DIVING IN TAHITI

A DIVERS' GUIDE TO FRENCH POLYNESIA

by

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This book is out of print, and this copy was OCR'd from a print version. If you want a printed copy, there may be one available from Amazon.com.

There are some OCR errors here and there, and the following sections were not included in this rip:

- Regulations on spear fishing,
- Ciguatera poisoning;
- Life Support and First Aid;
- The Magic Instant, (a section on underwater photography)
- Pictures other than those that were useful in getting to a dive site.

Each of these sections is covered better in other books, and on the Internet.

Note that this book was printed in 1992, almost 30 years ago.

CONTENTS

1 The Polynesian Patchwork

French Polynesia lies in the centre of the South Pacific, halfway between Australia and the United States. Though it covers an area of 5 million square kilometers, barely 4,000 are emerged land. The heart of an area of similar cultural and ethnic features, French Polynesia forms the "Polynesian triangle", with the Hawaiian Islands to the north, Easter Island to the east and New Zealand to the west.

The four large archipelagos which make up French Polynesia are the Society Islands, the Tuamotus and the Gambiers, the Australs, and the Marquesas. They add up to a total of some 11 5 islands (big and small) dotting a vast ocean the size of Western Europe. For divers, this patchwork of volcanic islands and ring-shaped coral reefs forms such a huge labyrinth that it is not always easy to decide which area to explore. A practical guide was therefore necessary.

This guide covers eight islands. Six are in the Society Islands (Tahiti, Moorea, Huahine, Raiatea, Tahaa and Bora Bora). Two (Rangiroa and Manihi) are part of the Tuamotus archipelago.

The key criteria in the selection of the dive sites were of course their intrinsic value, but also the ease with which we can get to them, and the availability of hotel, sports and medical facilities. There is no point in discussing the merits of magnificent but far-distant reefs and atolls in the eastern Tuamotus, the Gambiers or the Marquesas when only a few luxury yachts can get to them. Rather the purpose of this guide is to be helpful to a much larger audience.

The reader should be aware that this guide does not claim to cover everything. The six months we spent pinpointing sites were not enough for us to discover all the islands' and atolls' "great spots". Much more remains to be discovered. However, based on two dives a day, what you will find in the following pages represents nearly a month and a half of non-stop underwater adventuring, enough to give you an idea of the underwater scenery and marine life this region of the world has to offer. Happy diving!

2 Diving Conditions

2.1 Winds

2.1.1 Trade Winds

Very pleasant, **semi-continuous** trade winds temper the effects of humidity. They rarely exceed 40 km/h in speed, blowing from northeast *(Mauae-Haapitl)* to southeast *(Maraamu).*

Northeasterly to easterly trade winds ensure hot, sunny weather, with few clouds.

This type of weather prevails throughout the year in the Marquesas, the Tuamotus and the Society Islands.

Southeasterly trade winds ensure pleasant dry, cool weather, with small cumulus and patches of stratocumulus clouds. This type occurs alternately with the northeasterly-to-easterly trade wind weather described above.

Southeasterly trade winds can sometimes be very strong, blowing at a speed of 50 to 60 km/h for several days in a row. They occur frequently in July and August.

2.1.2 Westerly Winds

Westerly winds account for 8% to 12% of all winds in the region and indicate troubled weather.

Wind from the northwest *(Pafaite)* is a sign of bad weather, of rain with gusts of up to 80 km/h.

Westerly winds backing southwest winds (2% to 3%) generally indicate the return of pleasant weather (cool with few clouds). This type of weather does not last long; southeasterly trade winds often follow.

2.2 Stormy Weather

Stormy winds-force 10 or higher-accompany the tropical depressions which strike the islands once or twice during the hotter season.

Hurricanes (force 12 or higher) do not occur frequently in the Polynesian islands. There have been only six in the area since the turn of the century. The three which occurred in 1983 were exceptional. Mid-January to mid March is the season in which a hurricane is most likely to occur.

According to standard meteorological procedure, wind is indicated by the direction from which it comes. Thus, the compass rose illustrated is divided into 16 directions in a 3600 circle.

Wind speed is expressed in **meters/second,** kilometers/hour or in **knots (1** knot = 0.5 meters/second). Seamen use an international code, the Beaufort Scale, which indicates the condition of the sea based on the force of the wind.

2.3 Swells

The frequency of trade winds blowing from a northeasterly to southeasterly direction in Polynesia causes frequent swells coming from the same direction. At their strongest, these

swells cause 1.5 to 2 meter high seas. The seas formed by the wind are also influenced by swells which are more distant in origin.

Swells originating from 40 howls (southwest or south) are semicontinuous during the cooler season. Long in duration (10/16 seconds) and moderate in height (2-4 meters), they engulf the lagoons, causing violent pass currents.

During the hotter season there are very strong, intermittent north-to northwest swells coming from the northern hemisphere-in which case they are low (1-2 meters) but long in duration (maximum 20 seconds)-or swells that are formed between the Society Islands and the northern Cook Islands (3-4 meters, lasting 6-1 0 seconds). These are the swells that reach the north and northwest coasts of the Tuamotus atolls between December and March and sometimes upset the daily life of the islanders during those periods.

In addition to wind and current, swell is a major factor to consider when choosing an exploration site. Swell not only upsets the stomach of many a diver, but it makes it quite difficult to get close to the reef, precludes safe and secure mooring and causes problems for surface observation. As we will discuss later, swell also affects other natural phenomena such as water visibility in sandy areas, the direction and speed of pass currents and the force and height of tidal bore waves. A basic understanding of the effects of swell will be of great help to you when choosing exploration sites and you will thus be able to organize properly your underwater expeditions around the islands.

2.3.1 Height of Waves Table

Below is a table estimating the height of waves according to weather forecast information

Flat calm	Mirror smooth sea
Ripples	**0 m** to 0.10 m
Wavelets	**0.10 m** to 0.50 m
Small wavelets	0.50 m to 1.25 m
Small waves	1.25 m to 2.50 m
Moderate waves	2.50 m to 4.00 m
Large waves	4.00 m to 6.00 m
High waves-	6.00 m to 9.00 m

Very high waves	9.00 m to 14.00
H,g, waves	**>** 14.00 m

2.4 Tides

Tide is the periodic variation in the surface level of the ocean, which rises and falls because of the gravitational attraction of the sun and moon. These influences sometimes combine, sometimes clash.

The mechanism of tides is quite simple in theory, but in fact tides occur in an extremely complex way and vary according to the geomorphology of the region in which they are observed. Their physical appearance and amplitude depend not only on the position of the earth, sun and moon (cf. inset), but on the shape and depth of the ocean basin as well.

In general, but depending on the location in which they occur, tides can be either diurnal (high waters and low waters every 24 hours and 50 minutes), semi-diurnal (two high waters and two low waters in a period of 24 hours and 50 minutes), or mixed (high waters and low waters with irregular cycles).

Throughout French Polynesia, the tide is semi-diurnal with little irregularity. For the specific islands we are interested in, the Society Islands and the northern Tuamotus, average amplitude is about 15 centimeters, meaning only a small tide range. According to researchers at Tahiti's ORSTOM oceanographic institute, the explanation for this type of tidal pattern is a no-tide point (called the "amphidromic point") located near the Polynesian ocean area.

Variations in range and cycle can be great from one archipelago to another (e.g., between the Marquesas, the Gambiers and the southeastern Tuamotus). But in general the differences are only slight (0 to 1.60 meters in the Marquesas), compared with the tides which wreak havoc upon some shores that have a wide continental shelf: as high as 16 meters in the Bay of Fundy in Canada and 12 meters in the bay at Mont Saint-Michel in France.

The small tide range in Polynesia represents a great benefit to underwater diving enthusiasts, who need virtually not worry about variations in sea level or be concerned about the strong currents which inevitably accompany such variations, except for pass currents which we will discuss at greater length.

2.5 Pass Currents

Although the effects of a tidal wave are not perceptible at sea, the situation is not the same on land where they are felt differently, depending on the topography of the coastal area, the geomorphology of the continental shelf and, especially in Polynesia, the geomorphology of the outer slope of the islands.

In the Marquesas, for example, where cliffs plunge abruptly into the ocean, water surface variation causes a regular rise and fall in sea level because of the tide range particular to the region. In the case of islands surrounded by a barrier intersected by passes (this is the case for the Society Islands and the Tuamotus atolls), a very high sea causes large amounts of ocean

water to enter the lagoon through passes and produces sub reef breaking waves. These movements of water produce what are known as **pass currents.** Pass currents determine the frequency of water exchange in a lagoon and therefore its biological balance.

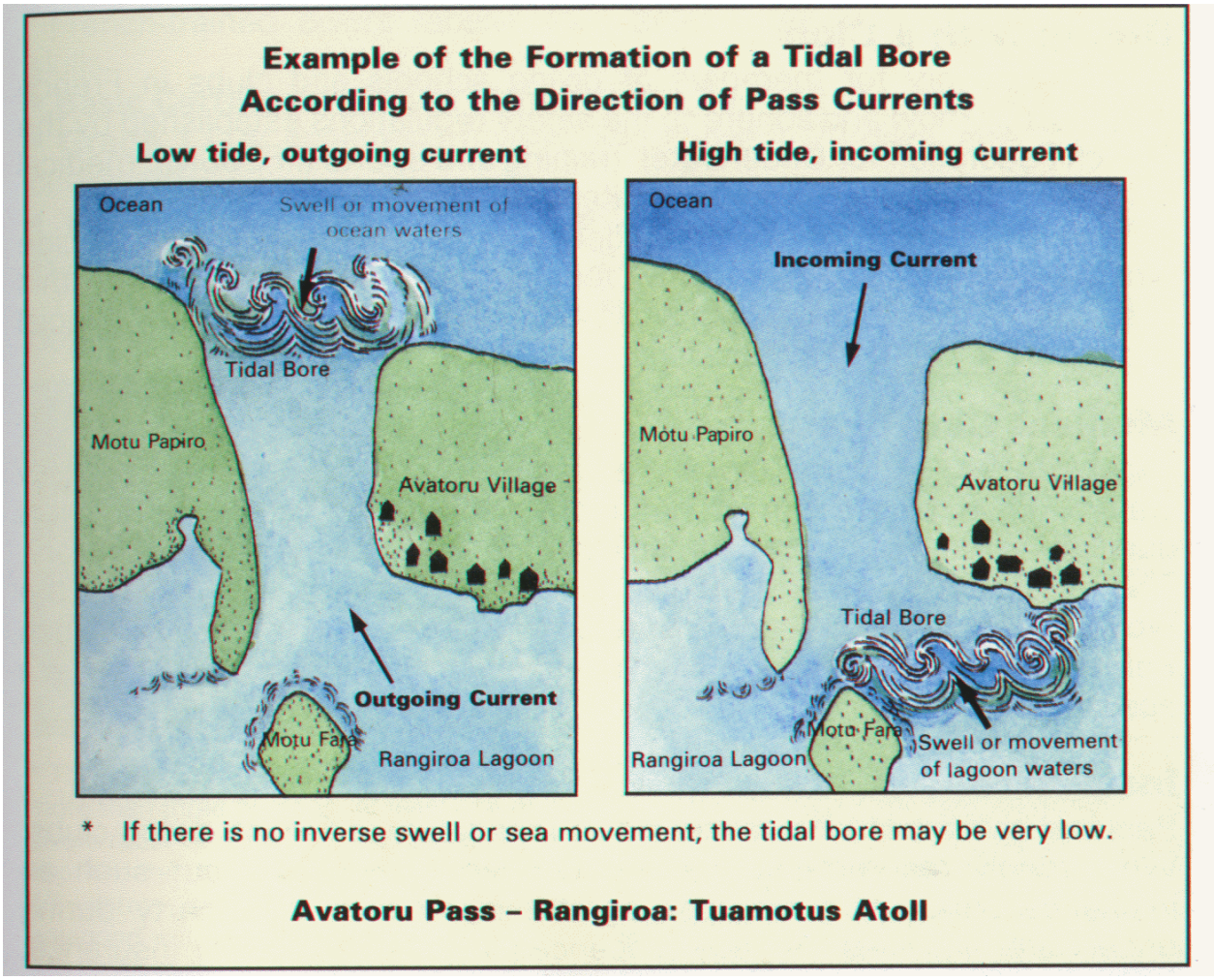
Tide patterns can be forecasted with sufficient precision (for practical purposes) for the coastal area of some regions of the world. But in French Polynesia, lagoons are filled and emptied in cycles that are influenced by various factors including wind, variations in river output because of rain, and the direction of the swell coming in from sea. These factors in turn affect the direction of current passes. It is thus very dificult for divers to predict pass current patterns (i.e., time and direction). Experience has shown that the most reliable solution is still direct observation of the various conditions.

