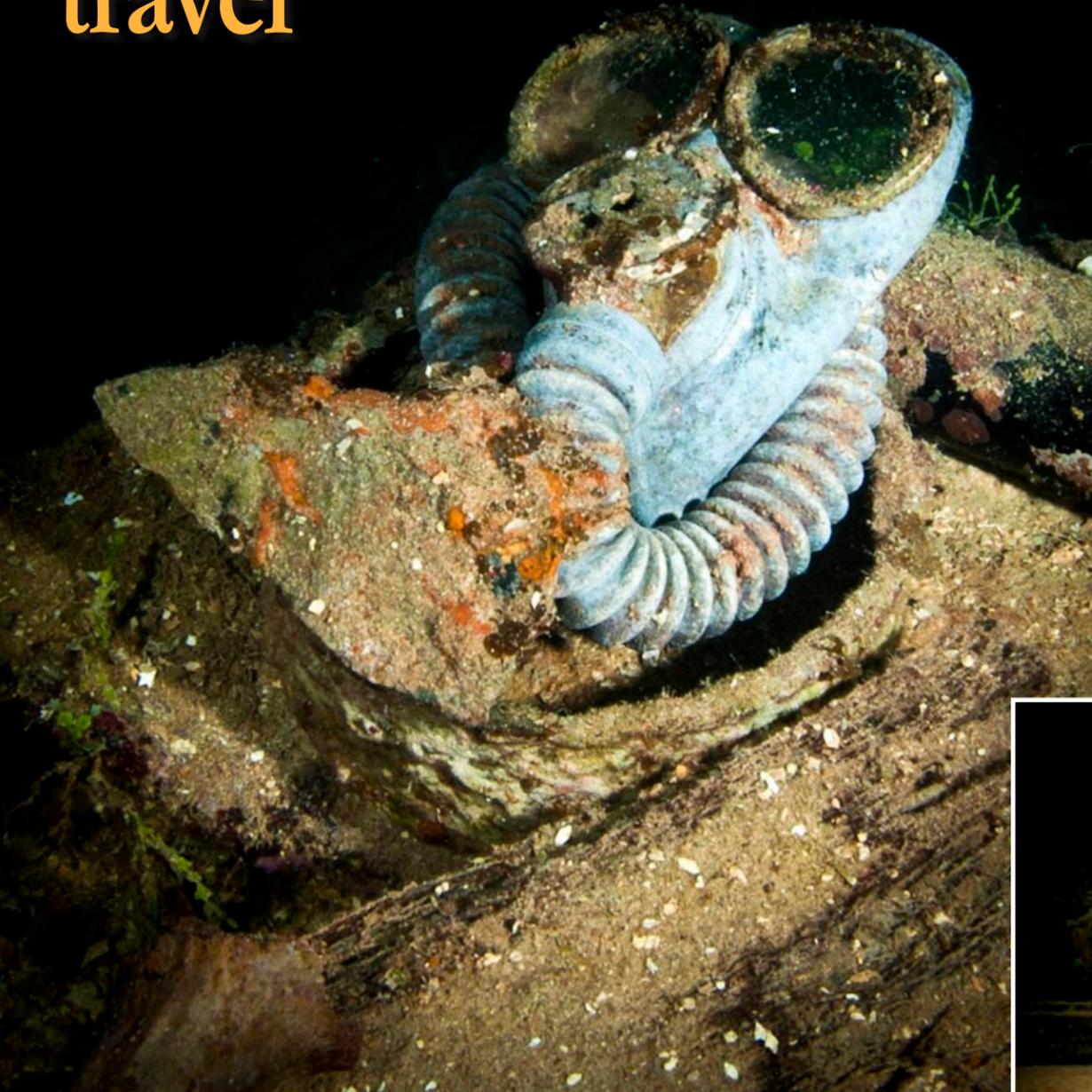
Arriving very late, and very tired, I was greeted at the airport by several pleasant crew from the *Odyssey* who took us to the boat. Much too excited to sleep, I laid awake in my cabin waiting for morning and our first wreck.



Diving the wrecks

Finally, morning came. Breakfast was served and Captain Nelson gave us the dive deck briefing. He touched on several important topics concerning diving these wrecks, the first being that these wrecks were not sunk on purpose. Unlike many wrecks sunk artificially, which are cleaned and made safer for divers, these are actual sunken warships with potential hazards requiring divers to be aware at all times of

what they're doing, especially inside the wrecks. Visibility inside the wrecks can go from great to zero quickly from bubbles knocking off rust from overhead environments and stray fins can kick up silt leading to low visibility situations. These ships, having been underwater for almost 70 years, are beginning to show their age. For example, one of the Lagoon's most famous wrecks, the *Fujikawa Maru*,



Gas mask (left) and bicycle parts (below) on the *Kiyosumi Maru*; The *Odyssey* (right) at the surface over a ship mast covered in soft coral

sengers launched in 1934 and converted into an armed merchant raider in 1941. She participated in the Battle of Midway and had been towed to Truk for repairs after being damaged by aircraft bombs.

Sunk on her port side, laying in the sand at 31m (100ft), we swam the length of the ship and eventually entered hold #2 through the hole caused by the bomb that sank the ship. Covered in growth, particularly long branched bushes of black coral, jellyfish seemed to be strategically placed around the outside of the ship, as if they guarded it. Originally holding eight guns, all have been removed, but the platforms remain. Our dive guide led us into hold #5 to see parts of two bikes and then hold #6 to see two massive spare propeller blades. Collections of bottles found inside the



known for its spectacular engine room penetration, has had most of its super structure collapse in the past year, making it dangerous to access its famous engine room.

Before diving each wreck, the *Odyssey's* knowledgeable staff gives a thorough briefing about each wreck showing a dive map to recommend dive plans, points of interest as well as hazards. They also give incredible history about each wreck, discussing each ship's role before and during the war.

