



Underwater photographer (above) approaches a school of Heller's barracuda; School of purple queen anthias fish (right) swim amongst a colony of branching hard corals

PREVIOUS PAGE: Manta ray swims into a swift current through Tiputa Pass on Rangiroa Atoll

Situated east of the more widely recognized Society Islands such as Tahiti. Moorea and Bora Bora. the **Tuamotu Archipelago comprises** around 80 islands and atolls stretching northwest to southeast across the South Pacific Ocean, creating the longest chain of atolls in the world. These sand-covered, coral reef islands rise only a few feet above the waterline and are home to fewer than 20,000 inhabitants, spread out over an area the size of Western Europe. Reminiscent of the southern atolls in the Maldives, divers flock to the Tuamotus to see large schools of fish and pelagics swimming in the swift currents that flow through the passes between islands. Matthew Meier shares highlights from his adventure in Tuamotu, after visiting the archipelago on the only liveaboard operating in the area.





After two days of waiting and several failed attempts, Mother Nature finally rewarded us with an incomina current at the famed Tiputa Pass on Rangiroa Atoll. The skiff dropped us in open ocean just outside of the pass and we were now rocketing through the water, 100ft (30m) below the surface. Large schools of fish and gray reef sharks assembled at the mouth of the pass, hovering effortlessly in the current, while a squadron of eagle rays and two great hammerhead sharks circled another 50ft (15m) below.

As we entered the pass, the bottom rose to meet us, further heightening the sensation of speed, as we whipped past grooves and channels in the rocky sea floor. In the distance,

a large shape loomed and appeared to be moving in our direction. A manta ray was swimming out of the channel, pushing against the intense current with relative ease. Clambering towards the bottom, I managed to secure a reef hook and flatten myself against the rocks in hopes of minimizing my resistance to the fastflowing water. What happened next was one of the more magical experiences of my diving career.

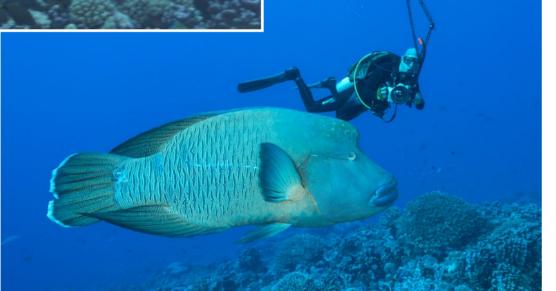
The manta ray swam up beside me, paused and then slowly moved directly overhead, eventually getting so close that I lost sight of its wingtips through my camera. For what seemed like an eternity, I lay there mesmerized by this incredible creature, gliding effortlessly above me

X-RAY MAG: 83: 2018





Silvertip shark swimming above the coral reef on Rangiroa Atoll (left); Manta ray (above) in swift current through Tiputa Pass on Rangiroa Atoll; French Polynesia Master (right), the only liveaboard dive boat operating in Tuamotu Archipelago; Diver with humphead wrasse (below)



This adrenaline-filled destination is easily reached by way of an eightbased resorts exist on both atolls, but hour flight from Los Angeles to Tato truly experience all of the surhiti, followed by a one-hour puddle rounding area, I suggest an excursion on the French Polynesia Master. jump to Fakarava or Rangiroa. Land-

Operating since January 2017, she is the only liveaboard dive boat in the Tuamotus and allows for up to four dives per day, on seven- to 10-



day expeditions. Built specifically for divers, this brand-new vessel offers an expansive dive deck, multiple camera tables, spacious cabins and plenty of lounge space.

Marine life

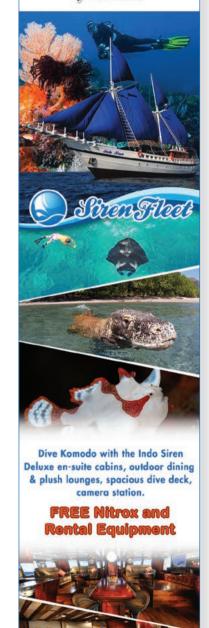
Diving in the Tuamotus is dependent on the currents and the creatures they attract, including barracudas,

big-eye jacks, several species of sharks, dolphins, manta rays, eagle rays and even the occasional whale shark. The extensive hard coral reefs support immense schools of reef fish as well as solitary animals such as the humphead wrasse, titan triagerfish and multiple species of sea

Of course, there are also inver-



W@RLDWIDE DI¥E & S▲IL presents



further information

Contact us for

X-RAY MAG: 83: 2018

and then, as quickly as it appeared,

Looking back at my photos, of which there were far fewer than I imagined, the entire encounter had lasted less than a minute. Nevertheless, I was excited when I got to the surface, thinking that nothing could top my dive, only to learn that our other group of divers had experi-

enced a close encounter with a ti-

ger shark while watching the manta

ray dance above me. Welcome to

it was aone.

the Tuamotus!