But you may wait for hours for an incoming current which "refuses" to come in. Another phenomenon closely associated with pass currents is the **pass tidal bore.**

A pass tidal bore occurs when a pass current meets a swell coming from the opposite direction. Disturbance occurs at the point where they meet, causing fast and sometimes high and violent waves.

When the current is moving out (direction lagoon-ocean), the tidal bore forms at the entrance to the ocean (where the excess lagoon water meets the ocean swells). The waters are generally **opaque,** heavy with nutritious particles in suspension. It is at this moment that fauna is more abundant around the passes, as the different species come to feed on the particles. However visibility is always poor and diving conditions are more dangerous since the current is in the direction of the ocean.

Inversely, when the current is moving in (direction ocean-lagoon) the tidal bore forms at the entrance **to the lagoon pass.** The waters are generally clear, but vegetation is sparse. Before planning dives near a pass, you should check with the island's diving clubs. They are familiar with currents and their specific local features.



2.6 Climate

2.6.1 Temperatures

The Society Islands and the northwest Tuamotu atolls have a tropical maritime climate. Climatic conditions are more clement and agreeable during the cool season, from May to October. This is also the dry season as opposed to the hot or rainy season which begins in November and ends in April.

Mean monthly temperatures are always high (from 27, to 35, C in the hot season and from 21, to 27, C in the dry season). August is the coolest month of the year, and February or March the hottest. These seasonal land temperatures are a little lower than the average sea surface temperature. The ocean **is** a very effective thermal regulator which limits the extent of daily and seaso6al variations.

In the atolls, the daily variation is from 40 to 51 C. It is near 81 C on the mountainous islands where land breezes (the *hupe)* lower the minimum night temperatures: a considerable factor of comfort indeed. (The minimum temperature at night is 150 C in the cool season.)

2.6.2 Sunshine

There is a lot of sunshine, 2800 hours per year in Rangiroa and 2650 hours in Bora Bora and Faaa. Days without sunshine are rare; 30 to 40 days with almost covered skies can be counted every year. Cloud cover occurs more frequently in the rainy season, in particular on the high islands.

2.6.3 Rainfall

It rains mostly from November to April, sometimes abundantly on the high islands. In January for example, there are more than 20 days of rain, generally passing showers. Annual duration of rainfall is of the order of 1 00 to 150 hours. In the high islands, rainfall depends on the situation of the site in relation to the dominant winds and on the altitude. In the coastal areas of Tahiti, annual rainfall ranges from one and a half to two meters on the west coast, three to four meters on the east coast (and may be as high as 10 meters in the center of the island). Stormy conditions are rare, with only 20 to 30 days per year, usually during the hot season.

Generally the rainy season is less favorable for underwater activities (at least in the high islands) since the heavy rainfall causes the streams to swell and become muddy torrents, which in turn disturb the crystalline waters of the lagoons. At sea, fresh rain-water from showers forms a surface layer which reduces visibility.

Humidity

The humidity rate is high, between 65% and 90%. The degree of discomfort can be assessed with the aid of steam pressure. For most people it is uncomfortable from 26 hecto-pascals, a figure which is largely exceeded at midday in the hot season. Luckily this heaviness is alleviated by the cooling trade winds.

3 Diving Regulations

3.1 Regulations Governing Scuba Diving Diving with a Club

It is compulsory for members of diving schools and clubs in French Polynesia to know and adhere to the safety regulations established by the French Federation for Underwater Training and Sports (FFESSM): medical certificate, insurance, diver certificate, authorized depths, etc.

Those choosing to dive independently of an organization may decide whether or not they will abide by federal recommendations, but in this case they assume full responsibility for safety and legal and financial liability in the event of an accident.

3.2 Medical Certificate

Except for the "baptismal dip"-the first underwater scuba dive in shallow waters down to a depth of not more than three meters for a short durations medical certificate indicating fitness for diving is mandatory. This certificate must be renewed every year. Divers from around the world are advised to secure this document before their arrival in French Polynesia. In case you do not have one, some clubs may ask you to sign a special release.

3.3 Insurance

Personal civil liability insurance is also mandatory in French diving clubs. We strongly recommend that independent divers take out such an insurance policy. It guarantees against injury to a third party during underwater activities. All federal licences include civil liability insurance; for a small supplementary amount, personal risk, such as reimbursement of costs for medical care, rescue, return home and disability insurance, can also be covered.

At a very low cost (less than US$2), some clubs offer civil liability insurance for a period of fifteen days. This scheme is designed specifically for foreign divers planning to dive in Polynesian waters for only a short period of time. You must always ask the club you visit if this type of insurance is included in the dive price.

3.4 Diving Qualification Certificate

All clubs require a diving qualification certificate. It attests diving qualifications and assigns the diver to the appropriate diving group. So be sure to bring yours along with you. French Polynesia recognizes all diving qualification certificates: PADI, NAUI, CMAS and nationally issued federal certificates.

3.5 Diving Depths and Qualifications

Federal regulations are very strict. The depth and duration of a dive are directly determined by the qualifications of the persons making up the party. If the persons in the dive party have different qualifications, it is the lowest qualification which is taken into account to determine depth and duration conditions.

French-trained divers receive four federal certificates of progressive skills:

Basic Certificate (Brevet E16mentaire-B.E): 12 years and above. Grade 1 (ler 6chelon): 16 years and above + 20 dives after the basic certif icate.

Independent Diver and Grade 2 (Plongeur Autonome and 26me :chelon): 18 years and above + 30 dives after Grade 1.

These certificates authorize divers to practice their sport at the following depths:

3.6 CMAS Equivalency Certificates

The World Underwater Federation (Confederation Mondiale des Activities Subaquatiques) brings together diving federations and national diving organizations which set up dive training and activities in their respective countries. It currently has 64 member countries representing over three million divers around the world.

The CMAS is a non-profit organization and its purpose is to encourage and promote a better understanding of underwater sports. A primary CMAS activity is to ensure conformity of training standards. In order to do so, it has introduced a qualification equivalency system for national certificates and it also issues international equivalency certificates. This system is very valuable

and it enables divers from almost anywhere in the world to have their technical skills recognized when they visit foreign diving clubs.

3.7 Equivalency of French certificates with CMAS certificates (World Underwater Federation)

CMAS	France	USA (YMCA)	Canada (ACUC)	Australia	New Zealand	Japan	*USA (NAUI)
Diver One Star	Basic Certificate	Bronze Star Diver	Diver Level I		Basic Scuba Diver	1 Star Diver	Skin Diver+ Basic Scuba Diver
Diver Two Star	Grade 1	Silver Star Diver	Diver Level II	NQS Scuba Diver	Advanced Scuba Diver	2 Star Diver	Skin Diver+ Basic Scuba Diver + Sport or Advanced Diver
Diver Three Star	Grade 2	Gold Star Diver	Diver Level III	NQS Advanced Diver	Coach Diver	3 Star Diver	As above+ Dive-master

*Only as an indication since NAUI is no longer recognized by CMAS

Note about PADI (Professional Association of Diving Instructors): This private association was formed in the USA. It is well known in Anglo-Saxon countries but it has just started in Europe. PADI certificates do not have CMAS equivalents for the moment but they are accepted by all the diving clubs and schools in French Polynesia.

3.8 Independent Divers Take Note

3.8.1 Cylinder Inspections (territorial regulation)

Aluminium cylinders: every 5 years.

Steel cylinders: first inspection: 3 years after the original test date engraved on the top of the cylinder by the manufacturer. Then, every **two years. S**teel cylinder inspections may be extended to every 5 years if an internal and external visual inspection is performed every year by a regional technical advisor or by the Veritas Office.

Polynesian filling stations and diving clubs will refuse to fill a cylinder if the last inspection date does not comply with territorial regulations.

3.8.2 Alpha Dive Flag

The internationally coded **alpha** diving flag is mandatory when divers are in the water.

A boating license is mandatory when operating a motorboat with an engine over 10 hp.

French Polynesian regulations permit you to have aqualungs and spearguns on board at the same time. However, **spearfishing while wearing an aqualung is strictly prohibited** (see below, Regulations On Spearfishing).

3.8.3 Make Your Presence Known

With few exceptions, most dives in the Tuamotus are performed inside passes or in their vicinity. Strong tide currents, tidal bore and swell often make diving conditions diff icult. Such dives cannot be improvised; too many risk factors come into play, making the return trip to one's anchoring doubtful, or impossible.

Therefore, two safety rules must be followed:

Firstly:have a surface cover boat which follows the dive party while they are down in the water.

Secondly: Make your position known to your boat visibly and at all times. The easiest and most effective method used by diving clubs in Rangiroa is to trail a small inflatable brightly-colored buoy using a 1 00-centimeter nylon line attached to a reel or piece of wood.