Kiyosumi Maru. Stepping off the *Odyssey* and descending upon our first wreck, the

Kiyosumi Maru, feels like entering another world. The intact ship body, sitting 12m (40ft) below the warm Micronesian waters starts to bring to life the battle that took place here.

In Japanese, *maru* means *circle*, or *round*. This name is given to ships that circle back to where they came from. The warships did not have that distinction, as they were sent into battle, not expected to return. The *Kiyosumi Maru* was a 137m (450ft) long and 18m (6ft) wide freighter that also carried pas-



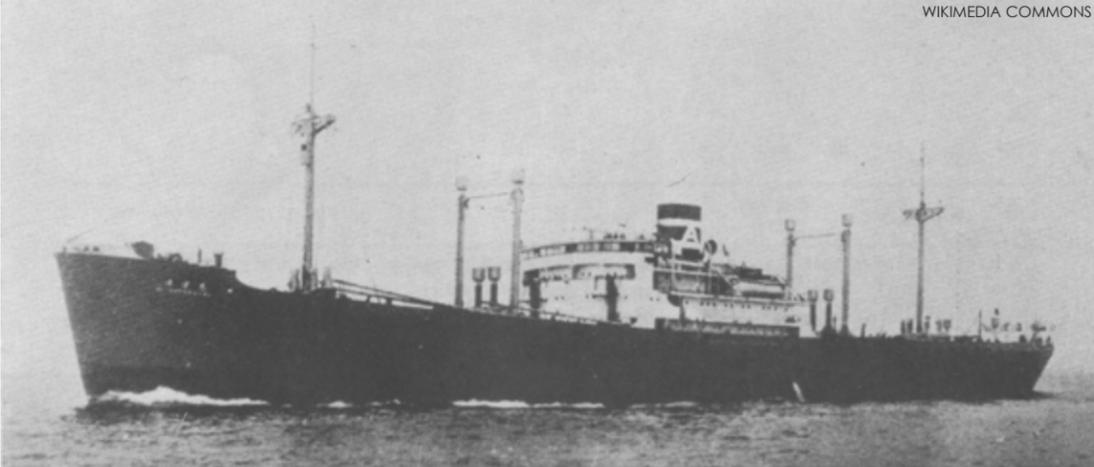
ship have been gathered in several places on the outside for divers to see. We also came upon a gas mask that almost looks like you could put it on and use it today.

Yamagiri Maru. The *Yamagiri Maru* was a 133m (437ft) passenger/cargo carrier launched in 1939 and converted to a military transport ship in 1941. This ship was damaged by two torpedoes in 1943 from the submarine *USS Drum* and repaired in Rabaul before sailing to Truk and then sank by dive bombers from the *Yorktown* and *Bunker Hill*.

Sitting at 36m (120ft) with its shallowest parts around 18m (60ft), this ship's most interesting feature is in hold #5. On their way to be delivered to the battleships *Yamato* and *Mushashi* were armor-piercing shells 45cm (18in) long, weighing over 3,000 pounds each, which could be hurled 38km. These gun rounds were for the largest guns



Anemonefish on the *Fujikawa Maru*



WIKIMEDIA COMMONS

Chuuk

only two made-for-war ships sunk in Chuuk, it is a 97m (320ft) Mutuki Class destroyer built in 1926 and was in Truk for repairs from an attack by U.S. planes near Rabaul on 4 January

tion and respect of the *Fujikawa* and other wrecks in the lagoon. Collections of artifacts from the inside are gathered on different parts of the ship including china with Japanese brandings. Schools of tuna and smaller fish circled the wreck, and a large barracuda seemed to be standing guard over the bow gun.

best wreck penetrations, much of the superstructure of the *Fujikawa Maru* has collapsed recently, making it very difficult and potentially dangerous to enter the engine room due to its instability.

1944. Prior to the Rabaul damages, the *Fumizuki* helped relieve Japanese forces in the battle of Guadalcanal as part of the "Tokyo Express".

Fumitsuki Destroyer. The *Fumitsuki* is a dedicated warship built for the Japanese Navy, and has no "maru" following its name. One of

Damaged by bombing during Operation Hailstone, her crew abandoned her when she lost power. They attempted to tow her to a new anchorage, but had not noticed the ship had its

Often considered one of the

The bow gun of the *Fujikawa Maru*; The *Kiyosumi Maru* before the war (top right)