TRAVEL









tebrates, crustaceans and other macro critters to see on the reefs. However, except for the relative calm at certain spots inside the lagoon, the currents make it diffi-

cult to stay stationary and observe or attempt to photograph the little stuff. This is a wide-angle, pelagic, schooling fish, riding-the-current type of destination, and travelers Numerous gray reef sharks swimming in the current form a wall of sharks off Fakarava Atoll (above(and off Toau Atoll (left)

hoping to spend their time planted in one spot, scouring the reef for interesting critters, should likely head elsewhere.

Sharks. I have heard stories of the famed wall of sharks when I first visited French Polynesia over a decade ago. Thrilling tales of strong currents, wild rides and sharks too numerous to count while diving at places like Fakarava and Rangiroa. I am here to tell you that the walls do exist, and they are not confined to simply those two atolls.

Gray reef sharks gather with the incoming current and use their streamlined bodies to seemingly hover in the water column. We saw this phenomenon at numer-

Gray reef shark (above); Juvenile blacktip reef sharks swim in the shallow waters of Rangiroa's blue lagoon (top left)



38 X-RAY MAG: 83: 2018

DITORIAL

TURES

/EL

WR

RECKS

IT BC

SCIENCE & ECOLO

:H EDI

UCATION

VEILEG E

DUOTO & VIDEO

PORIFOLIO





Aggregation of raccoon butterflyfish at Apataki Atoll (above); Aerial view of the Arutua Atoll while flying south from Rangiroa to Fakarava (right)

ous atolls during our liveaboard adventure; and the stronger the current, the more sharks it seemed to attract. Photographing this spectacle requires patience, a little luck and a reef hook, so you can stay anchored against the racing water. Camera in hand or not, this exhilarating experience is not to be missed.

During the months of May and June, large numbers of hammerhead sharks may be found around Fakarava and Rangiroa. Sharks are revered in French Polynesian culture, and historical lore tells of a shark constellation in the stars. Our local guide told stories from his childhood of swimming with small sharks that had been caught in fish traps by the diminishing tide. He said that sharks are seen as gods, messengers to the spirit world and even as an intermediary between humans and death. They represent the warrior

spirit, and he explained that to become a chief, one had to first swim with sharks.

Grouper. As the hammerhead sharks disperse, large numbers of camouflage grouper gather at the south pass

on Fakarava Atoll in what may be the largest known spawning aggregation of big reef fish. Often numbering in the tens of thousands, the groupers assemble to spawn with the full moon in late June and early July. During the spawning, the preoccupied fish become oblivious prey for the hundreds of sharks that congregate to take advantage of an easy meal.



Diving conditions

French Polynesia has fairly strict guidelines regulating the number of divers per guide, as well as the allowable depth you may descend based on your certification level. Since many of the dive sites exceed the 60ft (18m) limit for open water divers, an advanced dive certification is recommended, due to the depth and the



School of unicornfish at Apataki Atoll



X-RAY MAG: 83: 2018 EDITORIAL FEATURES TRAVEL NEWS WRECKS EQUIPMENT BOOKS SCIENCE & ECOLOGY TECH EDUCATION PROFILES PHOTO & VIDEO PO





strong currents of the Tuamotus.

Diving is accomplished off small inflatable skiffs in groups of four to six per guide. Typically, there is less than a five-minute ride from the liveaboard to most dive sites. and guests enter the water via a backwards roll on the ocean side of the pass. If there is an incoming current, the group will descend to the mouth of the pass and hook in to stay in place while watching the schools of fish, sharks and other pelagics in the water column. Depth and air supply govern how long divers may stay and watch the show before the quide instructs them to unhook and ride the current through the pass and into the lagoon. Safety stops are typically completed while floating in the blue under the guide's surface marker buoy. Outer reefs



are more easily explored with an outgoing current, as long as divers are careful not to stray too close to the pass and get swept out to sea.