The group leader unwinds a length of fine corresponding to the diving depth and allows this to trail as the dive party moves about. You should not consider this a superfluous precaution. It is very difficult to follow divers' air bubbles in a pass current. The use of a small inflatable parachute when completing decompression stops is also an effective method during swell.

Don't be afraid of "loading yourself down' with this type of buoy. It means extra work for the group leader, but it may save your life.

4 Dangerous Marine Life

The rules of the land also apply to the ocean.

In order to survive, all marine animals have developed various systems of self-defense and of hunting. The weakest ones resort to camouflage or flight. The best equipped species have powerful venom or sharp teeth at their disposal.

Among them, some are actually dangerous to man, although the injuries they cause are very rarely the result of a deliberate effort to harm him. Can one actually speak of aggression on the part of stinging coral, a sea urchin or a starfish?

Most accidents involving marine life are more due to a lack of understanding of the environment or divers' inattention than to the aggressiveness of animals.

The information provided in this section will help you identify the dangerous creatures found in Polynesian waters for which you should be on the lookout. For more information on the types of risks, symptoms and emergency treatment, see the chart summarizing dangerous species in the chapter "Life Support and First Aid".

During your underwater expeditions, admire everything around you and take lots of photographs, but avoid coming into contact with the species described below.

4.1 Millepora or Fire Coral

Millepora is easy to distinguish from other madrepores because of its distinctive shape and brownish yellow color. Colonies of fire corals thrive in places where there is considerable water activity but they can be found absolutely anywhere, both within and beyond the lagoon, on the ocean floor. Thin appendages and thick, flat branches extend outward from the encrusted masses built by these animals and stand plant-like against the current or dominant swell.

The name **fire coral** comes from the sharp burning sensation caused by the poison injected by the polyps' stinging cells called cnidoblasts. In French Polynesia, injuries are generally not serious. However, this is not the case in other parts of the world (New Caledonia, the Indian Ocean, etc.) where the powerful venom causes serious tissue damage. It is therefore essential to recognize and avoid direct contact with these sharply stinging animals.

4.2 Sea Anemone

The species of sea anemone most commonly found in Polynesia is *Stoichactis kenti,* a large pink anemone furnished with yellow or white tentacles which terminate in rounded ends. The anemone clings firmly to the substrate by its base.

Its favorite habitats are lagoon and ocean waters where there are mild currents. The latter are the chief providers of the nutrients on Which they feed.

The sea anemone is a carnivorous animal, feeding on small fish or plankton. To catch its food, it imprisons its prey in its tentacles and paralyzes it with its nematocysts, specialized poisonous filaments. This unusual creature often lives in a symbiotic relationship with fish of the

Pomacentridae family (clown fish, three-spotted damsels, etc.) which seem to be immune to the poison.

On contact with the skin, the tentacles of the anemone cause itching burns which vary in intensity according to the allergic sensitivity of the individual.

(Cnidarian, class Anthozoa)

4.3 Medusa Jellyfish

Bell-shaped jellyfish are simple organisms. The body is round and either transparent or opaque, sometimes with iridescent sparkles of blue, pink, mauve or pale orange.

The lower part of the jelly-like bell is covered with tentacles, which in some species are several meters long. These tentacles, which can be fatal traps, are covered with poisonous cells@nidoblasts-which strike out at the slightest contact with a foreign body.

The jellyfish's poisonous sting causes burns and skin injuries of varying gravity. Serious injury may cause the victim to lose consciousness or suffer shock.

Jellyfish like the open sea and are generally found floating in deep waters. Since they are poor swimmers, they are at the mercy of the winds and currents which often carry them ashore.

The physalia (class Hydrozoa) is a jellyfish-like animal. Its blue floating body measures between 10 and 20 centimeters in diameter and carries long stinging tentacles. It is related to the "Portuguese man-of-war" and shares its sinister reputation as a dangerous animal. The physalia also floats along the surface of the water and is carried by winds and strong water currents. Bell-shaped jellyfish and physalia are fortunately not common in French Polynesia.

(Cnidarian, class Schizozoa)

4.4 Acanthaster Planci (Crown of Thorns)

The crown-of-thorns starfish, which is humorously called mother-in-law's cushion", is a huge spiny animal which at adult stage can measure 50 centimeters in diameter. It has 14 to 16 powerful arms.

The crown-of-thorns starfish has a bad reputation in the warm seas of the world, because of the severe destruction it causes to coral reefs and the painful injuries it inflicts on careless divers. The animal clings to the surface of madrepores by thousands of tiny suction caps on its belly, then uses a rolling motion to suck up and devour entire polyp colonies, leaving behind nothing but white skeletons devoid of any living matter.

The favorite food of the crown-of-thorns starfish is large *montipora coral,* but it also enjoys growths of flat-shaped *acropora and pocillopora. This* insatiable eater is capable of devouring up to 10 square meters of madrepores every year. Infestations of this starfish are a real threat to the preservation of coral reefs. Its population in French Polynesia has risen sharply since the 1970s, and there is certainly a connection between this phenomenon and over-exploitation of its natural predator, the triton *(Charonia tritonis),* a mollusc. The triton is now so rare that it is a protected species in French Polynesia.

Its dorsal wall is covered with flexible poisonous spines, which are sharp and brittle and inflict painful wounds always accompanied by severe inflammation of the part of the body touched.

Tahitian name: **taramea.**

(Echinoderm, class Asteroid)

4.5 Sea Urchins

All underwater divers are very familiar with these animals as they often come into contact with them.

Many of them have been stung at least once.

The spines are sharp and break off easily, leaving small tips buried in the skin. These are very difficult to remove. The sting of sea urchins causes more pain than danger; there are fortunately no poisonous species in Polynesian waters.

The two most frequently found species are: the common black sea urchin *(Echinotrix diadema)* which has very long spines and whose genital glands are considered a very tasty dish by Tahitians, and the small white sea urchin which has short, thick spines *(Echinometra mathaei).*

Black sea urchins live near the reef barrier, in shallow sandy areas, dotted here and there with coral build-up, where they collect in large groups, huddling together at the slightest sign of danger and thus forming a particularly unwelcoming barrier.

White sea urchins are more sedentary by nature. They prefer to live in cracks on fringing reef and it is often by picking up pieces of stone or coral that divers get stung.

Tahitian names: **vana** (black sea urchin), **ina** (white sea urchin). (Echinoderm, class Echinidea)

4.6 Cones (Beware!)

All cones are carnivorous. There are various species, grouped according to their chosen prey: worm-eating cones, fish-eating cones and mollusc-eating cones. The most dangerous species to man are found among the fish-eating variety. Their sting can sometimes inflict fatal wounds. These cones have a quick-acting venom which is extremely powerful and paralyzing, adapted to capturing moving preys.

The venom is thrust into the victim's flesh by a harpoon which is projected by a tabular organ-the proboscis-which the creature uses like a real peashooter.

The cone's siphon must not be confused with its proboscis. The siphon is the trunk-like section, part of which can generally be seen protruding from the narrow end of the shell. It is the cone's breathing organ. The proboscis, on the underside of the animal, is much less visible.

Four very dangerous species of cones are found in French Polynesia. In decreasing order of menace: *Conus Geographus, Conus Striatus, Conus Tulipa and Conus Textile* (see inset).

(Mollusc, class Gastropode)

To avoid danger:

Learn to recognize the dangerous species.

Never put a cone of whatever kind in your bathing suit.

Always handle the creatures by the large end of the shell, at the apex end.

Remember that a plastic bag used to collect cones is a very deceptive protection.

4.6.1 Very dangerous cone species

C. Geographus

C. Striatus

C. Tulipa

C. Textile

4.6.2 Dangerous species

C. Aulicus

C. Magnificus

C. Auratus

C. Obscurus

4.7 Scorpion Fish

Dragonfish, firefish and zebrafish are very beautiful creatures with amazing coats which are striped and speckled with reddish brown, pink and white.

To see them proudly display their fantastic antennae adorned with sails and light feathers, it is hard to believe that they belong to the same family as the horrible stonefish. All the same, one must be wary of them. Their Tahitian **name-tataraihau** explains why, since it means "which stings from everywhere". The long dorsal and pectoral fins which stand out from their bodies are poisonous needles for the uneducated who grab hold of them.

The venom is also very similar to that of the stonefish and although a little less powerful, it causes excruciating pain followed by inflammation, swelling and oedema. The sting may lead to loss of consciousness. Scorpion fish are nocturnal creatures by nature. By day, they hide in the crevices in the reef and in coral grottos. Divers should always make sure there are no scorpion fish around when entering these ares. (Family Scorpaenidae)

4.8 Moray Eels

Almost a dozen different species of eels haunt the depths of French Polynesia. They can be seen both in the lagoons and on the slopes of the outer reef; they live at various depths, a few centimeters from the surface of the sea as well as forty meters down.

During the day, moray eels hide in deep crevices in the coral, where only their open mouths betray their presence. Moray eels are fierce flesheaters which hunt by night, not hesitating to venture out into the open sea, far from home.

The mouth of the moray eel is equipped with many pointed hooks, which are slightly inclined inwards. There has been much controversy over whether or not its bite is poisonous, but it now seems established that they have toxic saliva contained in their salivary glands, which they inject into their victim through four hooks located in the palate. Injuries are often serious, accompanied by quick infections which lead to secondary tendon and muscular damage.

As a general rule, these creatures do not deliberately attack human beings, but they defend themselves courageously if they feel threatened. However, we advise divers to take the greatest care where moray eels are concerned. Numerous attacks, without any apparent provocation, have been recorded in recent years.

It seems that moray eels are more aggressive at certain times of the year. This supposition is based on a number of limited observations and requires more scientific confirmation. While there is still doubt, do refrain from provoking them or exciting them by offering them food.

Tahitian name: **puhi miti.**

(Family Muraenidae)

4.9 Synanceia or 'Stonefish"

The stonefish is without question the most hideous fish ever created by nature.

Deformed, flabby, warty and of an indefinable color, it sometimes reaches the rather respectable size of 30 centimeters.

The stonefish likes shallow, sandy waters containing pebbles and coral debris in which it conceals itself, on the look-out, remaining motionless for hours.

This animal takes first prize for camouflage... and danger! An extemely powerful poison system is associated with this repulsive ugliness. The bumps on its dorsal fin hide thirteen spines-ready to spring instantly into action on contact with a hand or foot of an unlucky swimmer. The venom, the chemical composition of which is akin to that of the cobra, inflicts very serious and excruciatingly painful wounds, followed by traumatizing complications which take a long time to disappear.

Tahitian name: **nohu.**

(Family Scorpaenidae)

4.10 Rays

Rays and sharks belong to the same class of elasmobranches, having a cartilaginous skeleton, scales covering the body and no air-bladder. The absence of the latter forces them to rest on the bottom of the sea bed or swim unceasingly in order not to sink.