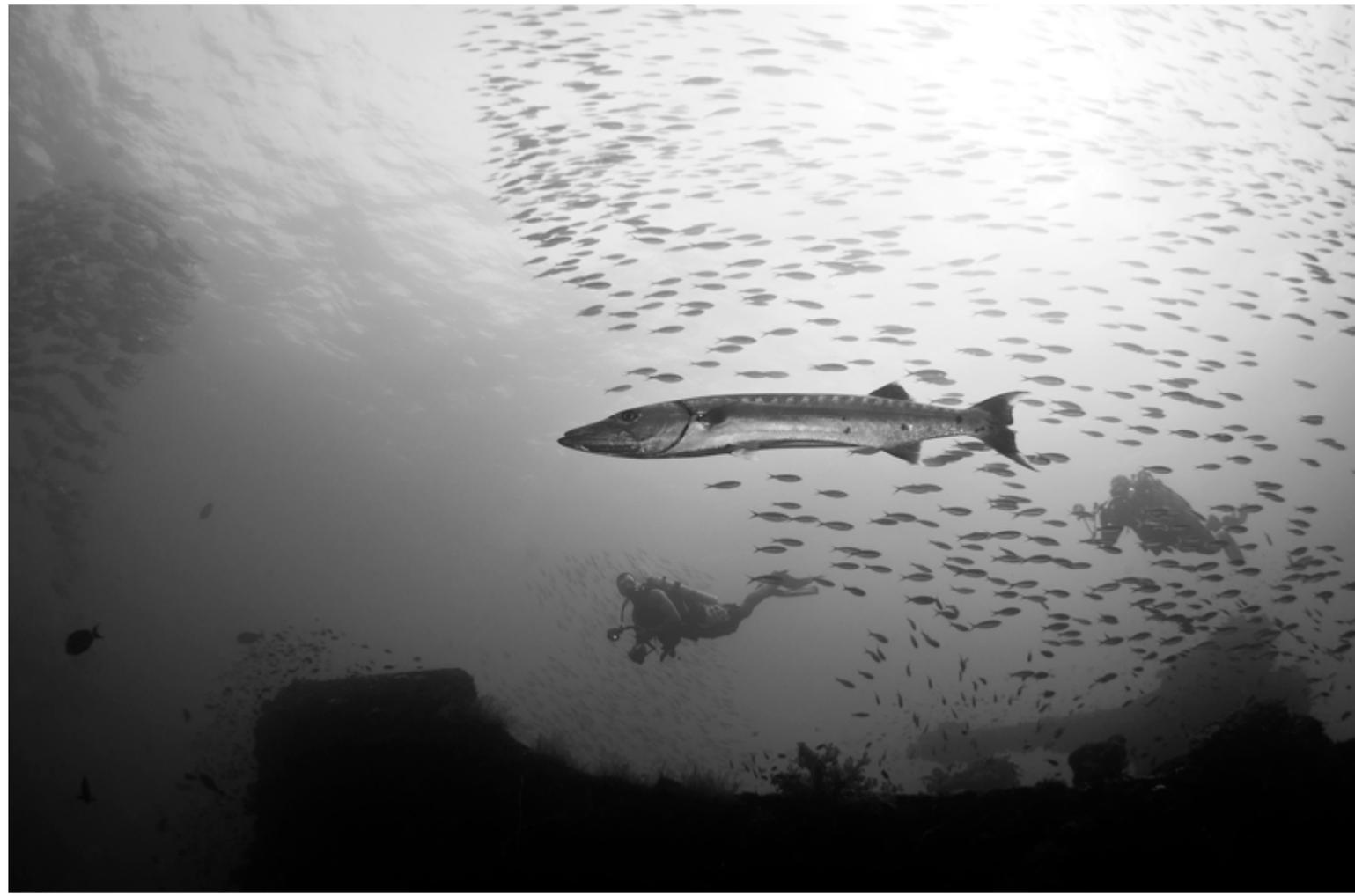
ever made for a battleship; the largest American battleships had only 40cm (16in) guns. Being a lover of macro ocean life, I couldn't help but be amazed at all the little creatures that could be found making their homes in these sunken ships. One second the dive guide would be pointing out 45cm ammunition and the next moment I would find a nudibranch crawling its way up across the bow of the WWII wreck. Anemones seem to have happily made their homes all over the wrecks, and their respective anemone fish eagerly come up to look at you, looking back at them.

ried raw silk and cotton between South America and India. Commissioned into the Japanese Navy in 1940 and outfitted with 15cm (6in) guns on her bow and stern, she was tasked for transportation, including the delivery of aircraft and aircraft parts to Pacific islands.

Still aboard the ship during the attack were three Zero fighter planes in cargo hold #2 and a fourth plane that is possibly an A6M "Claude" fighter, the only known surviving plane of that type. The *Fujikawa* sits upright, and we followed our dive guide from the surface down into cargo hold #2 to see these mostly intact planes. In the clear water, the planes looked as if a pilot could sit in them today and fly right out of the ocean and back into the air. We also saw spare wings and fuel drums.

Carrying planes to Truk, the *Fujikawa Maru* off-loaded 30 B5N2 bombers (Jill planes) which lay in pieces on Eten Airfield (Eten Island) during Operation Hailstone. They were unable to help defend against the Americans. Bombed by air attacks on February 17, the *Fujikawa* was still afloat on February 18. Essex dive bombers hit the port quarter with a 1,000-pound bomb. Finally, two Monterey airplanes attacked and witnessed a huge explosion and the ship in flames.

Often boasted as one of the most beautiful wrecks in the lagoon, this magnificent ship is covered in pink and white soft coral, blue sponges, and every inch of it is covered in differently-colored marine life. On the deck, a plaque dedicates the preserva-



Divers swim over the *Fujikawa Maru* to get a better look at a barracuda

Panel of gauges lies in the sand a few feet from the Emily plane

anchor dropped to avoid drifting on the reef.

Sitting between 24-36m (80-120ft) this warship still has intact bow and stern guns and a torpedo launcher. Being built as a warship and not a more comfortable passenger ship, we could immediately tell how much more compact the spaces were on the ship. We swam through companionways and looked into crew spaces, which were noticeably smaller and reduced in size compared to the passenger ships.

Airplanes. Some of the more popular airplane wreck dives in the Lagoon include the Kawanishi H8K1 "Emily" flying boat and the Mitsubishi G4M "Betty" bomber. Bomber aircraft were often given female names, and fighter aircraft were often nicknamed with men's names.

The Emily flying boat was known for its long range. Nicknamed the "Flying Porcupine", it was very difficult to shoot down because it had self-sealing fuel tanks and internal fire extinguishers. It held a crew of 16, had a 37m (124ft) wingspan and was 28m (92ft) long. It had four 1850 horsepower Mitsubishi Kasei engines.