During our 10-day trek across the archipelago, we were often the only boat in sight and nearly always the only divers on a reef. It was easy to envision oneself as a small speck floating on this big blue planet, surrounded by open ocean, with only a small sliver of land serving as protection against



the forces of nature.

The remote beauty of the surroundings seemed to have been stolen straight off a postcard at times. There were numerous uninhabited, palm tree-covered islands, surrounded by shallow coral reefs and turquoise waters, with blue skies and puffy white clouds overhead.

In between dives, it was often possible to walk the beaches of these beautiful islands or snorkel in the shallow waters just offshore. Those of us with a camera did our best to replicate iconic over/ under images with the reef below, palm trees above and blacktip reef sharks in the foreground. I was only partially successful in this venture and will simply have to return



Juvenile blacktip reef shark (above) swims in the shallow waters of Rangiroa's blue lagoon; Hawksbill sea turtle (left)



X-RAY MAG: 83: 2018

EDITORIAL

FEATURI

AVEL

WRE

EQUIPMEI

SCIENCE & ECOLO

ECH

UCAIION

PROFILES

PHOTO & VIDEO

PORTFOLIC







Coral heads in the shallows along the shores of palm tree covered islands of Kauehi Atoll (left); Big-scale soldierfish and humpback snapper hide in a rocky cavern during the day (above); Onespot and humpback snapper fish swimming under the pier at Tetamanu Village on Fakarava Atoll (right)

in an attempt to perfect this shot, among others.

Extra attractions

If vacation time allows, I highly recommend spending extra days in French Polynesia before or after your time on the liveaboard. You can opt to do nothing at all, relaxing in a hammock on a tropical beach, or you can enjoy the numerous activities available on the various islands, designed to keep you entertained.

Rangiroa's blue lagoon. I chose to spend two days on Rangiroa after departing the boat and had an incredible experience exploring the blue lagoon. This shallow body of water is on the western edge of the atoll and is home to dozens of juve-

nile blacktip reef sharks and stingrays. Local independent operators and select hotels offer day tours to the lagoon, allowing guests to snorkel with the sharks and rays, explore remote palm tree-lined beaches and indulge themselves with a barbeque on the sand.

The sharks swim in packs and come right up to the shoreline, often with their dorsal fins exposed. Wading into the water causes the sharks to initially retreat, but by keeping still, with a little patience, they will be circling your ankles in no time. These interactions create lasting memories and fantastic photo opportunities, both above and below the water's surface.

Tahiti's tiger shark dive. For the truly adventurous, a two-tank tiger

shark dive is offered off the island of Tahiti for an up-close look at these magnificent animals. Fish heads are put in the water to attract the tiger sharks and the bait will also often lure in gray reef sharks, blacktip reef sharks, whitetip reef sharks, lemon sharks and nurse sharks, along with a host of reef fish looking for a free meal. This is one of only a few places on this planet where you can reliably interact with tiger sharks. The dives are available year-round but are not conducted daily, so be sure to check the schedule and reserve your space in advance.

Humpback whales. During the months of June through December, with the peak times being mid-August through October, it is also possible to snorkel with humpback





X-RAY MAG: 83: 2018

83:2018

FEATU

TRAV

WREC

EQUIPMEN

SCIENCE & ECOLO

GY T

DUCATIO

PROFI

ES DUOTO 8 V



whales off Tahiti and Moorea. Half-

day tours depart daily in the morn-

ing and early afternoon, with drinks

and snacks provided. The whales

to give birth and raise their young.

but this is an encounter that is very

high up on my bucket list and one

for which I hope to return and ex-

Polynesian Night. Several resorts offer a alimpse into the native

culture with performances of

traditional music and dancing.

Often called Polynesian Night,

these exhibitions take place after

an evening feast of local favorite

in traditional costumes while they

perform ceremonial dances that

have been passed down through

foods. Both men and women dress

My visit was in early March, and I regrettably missed the whales,

migrate from Antarctica to the warm, shallow waters every year



Traditional Polynesian dancers perform for tourists after dinner (left); Tahitian black pearls (above); The inside of an oyster used to produce Tahitian black pearls (right)

from their elders and perpetuate their heritage. Towards the end of the evening, guests from the audience attempt to dance along with the entertainers as they are invited to join in the festivities. The presentation makes for a fun evening and frequently produces colorful stories to share with loved ones back home.