The broad, smooth movements of their pectoral fins allow rays to swim in a way which looks as if they are flying.

Although close cousins of sharks, rays and eagle rays do not have their carnivorous teeth. They have a small mouth with flat teeth which they use to crush molluscs and crustaceans, their favorite food. At the base of the ray's long, flexible tail is a poisonous spine, which is hard and serrated like a harpoon. This 20-centimeter long spine not only inflicts deep lacerations, but its stinging venom can cause acute local and general inflammation (of the lymph system, etc.).

Sting rays, **fai lu** in Tahitian, can be found on the shallow, sandy stretches of the lagoon where they doze half-hidden in the sea bed. Like all rays, *fai iu* have no aggressive traits. When they are disturbed, their first reaction is to flee in front of the intruder. It is only when they feel trapped that they turn head on, with their spines prepared and tails raised, ready to strike.

Eagle rays, or **fai manu** in Tahitian, also have a tail equipped with venomous spines. Usually they stay in open water, approaching the bottom only to feed. It is very unlikely that these creatures would be the cause of an accident.

(Family elasmobranchii)

4.11 Sharks

Sharks have acquired a sinister reputation, which is very difficult to demystify. Certainly they always represent potential danger; however, in the list of species discussed in this chapter, sharks are the least frequent cause of injuries. Large deep-water sharks constitute an exception *(Longimanus,* tiger shark, etc.) and are extremely dangerous, but divers are unlikely to encounter them in coastal waters. Otherwise, few species of sharks represent a real danger.

To our knowledge, no deliberate attacks causing serious injury to divers have ever been recorded in French Polynesia. But this is not true of spear fishermen. The noise made by fish in distress and to a lesser extent, the smell of blood, stimulate the predatory reflexes of sharks. So when excited, they -may then attack humans. Here are the species you should watch out for:

The gray shark *(Carcharhinus amblyrhynchos)*

Completely gray in color. Maximum length: 2 meters.

The gray shark-raira in Tahitian-is a creature which is only met on rare occasions in the Society Islands but which abounds in the Tuamotus. It live§ in passes and the upper coastal plain. The gray shark is a curious, alert, timid and determined animal which is rightfully blamed for most injuries caused to fishermen. When about to attack, the gray shark will swim with nervous, agitated movements.

The white-tipped reef shark *(Carcharhinus albimarginatus)*

Gray in color, a white mark at the end of its dorsal fin. Maximum length: 3 meters.

Called **tapete** in Tahitian, the white-tipped shark is also a coastal shark. Its habitat is the outer atoll slope (though rarely in the Society Islands) where it lies deeper than the *raira.* It seems to have a very pronounced sense of territory and may become aggressive if strongly provoked.

The lemon shark *(Negaprion acutidens)*

From beige to yellow in color, it is easily recognizable because of its two identical dorsal fins. Maximum length: 3 meters.

The lemon shark always stays close to the sea-bed. It prefers the calm waters of the lagoons or leeward ocean zones.

Called **arava,** this shark is more common in the Tuamotus than in the Society Islands. It has the reputation of becoming extremely angry if disturbed. When stimulated by its feeding instincts, it may become so aggressive that it will pursue its victim into very shallow water. Take extreme care if you ever find yourself in the presence of a yellow shark and do not provoke it (Family Elasmobranchii)

5 Protecting the Ocean

The ocean's misleading vastness and the eternal mystery which still shrouds it have encouraged mankind to look upon it as an immense source of limitless resources. Overuse, destruction of the biotope and pollution are the most common types of damage consciously or unconsciously inflicted upon the ocean by man. Each year, the newer ocean sciences (ecology, marine biology, etc.) gain a better measure of the devastating effects.

Most of the Polynesian lagoons are still not affected by industrial fishing and uncontrolled dumping and thus really preserve their appearance as idyllic aquatic paradises. Some, however, are now experiencing the initial effects of a growing danger which must be viewed with utmost concern. The lagoons are like "pools in the ocean" and their fragile biological balance is regulated by a wide variety of complex factors. Experience has shown that man's destruction causes an often irreversible imbalance all along the reef-lagoon ecological chain.

We will not discuss in detail the pollution which is the unavoidable price paid for economic growth and increased tourism for this is not the pur-, pose of this chapter. However, we would like to draw the attention of divers to several types of damage which directly concern all underwater explorers."

This guide covers some of the richest and loveliest areas of French Polynesia and is intended to enable you to discover them while using the care and displaying the respect which nature deserves.

5.1 Shell Collecting

Shells are an integral part of the cultural and folk heritage of the Maohi people. In the past they were used to make fishing accessories, musical instruments, tools and jewelry. Today, they are used in local crafts. The waters of French Polynesia have fallen prey to excessive shell collecting and can no longer satisfy the ever-increasing demand. Thus most of the shells used in Polynesia to make necklaces, ornaments and other decorative objects now come from the Philippines!

The problem of shell depletion is most serious in the Society Islands. The Tuamotu Archipelago, because of its low population and limited tourism, has not been affected by a shortage of sea shells.

Aside from the damaging effects of various types of pollution (coast-line transformation, dumping, etc.), the gradual decline of sea shells in the northern islands is due to several factors.

5.2 Population Turnover

Polynesia is a French overseas territory. The country thus plays host to a continuous flow of French military personnel, civil servants and private citizens on temporary work contracts (1 8 to 32 months). With this frequent turnover, a percentage of the population is constantly changing. This has a negative effect on the marine environment. The equilibrium and preservation of marine life is continuously threatened as each wave of newly arrived *popaa* eagerly sets about

collecting magnificent marine animals. All species, even the most common, fall victim to feverish, uncontrolled collecting.

5.3 Thoughtless Shell Collecting

There is nothing fundamentally wrong with shell collecting-most of us have done it at one time or another-but there is something wrong with the methods used to do it.

The result is clear. Everything is collected indifferently, juvenile as well as adult marine animals and poor-quality or exquisite specimens. In their enthusiasm, many 11 collectors" amass dozens of identical shells, only to let them sit idle in their gardens later, or, at best, in a drawer or the bottom of a trunk. Some of the responsibility is also shared by tourists who, disturbed by the odor of some of these marine animals or because they are too difficult to clean, discard them, tossing them away under the bungalow of their hotel.

Nature cannot make up for such massive collecting carried out with no regard for preservation and no sense of ethics or self-restraint. Shell collecting, however, is not marine life's only enemy. Their habitat suffers even greater destruction.

5.4 Destruction of the Marine Habitat

Destruction of the marine habitat is often caused by a lack of understanding and is unquestionably the most irreversible form of damage. Also, some unscrupulous individuals, who are not ecology-minded and are driven solely by greed, inflict irreparable damage upon the biotope.

Shellfish are nocturnal animals. During the day, different species, depending on their particular habits, either hide in the sand, behind coral pinnacles or under rocks. In their eagerness to get at them, many specimen hunters do not hesitate to turn over rocks and break coral (living or dead).

A large number of animalcules, shrimp, small crustaceans, spongiae, concretions and nudibranchita, and the larvae of some species of molluscs can also be found in these natural hiding places. Either because they know no better or through negligence, specimen hunters break coral and forget to put rocks back in their place, thus condemning marine life to be devoured by predators or scorched by the rays of the sun.

5.5 Do's and Don'ts

Respect the biotope. Do not break coral. Put rocks back in their place once you have finished. o Take only the strict minimum; avoid unnecessary pillaging. One or two beautiful specimens will be sufficient for your collection. o Be demanding about the quality of the shells you pick. Return juveniles or flawed specimens (scratches, splinters, blemishes) to the ocean. There is also no point taking potentially reproductive specimens which will add nothing to your collection.

Adhere to local laws (cf. Respecting Diving Regulations). A good collector is first and foremost a friend of shellfish and helps to protect them. Always put back the stones which you have lifted.

5.6 Underwater Hunting

Polynesians are a people of the sea, from which they derive most of their subsistence needs. Throughout history, they have been a fishing people *par excellence.* Over the centuries they have developed and thoroughly mastered a variety of hunting techniques. Polynesians were the first to practice underwater crossbow hunting, now used worldwide in various forms, and are extremely skilled with this weapon.

Polynesian underwater hunters can hold their respiration for extraordinarily long periods of time. They move gracefully underwater and spy their prey for several seconds from behind a coral pinnacle, or chase them to greater depths. They are excellent hunters, but admittedly not very concerned about ecology.

Even once his food supply needs are satisfied, the Polynesian underwater hunter has no qualms about spearing a last easy prey. The population of some species of fish and other marine animals such as crustaceans, sea urchins, giant clams and periwinkles, has declined as a result of this kind of attitude, combined with an increasing population, the popularity of underwater activities, technological progress and the development of marine hunting. Again, the problem is most severe in some lagoons in the Society Islands where the easily accessible reef and the shore are gradually drying up.

So as to avoid adding to an already extremely precarious situation in some areas, harpooning enthusiasts must adhere strictly to a few simple rules.

Do's and Don'ts

Learn to know and respect the spawning season of your favorite species (cf. box).

Do not harpoon small fish which have not yet reached sexual maturity.

Fish only what is necessary for you to eat.

Find out which areas are potentially contaminated **before** harpooning an animal which may be toxic and which, because you are uncertain, you ultimately will not consume. o Adhere strictly to the laws of the country or territory (cf. chapter on legislation).

Avoid the habitual exploration areas of diving centers which have spent long hours of patience taming an entire marine animal population. Do not condone the practices of unscrupulous individuals by accepting them aboard your craft.

5.7 Anchoring

Anchoring often causes severe damage and many divers are familiar with the effects.

In some regions of the world where recreational boating is very popular, there has been such extensive damage that anchoring is now illegal and special moorages have been set aside. Some countries (Cuba, the Bahamas, etc.) have chosen to energetically promote underwater tourism and have built special reserved moorages. This approach was also adopted in southern Florida where over one million dives take place each year.

In both temperate and cold waters (Mediterranean, North Atlantic), anchors destroy the aquatic plants which are the protective hiding places of many species as well as their preferred spawning areas.

In French Polynesia, as in coral oceans in other parts of the world, mooring literally chops off clusters of coral, destroying in an instant what nature took years to grow.

Mooring presents a difficult problem, yet a few precautions could limit the damage.

Do's and Don'ts

In general, **avoid anchoring.** It is recommended to split the dives. While one diving group keeps an eye out, the other one can dive. This means greater safety, and prevents damaging the ocean floor. o If you do decide to moor, **secure your anchor as soon as you drop it** to a rocky cavity or, if there is none, at the base of a resistant bunch of coral.