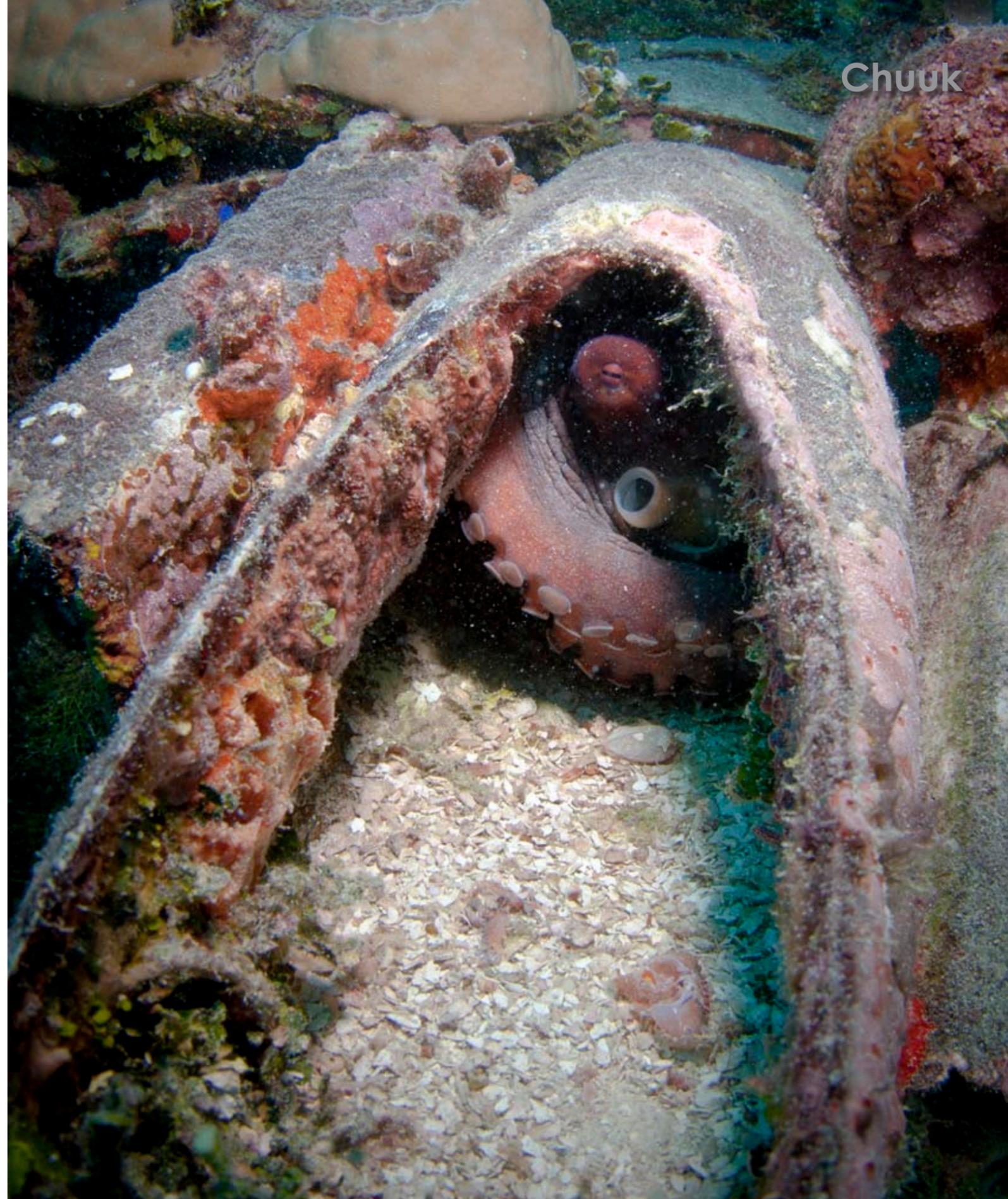
This particular plane was bringing back the commanding officer of the Fourth Fleet, his chief of staff and other senior Japanese naval officers from a meeting in Palau. U.S. fighters repeatedly attacked, and the pilot still managed to escape the fighters and return to Truk. Although, while

trying to land the damaged aircraft, the pilot lost control, and it crashed and sank. The pilot, admiral and chief of staff survived.

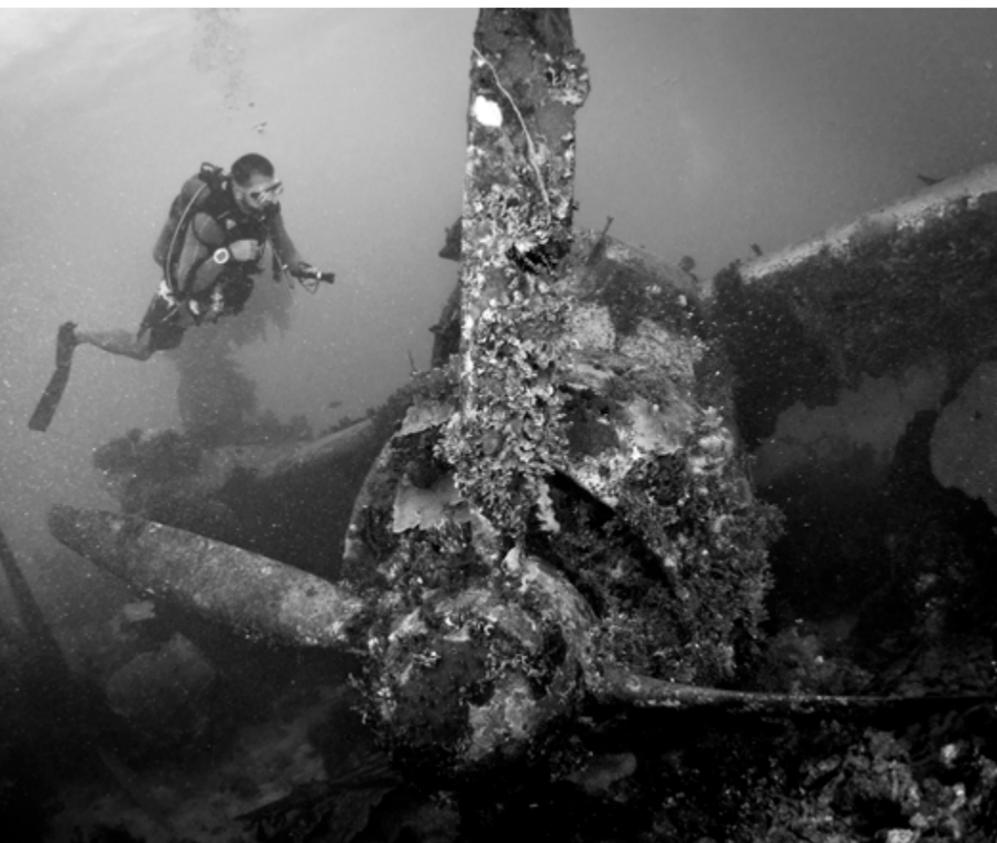
An easy wreck to dive at 15m (50ft), much of the plane was intact including several propellers. Near the plane sat several gauge panels and other airplane parts.