Tahitian black pearl farms. French Polyne-

sia is famous for its Tahitian black pearls, and a visit to an oyster farm is a must. Several operations offer tours so that quests can witness the production process firsthand and browse their selection of finished pearls.

Grown in shallow lagoons with good water flow, baby oysters are raised in pens for three years until

they are large enough to seed for the growth of pearls. The oysters are temporarily removed from the water, and a specially-trained technician carefully seeds each one by hand. A small, perfectly round fragment of shell and the black mantle of a nicely colored oyster are used to seed future pearls, before the oysters are

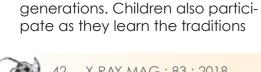


Tuamotu

Large school of yellowmask surgeonfish swimming into a swift current (left); School of bluestriped snapper fish swimming over the shallow hard coral reef (below)



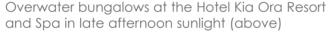




perience.

X-RAY MAG: 83: 2018





A productive oyster generates a maximum of three pearls in its lifetime; on rare occasions, four pearls are possible. Understandably, due to the limited number produced, the extensive labor involved and the many years required for their creation, large and perfectly round black pearls are a highly-prized and expensive commodity.

Afterthoughts

The Tuamotu Archipelago offers a distinctive blend of remote beauty, rich culture, electrifying diving and sharks, sharks and more sharks. I thoroughly enjoyed my time here and will absolutely return for more unique experiences above and below the waves. Looking for your next dive adventure? Come see the magic of French Polynesia for yourself. ■

The author would like to thank Master Liveaboards (masterliveaboards.com) and the Hotel Kia Ora Resort & Spa (rangiroalagoon.com) for their generosity as the gracious hosts on this adventure; Air Tahiti (airtahiti.com) and Air Tahiti Nui (airtahitinui.com) for their



School of bannerfish over reef

Tuamotu

assistance with flights; Fluid Dive Center Tahiti (fluidtahiti.com) for their offer of a tiger shark dive; and Scubapro (scubapro.com) and Blue Abyss Photo (blueabyssphoto.com) for their assistance with underwater dive and photo gear.

Matthew Meier is a professional underwater photographer and travel writer based in San Diego, California, USA. To see more of his work and to order photo prints, please visit: matthewmeierphoto.com.



Several whitetip reet sharks resting in an underwater cavern during the day (above); Purple jellytish just below the water's surtace (le



placed back in the ocean.

After 45 days, the seeded oysters are checked to make sure the grafts placed inside have taken. Out of every 100 seeded oysters, roughly 70 are successful, 25 produce usable pearls, but only the remaining five are perfectly round. Once a seed has been accepted, it takes another two years before the pearl is ready to harvest. Oysters that produce a good colored, round pearl are reseeded with larger starter fragments in hopes of creating a larger pearl two more years down the line.

43 X-RAY N

43 X-RAY MAG: 83: 2018 EDITORIAL FEATUR

fact file French Polynesia



SOURCES: US CIA WORLD FACTBOOK, XF COM MASTERLIVEABOARDS.COM

History The islands of French Polynesia were one of the last places on earth to have human settlers. They were discovered in approximately 200 B.C., as part of the Great Polynesian Migration, which began around 1500 B.C. European explorers did not arrive until the 15th century, and it was not until 1889 that the islands were fully declared a French protectorate. Polynesians were granted French citizenship in 1946, and the islands became recognized as an overseas territory of France. The islands' name was officially changed from the French Establishments in Oceania to French Polynesia in 1957. The French government granted partial internal autonomy in 1977,

and French Polynesia has acted as an overseas collectivity of France since 2003. Government: parliamentary democracy. Capital: Papeete, Tahiti

Geography French Polynesia is an island nation located in the South Pacific Ocean, roughly half way between South America and Australia, east of Fiji and south of Hawaii. The country is made up of 2,525km. five archipelagos, four of which are volcanic in origin, while the Tuamotu islands consist of coral reef atolls. There are 188 islands and atolls in total, 67 of which are inhabited. The country has a total landmass of 3,827 sq km (1478 sq mi) with the highest point being Mont Orohena at 2,241m (7,352ft)

on the island of Tahiti. The terrain is a mix of rugaed mountains and low-lying islands, nearly all of which are encircled by coral reefs. Coastline:

Climate The islands

are humid and tropical

with an average air temperature of 27°C (80°F). In summer, from November to April, the climate is warmer and more humid, while in winter, May to October, it is cooler and less humid. Water temperatures range from 26° to 29°C (79° to 84°F) and a rash guard or 3mm wetsuit is sufficient for most divers. Natural hazards: Cyclonic storms occur occasionally in January.