Make sure your anchor does not brush against a group of fragile coral *(acropora, pocillopora).* If necessary, move your anchor. o Before lifting anchor, **free your anchor and chain** if they are caught. By preparing your mooring in this fashion, you will avoid breaking off madrepores as you lift anchor.

5.8 Divers

Contrary to common belief, divers also cause serious damage to the coral environment. Ignorance, awkwardness or lack of expertise are often the root causes of such damage, which in most cases is unintentional but has no less dramatic consequences.

There are three types of damages which are easy to remember and which divers must keep in mind.

5.8.1 Tissue Injury

Corals have a uniform covering of living tissue which under normal circumstances prevents algae and other parasites from clinging to their skeleton. When a diver strikes a madrepore or grazes it with something hard (a bottle, for example), he may injure the tissue of the coral. Thus algae are able to take hold on the coral. This results in a gangrene-like effect. Algae grow rapidly, infecting the entire coral colony, which often dies within a few months, literally suffocated by the parasitic plant life.

5.8.2 Fin Marks

Fin marks are often caused by lack of attention, but also by poor mastery of the weight vest, uncoordinated movements and aquatic awkwardness. Blows caused by fins injure resilient coral and break off fragile coral.

You should understand that the growth of coral is extremely slow and that it will take several years to erase fin marks resulting from a careless dive.

5.8.3 Air Bubbles

Understanding of the damage caused by air bubbles is limited. Only very close analysis reveals the negative consequences. Such damage is nonetheless real and thus worth consideration.

Scuba-diving equipment enables great freedom of movement and allows divers to move about tunnels, grottos and wrecks. However, the air bubbles which divers leave in their tracks are often trapped in these dark caverns.

They rise to the top and fix themselves to the roofs, smothering the plant and animal life clinging to the walls by depriving them of water, therefore of vital oxygen.

5.8.4 Do's and Don'ts

Do not touch, handle or brush against madrepores; moreover, some species will sting you.

Gain complete mastery of your buoyancy control. If you do not have perfect balance, a few extra technical dives will help you acquire the necessary ease.

Watch carefully where you place your fins. Do not stand on a coral-lined sea bed.

Take extra care when you enter a grotto, tunnel or wreck and, as far as possible, avoid exhaling when you are in small caverns or under overhangs.

Calm and self-control are extremely important in diving. These two qualities will help you avoid injury to the environment as well as to yourself.

Follow this advice. Damage done individually may seem minor, but repeated time and again over a period of months. and years, the cumulative effect of such damage endangers preservation of the environment.

5.9 Spawning Seasons

The main spawning season for most Polynesian species spreads from the month of August to November. A second minor spawning season occurs in February / March.

Emperors or **Scavengers** (Oeo): September-December.

Blue Jack and **Big-headed Jack** *(Paaihere, Ruhi):* September; October; March.

Silver Scad (Ature): September-December.

Black Surgeonfish (Maito): July-September.

Spotted Rabbit Fish *(Marava):* AugustSeptember; February.

Parrot Fish (Uhu): October-December; March-May.

Bonefish (Loio): September-January.

Three-saddle Goatfish *(Atiatia):* September-F,ebruary.

Paddle Taii Snapper *(Tuhara):* November; January.

Marbled Sea Bass *(Hapuu):* June and July.

Tuamotu Emperor *(Tamure):* September-November; February.

During these extensive reproductive seasons, the fish gather in huge shoals. This is an extraordinary phenomenon to observe, especially in the Tuamotu islands where tens of thousands of fish converge at once.

(Based on information provided by the EVAAM)

5.10 Aquaculture in French Polynesia

Except for the breeding of pearl and mother-of-pearl oysters which is centuries old, the raising of marine plants and animals began only 15 years ago through the efforts of the French Institute for Marine research (IFREMER).

Strangely few species which lend themselves to breeding live in Polynesian waters. All the species in French Polynesia have been brought in and raised locally. Species currently bred include:

Shellfish:

Shrimp (Macrobrachium rosenbergii)

Freshwater decapods, raised in tanks on land, from Malaysia.

Shrimp *(Penaeus vannameiand Penaeus stylirostris),* from South America. 1986 production: 23 tonnes. This industry is in full expansion.

Molluscs:

Green Mussels *(Pema viridis),* from New Zealand. 1986 production: 13.4 tonnes. **Pearl-Producing Oysters** *(Pinctada margaritifera).* Currently French Polynesia's main source of foreign currency. 1986 pearl sales: 104 kilogrammes.

Fish:

Only one species comparable to the Atlantic sea bass, the *barrimundi, from* the Philippines, can in the near future be raised in cages in lagoons.

French Polynesia's tropical environment makes aquaculture a potentially viable industry. However, high production costs would limit the industry to within the Territory, with little potential for exports in the immediate future.

6 Recognizing the Species

Compared to that of other Indo-Pacific regions, the ichthyological, coral and crustacean fauna of Polynesia is certainly not very rich. This limitation in the number of species is linked to a phenomenon of general impoverishment in a west to east direction, from the initial seat of dissemination formed by the Philippines, Indonesia and Melanesia. The animal larvae come up against the dominant winds and currents in the area and this impedes their dispersal in this direction. Added to this, there are other limiting factors such as the temperature of the water or its low nutrient content due to the region's extreme distance from the continental land masses.

However, animal diversity in the Polynesian waters is far from negligeable and we will not try and draw up an exhaustive list here. The aim of this account is to help you to recognize some families which you will frequently meet during your underwater excursions. We have purposely omitted some species, which have already been described in the chapter "Dangerous Marine Life".

6.1 Madrepores

We shall not enter the labyrinth of classification which is so complex and forbidding that it is only of any meaning to specialists.

Just be aware that the real builders of the tropical reefs, those which are generally and imprecisely classified under the heading of "corals", are the **Madrepores** (Cnidaria of the Hexacoral class) and the most common varieties in Polynesia are: ***Acropora, Favia, Fungia, Montipora, Pocitlopora*** and ***Porites.***

Each madrepore formation is made up of a multitude of small animals with retractable tentacles: polyps. They themselves secrete the calcium carbonate which is necessary for the construction of the framework which is in fact their skeleton. Polyps are carnivorous and they are endowed with a very strange system of attracting their prey; the latter are trapped in their poisonous filaments. Their growth is subject to very strict natural conditions (temperature, light and salinity) and they have an extremely low tolerance to change in any of these factors.

Finally, madrepores are polymorphous. Within each single variety, there are several types of shapes and colorings. Readers who wish to know more about the subject should refer to the book on "Corals" published by the same house.

6.2 False Corals

6.2.1 Dendrophyllia

This is a small coral in the form of a molar, attached to dimly lit walls of the reefs. It sometimes grows under large corolla of *porites.* Its dominant colors are yellow, orange or pink.

6.2.2 Stylaster and Distichopora

Both of these belong to the order of **Stylasterines.** The calcareous skeleton is composed of numerous flattened and ramifying branches. Their colors are bright and varied. Big colonies form in areas where lighting is reduced and water renewal is regular and gentle. This is why they are found in narrow passes or on the outside slopes of islands and atolls, between 20 and 70 meters in depth. Their location is always very exact.

6.2.3 Black coral

This coral is of the order of **Antiphatharia.** The polyps are small and possess non-retractable tentacles. The colonies observed in Polynesian waters have two distinct forms. The first resembles a tree-like bush which is dark brown to black in color. The many extending twigs have a "snowy" appearance.

The second variety *(Antipathian cirrhipates)* is in the form of a long cylindrical stem similar to a distended spring. It has sometimes been called a "gorgon's whip" although it does not belong to this order. Some colonies can grow to a hundred years old and can attain a length of five meters. Without exception, they are found at great depth and only intermittently.

The Tahitians believe, erroneously, that these two forms are the different male and female varieties.

6.2.4 Gorgons

Gorgons are of the **Gorgonian** (or horny-coral) order. Unlike the madrepores, their polyps secrete a flexible horny-calcareous skeleton. Their many branches spread out in one plane (like a fan) and are oriented perpendicularly to the direction of the dominant current. Gorgons are not very frequent in Polynesia. They are found in a precise fashion, often in deep water (between 30 and 120 meters), attached to the ocean slopes of high islands. Because of this, only partial inventories of this family have so far been made.

6.2.5 Alcyonaceans

These belong to the **Alcyonidae** (or soft coral) order. Representatives of this family have a rubbery consistency. Their polyps are brightly colored. Very few colonies can be found in Polynesian waters and these are always small in size. They are generally found in deep dark faults on the external slopes of high islands. Alcvonaceans are absent around atolls.

6.3 Fish

6.3.1 Surgeon and Unicorn Fish

They form part of the **Acanthuridae** family. These fish have a compressed body which is oval in shape. Their skin is thick and rough to the touch. Their coloring is often dark with white, yellow, blue or orange marks or stripes. On either side of the base of the tail, they have a pair of sharp lancets which are erectile on the surgeon and fixed on the unicorn fish. The latter

derive their name from the protuberance on their face: a simple frontal bump on the zebra unicorn fish ***(ume karaua)*** or the smoothheaded unicorn fish ***(ume tareil*** but a real horn on the brown unicorn fish ***(ume),*** the short-nosed unicorn fish ***(tatihi)*** and naturally on the longnosed unicorn fish ***(ume herepoti),*** champion of all the varieties because of the length of this protuberance.

Fish of this family love running water, the reef fringe and the passes. The ***maito*** (Ctenochaetus striatus) is a small black surgeon fish found near lagoon coral heads. You should avoid consuming it for it is considered a toxic fish (see the chapter on "Ciguatera Poisoning").

6.3.2 Sea Bass and Groupers

In terms of number of species' present in Polynesian waters, **Serranidae** are considered the second group of fish after the Acanthuridae. Thick-set bodies, globular eyes which look as if they are mounted on ball-joints, thick lips, a weary and unaggressive attitude, give these fish a deceptively clumsy appearance. They are in fact insatiable gluttons capable of swallowing a prey which is almost as big as themselves. They are assisted in this by powerful extensile jaws with strong teeth.

Of sedentary habits, they never venture very far from their home, to which they retreat immediately in the event of danger. The smallest (but incredibly aggressive) representatives of this family are the hand fish ***(patuil*** which are always found on the crest of a *Pocillopora* cluster of coral. The most imposing are the giant jew fish ***(hapuu reru)*** which can sometimes weigh up to 150 kilos. Meeting one of them while diving is still, unfortunately, a very exceptional occasion. Amongst the most common species are: the blue spotted grouper **(roil,** the sea bass ***(tarao),*** the marbled sea bass ***(hapuu)*** or the coral trout ***(tonu),*** the last two being inhabitants of the Tuamotu atolls.