The Betty bomber was a small twin engine plane. The wreck sat in the sand at a depth of 15-18m (50-60ft). Made to be as light as possible, the fuel tanks were unprotected and easily caught fire, making them very vulnerable.

This plane crashed while trying to land on Eten Island. It is unknown if it was shot down or crashed on its own. The engines are found at about 90m (300ft) in front of the rest of the wreck closer to the island. The plane could hold a crew of seven, had a wingspan of 25m (85ft), was 20m (66ft) long and had four 12.7mm machine guns, one 20mm cannon and one 1750lb bomb.



Chuuk



Octopus (above) takes up residence in part of the Betty plane; Diver swims over the remains of an Emily plane (left)



Shinkoku Maru.

My favorite wreck in the lagoon—the *Shinkoku Maru*—has become a fantastically beautiful artificial reef. Pink and purple anemones can be found all over the top deck. Schools of fish, big and small, have populated the ship. Sitting between 9-40m (30-135ft), the 152m (500ft) commercial tanker was built in 1940. Before the war, it transported oil from the United States to Japan.

Its name meaning “divine country”, it was

requisitioned by the Japanese Navy into a naval tanker in 1941. She participated in the attack on Pearl Harbor.

Minor damage to the *Shinkoku* occurred on 17 August 1942 when the ship was torpedoed by the U.S. submarine *Gudgeon* and was repaired. Arriving to Truk only three days before the carrier strikes on 14 February 1944, it is thought she received a bomb hit amidships by

Yorktown planes, but she did not sink until an unknown air group struck the ship with a torpedo attack later in the day. Planes from *Bunker Hill* made six torpedo drops that all missed.

Sinking upright, the masts used to be above the water line, but due to possible boat traffic hazards, they were toppled by explosives. The ship was identified by the ship's bell, which was found with the name engraved.

With the super structure of the *Fujikawa Maru* collapsing, it's my opinion that the engine room tour of the *Shinkoku* is probably now the best in the lagoon. My dive guide took me into the ship through the smoke stacks that start around 18m (60ft). Headed straight down to around 33m (110ft), one can exit the ship through the torpedo hole at 41m (135ft) in the bottom port stern. We came out the torpedo hole, looked up at the massive ship and went back in through the hole to tour the engine room, generator rooms and other areas inside the wreck.

Along with the fantastic penetration, this ship has prolific and abundant marine life. Schools of batfish are found along the top deck, and several sharks were seen passing

the ship. With the superstructure being fairly shallow and so much marine life and abundant artifacts gathered on the deck, this wreck definitely needs several dives to see it all.

Hoki Maru. Another lagoon favorite is the *Hoki Maru* due to her cargo. Construction equipment and vehicles are found in hold #5 including intact trucks, tractors, a steamroller and two bulldozers. The trucks have right hand steering wheels, and the tractor looks similar to a John Deere model.

Originally named the *Hauraki*, this ship was a British/New Zealand cargo and passenger ship launched

in 1921. Seized by the Japanese in 1942, it was renamed the *Hoki Maru*. She was used for special transport. Sitting around 49m (160ft) in the



WIKIMEDIA COMMONS

CLOCKWISE FROM ABOVE: *Shinkoku Maru*; Anemonefish in large anemone on the wreck of the *Shinkoku Maru*; Artifact on the *Shinkoku Maru* wreck; Diver at davit on the *Hoki Maru*; Truck on the *Hoki Maru*; Historical image of the *Hoki Maru*

SUBMERGED.CO.UK





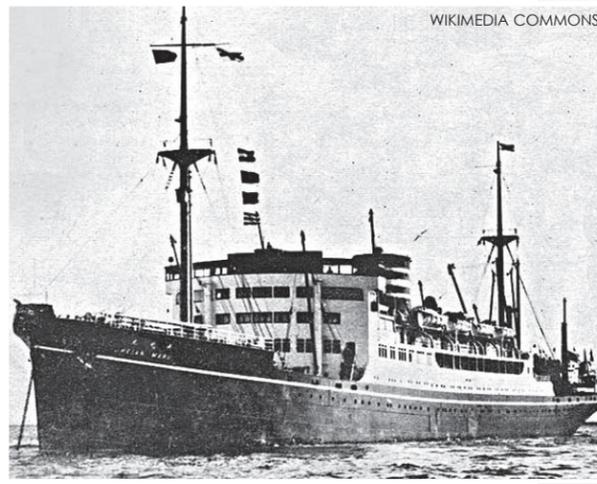
CLOCKWISE FROM BOTTOM LEFT:
Tractor on *Hoki Maru*; Diver on the
Nippo Maru; *Heian Maru* pre-war;
Divers at mast of *Nippo Maru*;
Medical kit found in *Heian Maru*

sand, this 137m (450ft) ship's bow was severely damaged by two 1,000-pound bombs that hit the port side igniting fuel and causing a massive explosion and fire. The deck appeared to have been peeled back or ripped open from the rest of the ship.