Economy French Polynesia's economy is largely supported by tourism and pearl farming, which accounted for 54% of their exports in 2015. A smaller portion comes from manufacturing, agriculture and fishing. The country still has only a moderately developed economy and relies on imported goods, along with financial assistance from France.

RIGHT: Global map with location of French Polynesia BELOW: Tuamotu Archipelago (Archipel des Tuamotu) on map of French Polynesia BOTTOM LEFT: Titan triggerfish



Environment Challenges include droughts and fresh water scarcity, sea level rise and extreme weather events such as cyclones, storms and tsunamis, which cause erosion, landslides, floods and reef damage.

Population 287,881 (July 2017 est.) Ethinic groups: Polynesian 78%, Chinese 12%, local French 6%, metropolitan French 4%. Religions: Protestant 54%, Roman Catholic 30%. Internet users: 195,275 or 68.4% (July 2016 est.)

Language French is an official language spoken by 70% of the population, with Polynesian, also an official language, spoken by 28.2% (2012 est.) English can be found spoken in most major tourist spots.



US CIA WORLD FACT BOOK

Please check with your country's state and health departments well in advance of your trip for required vaccinations. health and safety advisories.

Currency The official currency is the French Pacific franc, or Comptoirs Français du Pacifique francs (CFP or XPF), which has a fixed exchange rate with the Euro. (1 Euro = 119.3317 CFP) Local currency may be exchanged at the international airport and exchange offices on the main islands, but not at local banks. ATMs will also dispense local currency where available. It is advis-

able to exchange funds before transferring to the Tuamotus, as exchange facilities are rare. Exchange rates: 1USD=99.45XPF; 1EUR=119.33XPF; 1GBP=134.31XPF; 1AUD=77.71XPF: 1SGD=74.36XPF

Voltage The voltage in French Polynesia is 220V/60Hz and the European style sockets are used. An international multi-prona adaptor is recommended.

Cuisine As you would expect, French is the main cuisine served in the islands. Be prepared for plenty of bread, cheese and ham, along with more traditional Tahitian food including fresh fish, pork, chicken and shellfish with leafy greens and root vegetables and a liberal use of coconut. A wider variety of international dishes are

available at tourist destinations and on the liveaboard dive boat.

Tipping Tipping is not traditionally part of the French Polynesian culture. It is not required nor expected. However, if you feel a tip is warranted, it is always appreciated and will be split amonast the crew.

Transportation The only international airport in French Polynesia is located in the capital city of Papeete on the island of Tahiti. There are several air carriers with flights from major cities around the globe including the national carrier Air Tahiti Nui (airtahitinui.com). Locally, Air Tahiti (airtahiti.com) is the main airline for flights between the 54 airports on various islands throughout the archipelago.

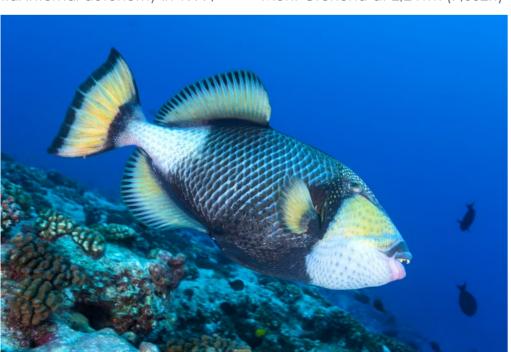
Travel/Visa Travelers from the European Union need only a valid passport for entry, so long as it does not expire for a minimum of three to six months past your stay. Holidays up to 90 days are exempt from visa requirements for most visitors from Western and Asian countries but still require a valid passport.

Decompression Chambers

There is only one recompression chamber in French Polynesia and it is located at the main hospital in the capital of Papeete on Tahiti.

Websites

French Polynesia Tourism tahititourisme.com





TRAVEL