6.3.3 Parrot Fish

It is doubtless due to their brilliant colors and to their famous "beak" made up of small teeth fused together that these fish of the **Scaridae** family owe their name of "parrots". They can be found everywhere on the ocean slopes where they like to saunter among the outskirts of the reef crest, such as in the lagoons of the islands and atolls. Their flesh is exquisite and the Polynesians like to marinade it in green lemon juice and coconut milk. This is why the larger types, which have been overfished, have declined in number around the Society Islands.

Parrot fish swim in small groups following a leader. They go from coral head to head, seeking calcareous algae on which they feed. At times, it seems, they are not averse to nibbling a piece of fresh coral itself! When frightened, they flee and leave behind a small cloud of chalk dust, thus considerably contributing to the amount of sedimentation in the lagoon. They are, however, poor swimmers, propelling themselves forward mainly with their caudal fins. At night they hide in crevices in the reef or on a bed of algae and surround themselves with protective mucus before sleeping soundly. It is then possible to approach them and even to touch them. TheirTahitian names are: ***uhu,*** **paati** or **pahoro** according to their size and color.

6.3.4 Labridae

Close counsins of the parrot fish, **Labridae** owe their name to the Latin word "labra" which refers to their thick lips. These fish are carnivorous, with a diet consisting of molluscs, shell fish and sea urchins which they are able to crush thanks to a row of forward-slanting conical teeth. Wrasses are without doubt the most well-known species of this order for they possess a very bright and colorful livery. If a diver opens a sea urchin or even a clam, a voracious and reckless shoal of wrasses will immediately take charge of dismembering the poor victim. Polynesian wrasses are small in size with the largest rarely exceeding about thirty centimeters. They are of little culinary interest. The people of Tahiti call them ***poou*** and ***papae.***

This is the family to which the napoleon fish *(Cheilinus undulatus)* belongs. It is an easy going giant which is green in colour and it has a very characteristic prominent protuberance on the forehead. Its mouth, which is wide and f leshy, is f itted with powerf ul canines which are well-suited to breaking the hardest of shells. The ***mara*** are peaceful and sedentary fish which swim at the edge of the ocean slopes and in passes, within a territory with well-defined limits. At night they return to the crevices in the reef to sleep. Adults may reach a length of two meters... provided they are given the time!

These monsters are in fact eagerly sought after by many spearfishermen. However, it is pointless killing them since there is always a strong probability of their flesh being poisonous.

6.3.5 Jack Fish

Jacks are brilliantly-colored deep-sea hunters, capable of traveling long distances at very high speed. They have an oval body which is high and flat, and they propel themselves with the help of a strong forked tail. Their pectoral fins are very well developed. These physical traits point to the fact that these fish are designed for quick flight. They have a metallic appearance of iridescent gold or silver, flecked with dark spots or stripes, according to the species. Near the tail, the lateral line has small protective scales:the scutella.

Long distance swimmers... but also carnivorous predators, jack fish are endowed with an extensile mouth comprising many sharp-pointed teeth. They feed basically on small fish which they pursue relentlessly even in shallow waters. However a good number of them also eat small invertebrates and shell fish in addition to their normal diet. Some species do not hesitate to come and hunt in the lagoons. This is the case with blue jacks ***(paaihere),*** speckled jacks ***(autea)*** and even big-headed jacks ***(uruati).*** Others, such as horse-eyed jacks ***(omuri),*** striped jacks ***(pahuru)*** or even the famous black jacks **(ruhi)** stay exclusively on the ocean slopes and in crevices.

These fish usually stay in small groups but amass in solid shoals at spawning times. This phenomenon is spectacular in the atolls of the Tuamotu islands where some shoals are made up of several thousands of individuals. Only the ***uruati*** (Caranx ignobilis), it seems, tends to be more of a loner.

Jacks are extremely inquisitive... a defect which often proves fatal to them. Spearfishermen profit from this character trait, attracting them within spear's rea ' ch by making.glottal sounds. When they are wounded, their distress calls alert all the sharks and many other scavengers in the vicinity.

6.3.6 Butterfly Fish

Butterfly fish hover around coral peaks from which they hardly ever stray. Their bodies, which are laterally very flattened, enable them to thread their way easily between the coral branches at the slightest sign of danger.

Butterfly fish sport brilliant liveries consisting of these four basic colors: yellow, orange, white and black. The designs and colors will change as they grow older.

Their feeding habits are as varied as the species, and consist of small invertebrates, coral polyps or small algae. The diet of some omnivorous varieties consists of all three.

Some thirty species of chaetodontidae can be observed in Polynesia. The islanders call them by the collective name of ***paraharaha.*** The size of the adult fish varies between 10 and 15 centimeters.

6.3.7 Triggerfish

Balistidae are armor-plated fish, with bodies shaped like lozenges. Their prominent eyes are set far back. Although their mouths are small, these come with solid teeth. The ***oiri*** also have a strong backbone which enables them to wind their way steadily through the coral crevices. Of a bellicose nature, they do not hesitate to make a show of charging intruding fish or even divers who come too near their territory. This is the case of the big ***oiri mahea*** (the multi-colored triggerf ish) which one must always be wary of since its jaw is fitted with powerful teeth capable of crushing various shell-fish and shells.

Although triggerfish have a varied diet, they tend to be carnivorous. It is also not unusual to see them bite fish-hooks. Which is the prettiest specimen? Maybe the small "clear picasso" triggerfish ***(oiri uouo)*** with its white coat, marked with pale blue, yellow and brown, which can be instantly identified. Those most frequently found in Polynesian waters are: the yellow-headed triggerfish ***(oiripao)*** and the red-lined triggerfish ***(oiri panitoro).***

6.3.8 Red Mullet

Armored Soldier Fish, Red Mullet and Squirrel Fish Armored soldier fish ***(apai),*** squirrel fish ***(araoe),*** red globe eyes ***(maere)*** and red mullet ***(iihi)*** are joint hosts among the dark crevices of the reef and the clumps of coral in the lagoons. They belong to the family of the **holocentridae** with their metallic coats frequently tinted with pink or orange. Their bodies are covered with a protective layer made up of small closely-overlapping scales. And do take care, their fins sting... as do the gills of the *apai!* Their overlarge eyes reveal an essentially nocturnal life during which these voracious carnivores pursue small fish, molluscs and crustaceans. The largest specimens rarely exceed 30 centimeters.

Tahitian red mullet ***(iihi)*** must not be confused with those of Europe, particularly the Mediterranean, which are in fact surmullets belonging to the mullet family **(vote** in Tahitian).

6.3.9 Snappers

Lutjanidae are, in many aspects, close to the Serranidae. In Polynesia, this group is represented by half a dozen species of which the most common are: red snapper ***(haamea),*** black spot snapper ***(taivaiva),*** paddletail snapper **(tuhara),** yellow-margined snapper **(toau)** and blue-lined sea perch ***(taape).***

Snappers are active carnivores, endowed with several rows of teeth which often include so@d canines well-embedded in the upper jaw. Fish, crustaceans and various invertebrates make up their main diet. The uniformly brown-red color of the ***haamea*** and the ***tuhara,*** is yellow with a black spot on each side on the ***taivaiva*** and streaked with blue stripes on the ***taape.***

Sea perch frequent the coastal waters without preference for any particular spot. They swim in compact shoals and at various depths, ploughing the ocean slopes of the reefs as well as the lagoons of the islands and atolls. Red snappers *(Lutjans boha@,* more solitary in nature, prefer the ocean sides of passes and the outside slope down to a depth of fifty meters. Their gluttony and their obstinacy make them "hover" like sharks around the spearfishermen and their suffering victims. Like the ***taivaiva,*** *the* **haamea** are often poisonous and their sale is prohibited in the market in Papeete. Fully grown, sea perch never exceed 30 cm while red snappers easily reach a length of 70-80 cm.

6.4 Shellfish

The Clam (a bivalve of the **Tridacnidae** family)

It is impossible to begin on the subject of shell fish without immediately calling to mind the one which is found most frequently (starting on the table as an ashtray): the clam ***(pahua).***

Tridacna maxima: this is the only species of clam present in Polynesian waters. This species has a fleshy coat which is brightly colored due to the presence of symbiotic algae called zooxanthels. The clam feeds on this microscopic plant life. In turn, it is highly prized by Polynesians who consider it a delicacy. Some of the closed Tuamotu atolls are rich in several million individuals per square kilometer! However, their numbers are declining in the more populated Society Islands where they are collected in much too anarchic a way. *Tridacna Maxima* is far from equalling the size and weight of his cousin *Tridacna gigas* which can reach up to 200 kilos.

And here are some other beautiful families...

Shellfish	**Mitra**	**Cowries**	**Cones**	**Terebra**
Family	Mitridae	Cypraeldae	Conidas	Terebridae
No. of species Present in Polynesia	110-115	65-70	65-70	40-45
Habitat	sandy bottoms - hard substra-tuum for some species	under rocks or dead coral	coral or sand according to the species	sandy bottoms

Activity	nocturnal	nocturnal for most species	nocturnal	diurnal and nocturnal
Diet	carnivores worms molluscs dead organisms	herbivores detrivores shellfish fish	carnivores worms	carnivores worms
Size according to species	a few mm to 12cm	5 mm to 13 cm	1 to 20 cm	5 mm to 20 cm

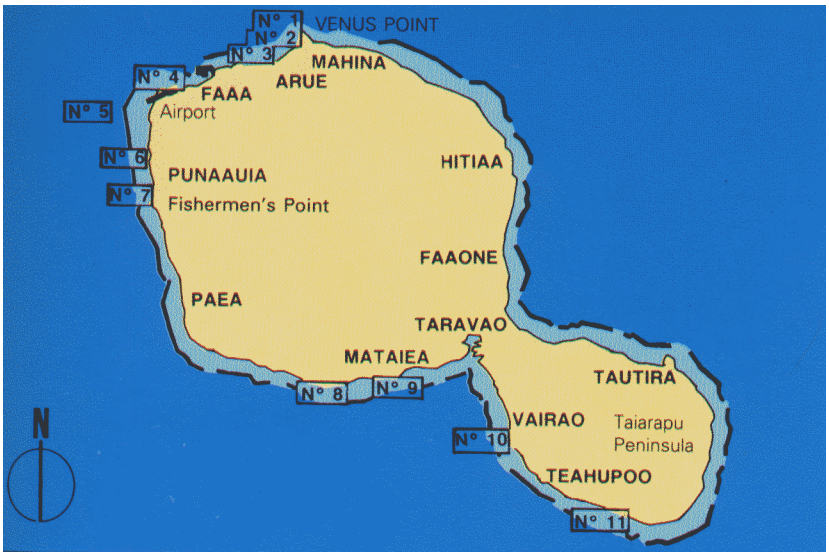
Endemicc species	Bernardi Barbieri Bouteti Cassiaul	Marchionatus Gauguini Marielae	Trochlea Troendlei
Some infrequent or rare species	Cernica Aurantium Bernardi Barbieri Cassiaui Cuminguii Dilwyni Mariae Subteres	Pertusus Adamsoni Aulicus Legatus Luteus Marielae Circumcisus Betulinus	Pertusa Trochlea Strigillata

Group established in accordance with Polynesian estimates and specimens in the collection of Michel Boutet.