Nippo Maru. Hit and sunk by three 500-pound bombs in its stern, the *Nippo Maru* was a 106m (350ft) transport ship mostly carrying water. Originally a passenger and cargo freighter, she was seized in 1941 by the Japanese. She now sits mostly upright with a 20 degree port list between 15 and 45m (50-150ft). The *Nippo* has a very noticeable wheelhouse with an intact telegraph and steering helm. Hold #4 is particularly interesting with its aluminum water containers, bottles and bike parts. On the port side bow, a small, mostly intact tank is found as well as a truck chassis.

Heian Maru. The largest wreck in the lagoon at 155m (510ft), the *Heian Maru* was built in 1930 as a passenger cargo ship. Recalled to Japan during a normal voyage between Hong Kong and Seattle in 1941, she was then converted to a submarine tender. Her name is found in both English and Japanese on the hull. She was named after the ancient city of Heinkyo, "The City of Peace and Tranquility".

Sunk on her port side and sitting between



10-30m (35-100ft) of water, one of the most notable parts of the *Heian Maru* are Type-95, 7m (23ft) long torpedoes, which are stored upright in the forward holds. Artifacts have also been gathered from inside the ship and placed together including a fantastic medical kit with several different colored bottles.

Torpedoes inside the *Heian Maru*

San Francisco Maru. Although I did not dive this wreck, it deserves to be mentioned here. One of the deeper wrecks in the lagoon sitting upright from 45-63m (145-205ft), it is unique, as there is not much growth due to its depth. It is also a very interesting wreck because it has three intact Japanese Type-95 light tanks, which were crewed



Inside the *Rio de Janeiro Maru* (left); Engine room (bottom left), Bottle Room (center) and mast (right) of the *Rio de Janeiro Maru*

trucks, fuel and aerial bombs and torpedoes, and depth charges are found in the aft holds.

Rio de Janeiro Maru. Before WWII, the *Rio de Janeiro Maru* was an eight-deck passenger luxury liner, which carried people and cargo from Japan to many areas of the world including South America, South Africa, the United States. Built in 1940 and converted into a submarine tender in 1940 for the Japanese Navy, she serviced six submarines. After Japan lost most of its submarines, she was reclassified as a transport ship. Sunk by at least one bomb from an Essex aircraft, she now rests on her starboard side at 40m (130ft).

Another of my favorites, this 137m (450ft) wreck had an easily accessed large engine room with many knobs, gauges and pipes. There was also a hold referred to as the 'bottle room' with stacked boxes of beer bottles. The ship also had very large, photogenic, propellers. One needs several dives to fully explore this large, mostly shallow wreck.

Afterthoughts

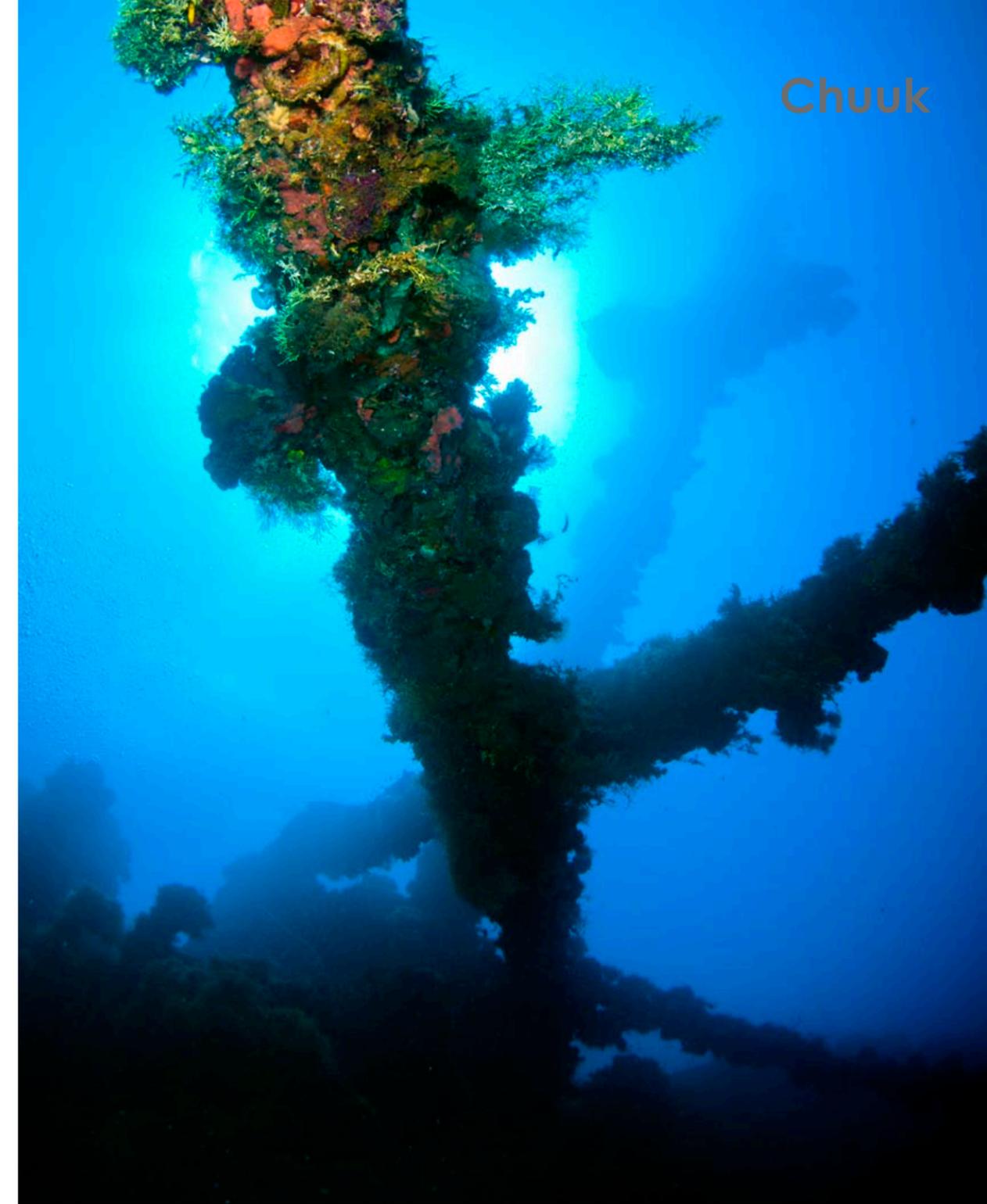
With so many wrecks in Truk Lagoon, one needs multiple trips to see them all, much less explore them adequately. The *MV Odyssey*, a 40m (132ft) luxury liveaboard with nine very comfortable private state-rooms, a spacious dive deck, large camera table, and fantastic meals makes it easy to dive as many of the lagoon