All the islands (Marquesas, Tuamotu, Gambiers, Society and Austral).

Some species which are rare in Polynesia may be more common in other parts of the world.

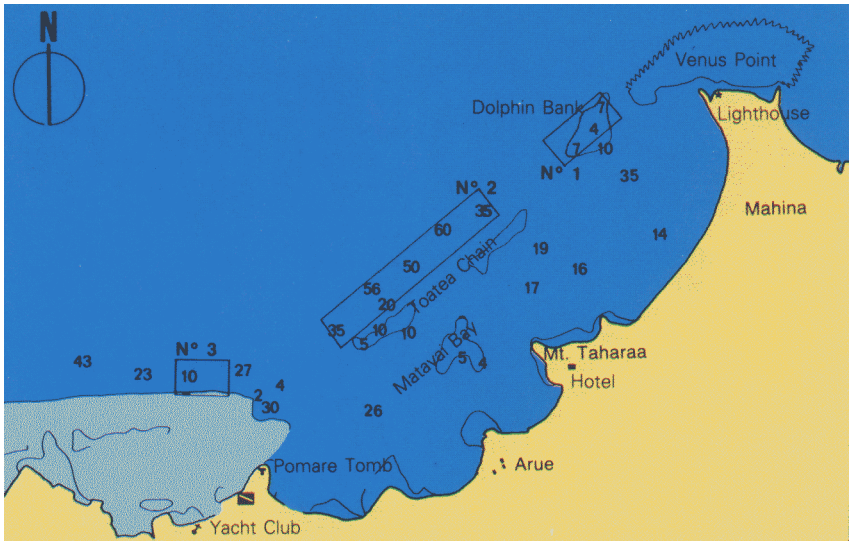
7 Tahiti



7.1 Dolphin Bank

Easy – Ocean - 20 Meters - Scuba Dive – Boat - Large Species - Coral

Location



The bank is located in Matavai Bay, near the Venus Point reef. In the Mahine district. On the north coast of Tahiti.

On 23rd June 1767, Wallis and the crew from the "Dolphin" landed for the first time in Matavai Bay, probably near these shallows, hence its name.

Access and Anchoring

The site is easy to find without seamarks. It is three nautical miles from Taunoa Pass and two nautical miles from Otueaiai Point Pass (next to the Yacht Club). Navigate in the direction of Venus Point. Five hundred meters before the southwest end of the reef which .caps' the Point, you will suddenly see a vast coral plateau. Its green color contrasts with the surrounding dark blue water. It rises to 3-4 meters below the surface. Drop anchor there, on the bank which faces out to sea.

Weather Conditions

Good visibility is absolutely essential if you want to benefit fully from the beauty of the site. It is preferable to begin exploring in the morning, if possible before 10 a.m. Cancel the dive if there is swell from the north. The dive is still possible with east-northeast trade winds since Venus Point protects the area. A current from the point sometimes disturbs the water.

Diving

"Dolphin Bank" has an original configuration. It plunges out to sea in a succession of parallel steps to a depth of about 20 meters. Some are several meters wide, others form narrow crevices. Their walls are eroded and pierced with holes in which photographers may "capture" bare twigs, shell fish and various small brilliantly-colored coral formations. Surgeon fish, red mullet and wrasses abound. These channels are regularly visited by large jackfish (uruati) which come there to hunt. The location is excellent for night dives.

There is no point descending beyond the terraces since the slope, covered with coral debris, is sad and gloomy.

SHOM Nautical Chart No. 6598

7.2 The Arue Slope

Difficult – Ocean - 50 Meters – Scuba – Surface Cover Boat - Abundant Coral - Dive Light

Location

The underwater cliff which we are suggesting you explore is parallel to a chain of shallows located in Matavai Bay. In the Arue district. On the north coast of Tahiti.

Access and Anchoring

The series of shallows shown an the nautical chart under the name of 'Toatea Chain' is no other than part of the old barrier reef which formerly circled Mataval Bay. This barrier reef is now submerged. It is almost impossible to find the spot where to drop anchor with the naked eye. Thus the use of a depth-finder is almost imperative. First of all, position the red buoy of the 'Yacht Club Pass' (Otuealai Point) at right angle to the Pomare tomb. Then, going in the direction of the open sea, locate by depth-finder the summit of the shallow which culminates 12 meters below the surface. Divers familiar with deep dives may anchor at this point. We advise you however to have a surveillance boat supervising the progress of the team during submersion. One enormous advantage of having a boat is of course greater safety for the divers. Moreover this method enables you to see more of the cliff without worrying about getting back. Send a signal at the six meter stage.

Weather Conditions

Calm sea is advisable for this dive. Do not dive if there is swell from the north or strong east-northeast trade winds: the location is even more difficult to find, and anchorage and monitoring of divers difficult. The water is cloudy after rain or when the current is scouring 'Yacht Club Pass'. Mataval Bay is usually calm in July-August, when the maraamu (southeast trade wind) is blowing.

Diving

Without losing time, descend the ocean slope from the shallows. The slope which drops gently to a depth of 25-30 meters then becomes a vertical wall which plunges into the depths. To be more precise, this is not a cliff, but a succession of cliffs parallel to the "Toatea chain". Explore in the direction of Venus Point, between 45 to 50 meters in depth. At these depths, there is a dearth of sunlight. A strong torch is necessary to bring out the brilliant colors of the spongiae, gorgons, algae and calcareous formations which carpet the slope. Without additional light, diving at this site offers little interest because of the semi-darkness. The crevices harbor sundry small corals, red mullet, surgeon fish, bullfish and sea bass. There is no point descending more than 50 meters, as there is nothing better to see... without counting the hands of your watch and your depth gauge dictating that you surface earlier!

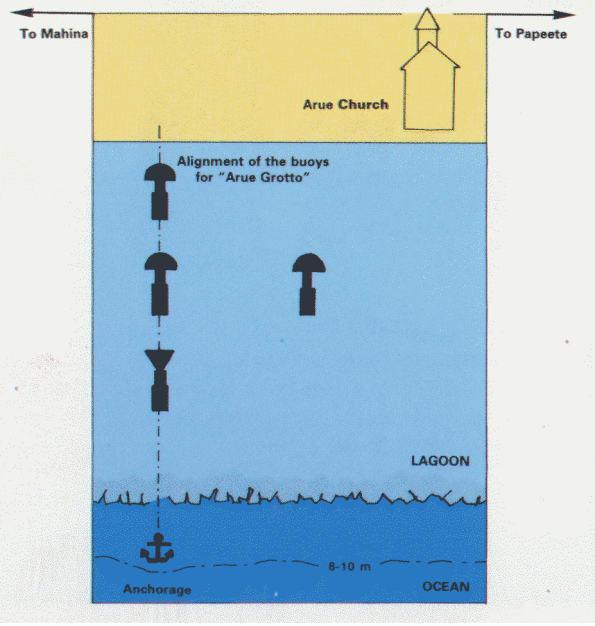
SHOM Nautical Chart No. 6598

7.3 The Arue Grotto

Moderately difficult – Ocean - 32 Meters – Scuba – Boat – Coral - Dive Light

Location

The ocean slope of the barrier reef situated between Taunoa Pass and Mataval Bay. In the district of Arue. On the north coast of Tahiti.



Access and Anchoring

If you come from Taunoa Pass, go along the reef in the direction of Venus Point. Or the opposite direction, if you come from Matavai Bay, go along the reef in the direction of Papeete. In both cases, Arue church which is clearly visible on land, is your first reference point. When level with the church, align on an ocean-shore rectilinear axis the first green buoy with the two red buoys (see diagram) located in the lagoon, on the left of the church. Then drop anchor on the anchoring is possible on the upper portion of the drop-off, at 8-10 meters.

For those with light boats on trailers: use the slipway at the end of the footpath next to the Yacht Club (PK 4 Arue).

Weather Conditions

Do not dive when there is swell from the north or a strong ENE trade wind. Under these conditions, anchorage is tricky and unsafe, and visibility in the water is mediocre. No significant current.

Diving

Go down the slope to a depth of 28-30 meters, then fin towards Venus Point. After swimming for a few minutes, you will reach a sort of chasm which cleaves the slope. The grotto is on the left hand side. A pile of coral debris marks one of the possible entrances (32 meters). The other is further up, at a depth of 29 meters. This is the one we advise you to use. A light is essential. Without it, you will only see a tenth of the treasures located there. At certain times of the year, the cavern is transformed into a shrimp hatchery. Shrimps squat in the different rooms in their thousands. Red mullet, sweepers, moray eels and scarlet sea bass are also around; and spiny lobster. But let the poachers sleep easily: those which point their antennae in such a fashion, are far from being an edible size! A shark from the lagoon sometimes comes to doze in the upper chamber.

The bottom of the grotto is covered with fine mud... which is only waiting for a flipper to touch it to get all stirred up. If there are photographers in the group, it is preferable for them to go in first. Inside it is necessary to use one's arms to propel oneself along, otherwise visibility quickly drops to nothing. It is quite a common occurrence for a large napoleon to "welcome" divers as they come out. We would not be surprised if this cavern is used as a nocturnal shelter.

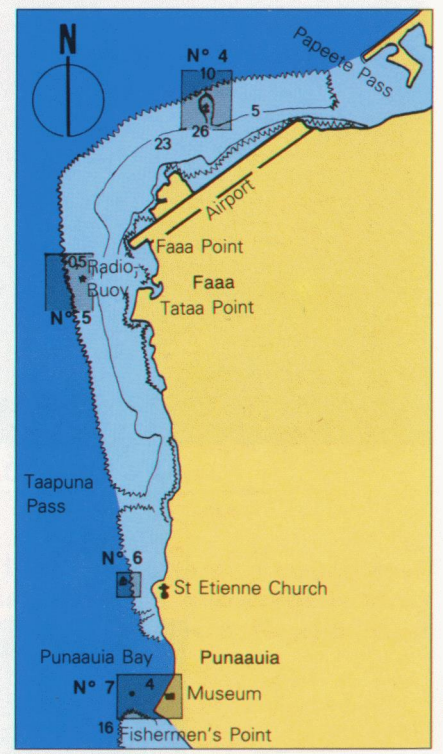
SHOM Nautical Chart No. 6598

7.4 The Hydroplane and the Schooner

Easy – Lagoon - 20 Meters – Scuba – Boat – Wreck - Reduced Visibility

Location

A lagoon grave located opposite Faaa airport, about half-way along the landing strip.