by three people. These tanks sped up to 30mph and had half-inch armor. The *San Francisco Maru* was built in 1919 as a freighter. She became a cargo ship in WWII.

Known as the million dollar wreck

because of her estimated worth of cargo, divers find many very interesting war artifacts on this ship. Hold #1 contains sea mines and detonators, hold #2 has several



wrecks in a week as possible. Offering five dives a day and a fantastic and knowledgeable crew, I can't imagine a better way to make the most of a week diving Chuuk.

I've often heard people talk about diving Chuuk, and they think it is too advanced for them. It can be, but it doesn't have to be. For divers who do not want to go "deep and dark", the

outsides of the wrecks have become fantastic artificial reefs with hard and soft corals, anemones, large schools of fish, and plenty of the macro critters found in other parts of Micronesia (most of the time divers are too enthralled with the wrecks to search for them!)

Almost all the wrecks can provide a spectacular dive above 30m (100ft). And usually when the *Odyssey* dives the very



Rio de Janeiro Maru (above) before the war; Diver (far left) explores the wreck of the Rio de Janeiro Maru; Map (left) shows wreck sites

deep wrecks, they will provide an alternative wreck for those who do not want to go that deep.

The experienced and well-trained Odyssey crew will also go above and beyond to make sure every diver on the boat gets the diving they are looking for. Dive guides can recommend easier dive plans for those wanting to stay shallower and outside the wreck.

If you do, however, want to go "deep and dark", they will take you on mind blowing penetrations into engine rooms, cargo holds, and more. Aboard the Odyssey divers are given the opportunity to dive at their leisure or have one of several fantastic dive guides lead them. Technical diving is allowed on the Odyssey for certified or experienced tech divers.

Many lives were lost and ships sunk in the waters of Truk Lagoon. But underwater, the

ships have been reborn as thriving artificial reefs. Almost 70 years in the nutrient rich waters of Micronesia have made these

ships stunning and colorful marine habitats. Hard and soft corals cover the outsides of the ships and large school of tuna, barracuda and sharks swim by. The ships are also the grave sites of those who made the ultimate sacri-

—they gave their lives for their country. The wrecks provide a tangible history lesson, and nothing is more excit-



AOTEAROA / WIKIMEDIA COMMONS



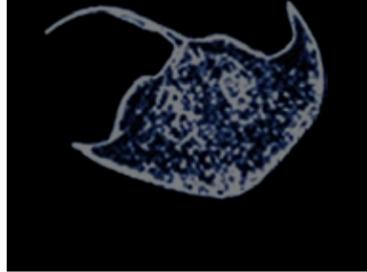
ing than being able to visit and explore them. ■

Brandi Mueller is an underwater photographer based in Honolulu, Hawaii. She is a PADI IDC Staff Instructor and 100ton USCG Captain. See: smugmug.sirenphotography.com

Sankisan Maru (top right)

SOURCES:
WWW.THORNFIN.NET
WWW.PACIFICWRECKS.COM
BATTLESTATIONS.EU/INDEX.PHP/EN/OUR-ENCYCLOPEDIA/NAVAL-BATTLES/144-OPERATION-HAILSTONE MORISON, SAMUEL ELIOT. ALEUTIANS, GILBERTS AND MARSHALLS, JUNE 1942-APRIL 1944 (HISTORY OF U.S. NAVAL OPERATIONS IN WWII), 2011
BALLEY, DAN. WORLD WAR II WRECKS OF TRUK LAGOON, 2001

fact file



Chuuk, Micronesia



SOURCES: U.S. CIA WORLD FACT BOOK, VISIT-FSM.ORG

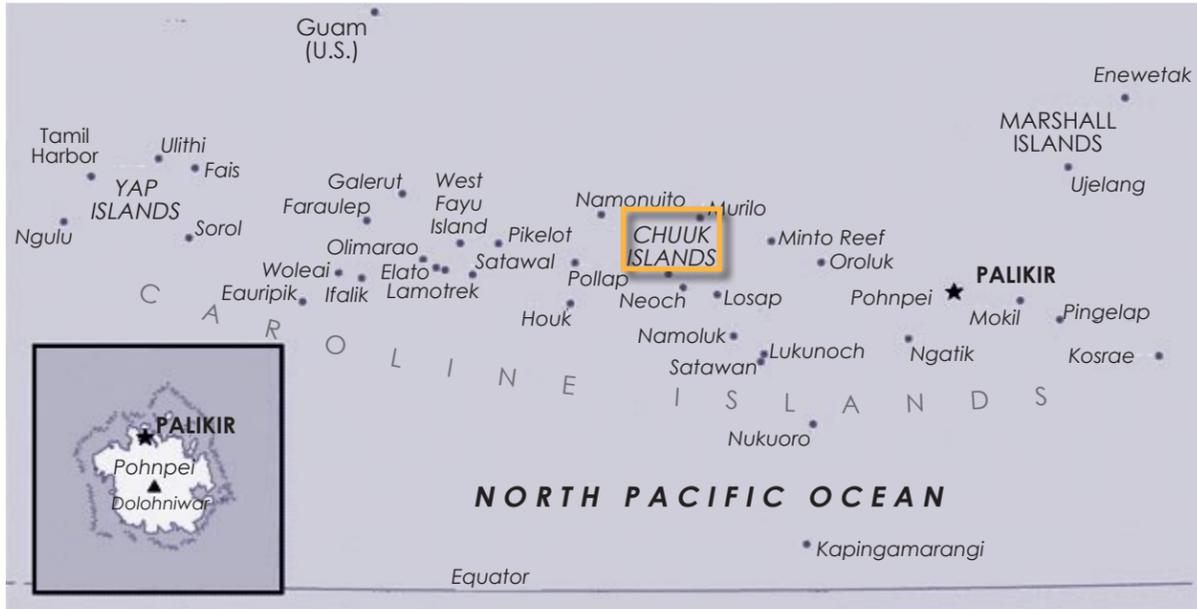
History The Federated States of Micronesia (FSM) was formed in 1979 including Pohnpei, Kosrae, Yap, and Chuuk (Truk). Currently the FSM is independent under a Compact of Free Association with the United States. Occupied by the Japanese prior and during WWII, Chuuk served as a major operational base for the Japanese Imperial Navy Combined Fleet and was the target for the United States military attack known as Operation Hailstone on 17-18 February 1944. Government: Constitutional government in free association with the United States. Capital: Palikir

Geography All four islands are located in the North Pacific as part of the Caroline Islands. The islands are mountainous with tropical jungle. Coastline: 6,112km

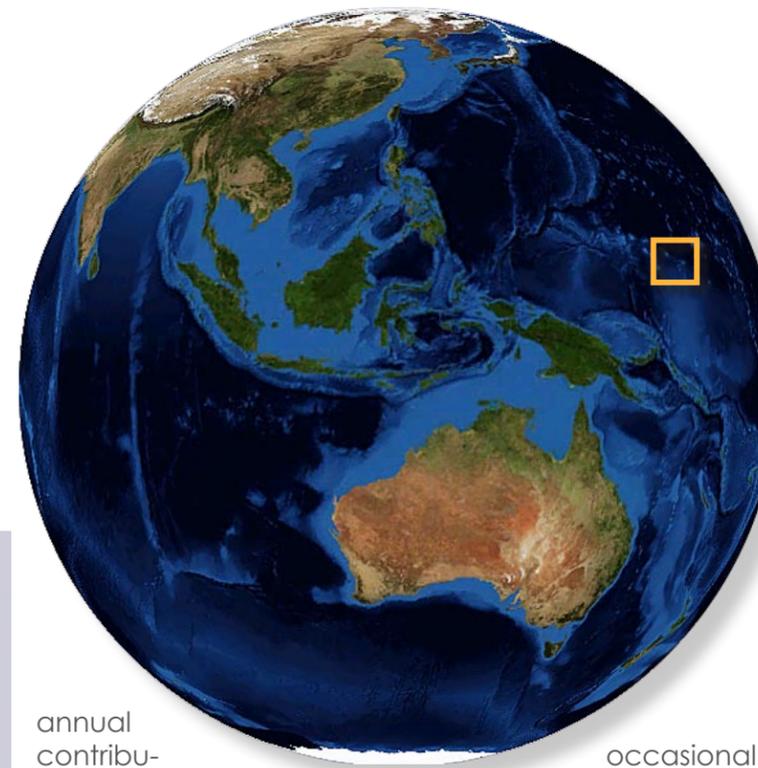
Climate Equatorial tropics with average temperatures of 23-30°C (75-86°F) year round. Heavy rainfall year round with summer and fall being the wettest. Little typhoon risk (June to December). Water temperatures are warm with 27-28°C (80-83°F).

Environment Overfishing, climate change and pollution pose challenges.

Brick on wreck of the Heian Maru



RIGHT: Global map with location of Chuuk Islands
BELOW: Location of Chuuk Islands on map of Micronesia



annual contributions by the United States and the FSM to in effect provide payouts in perpetuity to the FSM after 2023. Despite this move, the medium-term economic outlook looks fragile due to current slow growth of the private sector.

Population 106,487 (July 2012 est.) The FSM has several ethnic groups: Chuukese 48.8%, Pohnpeian 24.2%, Kosraean 6.2%, Yapese 5.2%, Yap outer islands 4.5%, Asian 1.8%, Polynesian 1.5%, other ethnic groups 6.4%. Religions: Roman Catholic 52.7%, Protestant 41.7% (2000 Census) Internet users: 17,000 (2009)

Currency U.S. Dollar

Language Chuukese, English

Health In the FSM, there is no risk for rabies or malaria, but

Decompression chamber There is a chamber in Chuuk

Getting there United Airways services Chuuk with routing through Guam and Honolulu.

Entry/Exit \$20 U.S. cash departure tax collected at airport prior to departure

Web sites Tourism Micronesia www.visit-fsm.org

occasional risk for dengue. FSM is very close to

the equator, so be aware of heat and sunburn. Local hospitals are on each island but have very few resources. On Chuuk, there is a hospital in Weno that can take care of normal needs, although it's suggested prescription medication for the entire stay is brought with you. Major illnesses should be flown to Guam (~3 hours) or Honolulu (~7 hours).

Security It's not safe outside resort areas. It's not advised to be out at night, even in cars. The Odyssey provides transportation from and to the airport.

Nippo Mura wreck