Access and Anchoring

Take the lagoon channel which runs along the side of the airport. It will not be long before you cross, on the runway side, a long stone jetty at the end of which there is a white shelter with a tall cylinder on top. This building is an aeronautical radio-buoy. On the other side of the channel, roughly in the axis of the jetty, there is a vast deep basin (30 meters) among the surrounding shallows enabling one to go to the nearest point of the barrier reef. Drop anchor 50 meters after the entrance, on the left hand side of this area, at a point 2-3 meters in depth.

Weather Conditions

The site is well protected from the southeast trade winds. On the other hand it is more exposed to the east-northeast trade winds which rapidly disturb the clarity of the waters. An occasional light current on a north-south axis.

Diving

This dive enables you to explore both the wreck of a plane and an old schooner, one of the last examples of the inter-island traffic of years gone by. Once in the water, go down to a depth of 6-7 meters, then follow the sandy slope in the direction of the barrier reef. Remaining on this sounding line, you cannot fail to miss the wreck of the plane. It is lying on a sandy bed, resting on its right wing. The aluminum cockpit is perfectly well preserved. There are just a few clumps of coral growing here and there. It is possible to go inside without any risk, either through a door located on the left hand side of the fuselage (less than 1.5 meters) or through the front cockpit. At the lowest point of the plane, the depth meter reads 20 meters.

At few fin strokes away, still in the direction of the reef, you will find the schooner. Its large propeller, the superstructure of the bridge and various bits of tackle are still in place. Time is gradually affecting the massive wooden hulk. Do not venture inside. Heavy pieces of metal threaten to collapse at any moment. Shoals of surf mullets, damsel fish and whip-fish swim between the ribs of the ship. Photographers can never count on visibility of more than about 1 5 meters as the water is almost always loaded with particles.

SHOM Nautical Charts Nos. 6598, 6658 and 6685.

7.5 Papa Whisky

Difficult – Ocean - 50 meters – Scuba – Boat - Strong Current – Coral - Dive Light

Location

"Papa Whisky" is the name given tothe little artificial islet situated on the axis of the landing strip of Faaa airport. It is in fact a lighthouse and a radio-buoy intended for aeronautical traffic. The islet is very easy to locate because of the various installations with red fixtures on top. Exploration of the ocean slope of the reef located in front of this beacon is the subject of this section.

Access and Anchoring

No special difficulty in reaching the site. The artificial island can be seen from far off. It is 2 nautical miles to the north of Taapuna Pass and 4 miles to the south of the Papeete Pass. Drop anchor directly opposite, at the edge of the cliff, at a depth of 6-8 meters.

Weather Conditions

The area is protected from the east-northeast trade winds. Anchoring is tricky on days when the *maraamu* (the southeast trade wind) is blowing, as the underwater plateau before the barrier reef is quite narrow. Do not dive when swell from the south south-east is greater than a meter.

Pay attention to the current! It is frequent and rather strong on some days. It generally comes from the south and circulates parallel to the reef. Check its presence before going down. If it is there, choose the southern trip (we shall mention it below) so that you swim against the current during the dive. This procedure will enable you to return to the boat without effort.

Diving

The clear break that can be distinguished at the surface seems to be that of a cliff. It is in fact the edge of a vast amphitheater (70 meters long) created by the collapse of part of the underwater plateau. Inside, the effects of the current are much less noticeable.

From here, two exploratory trips are possible. One to the southern end of the arena, the other to the northern point. Both are only for experienced divers. The object of the trip to the south is a beautiful geographical fault covered with yellow gorgons *(villogorgia gracilis).* It can be found at a depth between 40 and 45 meters.

To explore the north point, go down to a depth of 45-48 meters so as to reach the overhanging rocks, which are also rich in gorgons. Their fans of yellow lace are perpendicular to the direction of the current so as to maximize capture of the plankton which it carries. There are groups of mauve anthias nearby. Take an underwater torch to bring out the colors. A marauding tuna sometimes comes to circle a short distance away from divers before vanishing into the blue. Visibility is often excellent.

From 55-60 meters, the ocean slope becomes an abrupt cliff wall. The gorgons are larger and even more dense. The site is ideal for those who want to combine the pleasure of exploration with deep dive training.

SHOM Nautical Charts Nos. 6598 and 6658.

7.6 The Saint Etienne Drop-offs

Easy to Difficult – Ocean - 6-60 meters – Scuba – Boat - Big fish

Location

Opposite the church at Saint Etienne, the reef plunges into the ocean in a succession of vertical walls. In the district of Punaauia. On the west coast of Tahiti.

Access and Anchoring

If you come from the vicinity of Papeete, go along the reef in the direction of Fishermen's Point. Saint Etienne church is one nautical mile from Taapuna Pass. It is visible from far off because of its roofs which overlap in decreasing sizes. Note that when you are opposite it, it is hidden by a curtain of vegetation. Only its cross, which is difficult to make out, shows above the top of the trees. It is impossible to miss, however, because at this point the barrier reef forms a sort of cove before fading away shortly afterwards, marking an elbow bend in the direction of the coast. Drop anchor at 5-6 meters on the edge of the drop-off.

Weather Conditions

A calm sea is essential as the underwater plateau on which you have to anchor is very narrow. In a stormy sea, the water is also quite muddy.

Diving

The site merits several dives. You can then drop anchor at different points of the cove depending on where you want to explore. The edge of the drop-off is punctuated by large formations of madrepores with contorted outlines. At night, cowries, spiny lobsters and squill-fish appear, although they are becoming more and more rare... victims of poachers who sacrifice without scruple, the inheritance of all to their sole and immediate gain. Experienced divers will be able to descend the succession of vertical walls which extend well beyond the permitted limits of the aqualung. A sheer drop and an overhanging cliff await them between 30 and 60 meters. This site is ideal for "deep water" training. In open water, there are dog-toothed tuna *(vau),* jackfish and unicorn fish *(ume).*

SHOM Nautical Charts Nos. 6598 and 6658

7.7 The Spring

Easy – Ocean - 18 Meters – Scuba – Boat - Big Fish - Coral

Location

On the north side of Fishermen's Point. In the district of Punaauia. On the west coast of Tahiti.

Access and Anchoring

The dive owes its name to a fresh water spring which rises in the sea, at the top of a coral head. For your first visit at least, choose a calm day as the emission is then more visible on the surface. It will therefore help you locate the site quickly. It is situated two nautical miles from the Taapuna pass.

Go to the north side (the Papeete side) of Fishermen's Point. Leave this point some two hundred meters on your left and approach the short section of reef some fifty meters away. In this area, you will quickly spot the shallows: a circular green area, surrounded by slight eddies caused by the spring emerging. Light craft can drop anchor at 1.5 meters at the very peak of the head. But boats drawing more water have to drop anchor a little further on, where the bottom is covered by sand and coral rubble, at a depth of 15-18 meters.

Weather Conditions

Preferably the dive should be made early in the morning. For reasons of water clarity, do not explore the area after a period of rain or storms from the west. With a strong southeast wind *(maraamu),* visibility is also poor. The area is well protected from the east-northeast trade winds. No significant Current.

Diving

The spring rises 5-6 meters below the surface. It can be easily located because of the column of rippling water escaping from it. The slope of the Peak facing the open sea drops to a depth of 15-16 meters. It is perforated with grottos, one of which, at a depth of at least 14 meters, often shelters a lagoon shark *(mamaru)* or during the night, a napoleon. There is no point in descending the rubble-strewn slope which begins further down as there is nothing of any interest there. On either side of the spring, a beautiful valley extends parallel to the coast. Both sides are worthy of exploration (maximum depth of between 10 and 12 meters). The area is

always rich in fish: you will see shoals of surmullets (vete), blue-lined sea perch *(taape)* and sea-pike barracuda *(tiatoa).* The large clumps of living *porites* which constellate the valley, shelter dense populations of red mullet, squirrel fish and soldier fish. You should reserve about 30 minutes for a tour of the area.

SHOM Nautical Chart No. 6658

7.8 Atimaono

Easy – Pass - 15 Meters – Scuba – Boat - Big Fish - Coral

Location

On the right bank of Teavaraa Pass, which is more commonly known as Atimaono Pass. PK 40 on the West coast of Tahiti. In the district of Papara.

Access and Anchoring

For those with a boat and trailer: use the slipway in the Thioro marina (PK " - Mataiea). Once in the pass, drop anchor at the foot of the black buoy (on the right bank) but not past this point. Note that the conventional green buoy is not in place (a probable alteration in 1989).

Weather Conditions

The pass is dangerous to cross when there is a strong *maraamu or* south-southwest swell. However the dive is possible if there are trade winds from other directions since the location is well within the pass. A slight receding current predominates at Atimaono. On the whole, the waters are quite clear as there are no streams in the immediate vicinity.

Diving

Explore here quite quickly. Begin by swimming out to the open sea. The small slope you go along at a depth of between 10-1 2 meters is of little interest since it is at the angle of the pass itself that there is the greatest density of fish. It is impossible to make a mistake, because from this point, the sandy bottom quickly rises. Stay at this point for a while so that the shoals of paddle-tail snapper *(tuhara), surmullets* (vete) and assorted surgeon fish get used to your presence.

At the foot of the rocks (15 meters) there are some deep faults in which a couple of lagoon sharks *(mamaru)* hide. It is rare not to be able to observe them. Keep enough air so that you can explore on your return, the reef which stretches beyond the black buoy. In the passage, study in detail the grottos situated (at a depth of 4-5 meters) at its foot. Here too lagoon sharks hide. Beyond this point, in the surrounding shallows (2-3 meters), extends a network of coral corridors and arches which are a pleasure to visit. Sunlight illuminates them with luminous streaks and the small creatures to be found there on some days are very varied.

SHOM Nautical Chart No. 6828

7.9 Alfa Peak

Medium – Pass - 35 Meters – Scuba - Boat

Location

In Alfa Pass. PK 45 on the west coast of Tahiti. In the district of Mataiea.

Access and Anchoring

Use the slipway at the Thioro Marina (PK 44 - Mataiea). The lagoon is not always navigable between Papeete and Mataiea, chiefly opposite Papara. Note that the right bank of Alfa Pass also has the old black buoy and not the green one now in use (a probable modification in 1989). Drop anchor in the ocean right angle (black buoy) at a depth of 12 meters.

Weather Conditions

This area is well protected from the east-northeast trade winds. Do not dive when the *maraamu* (the southeast trade wind) is blowing hard, when there is a storm from the southwest or after a period of rain (the water is very cloudy). No particular problem with currents.

Diving

While going in the direction of the lagoon, descend the ocean slope in one go to a depth of 28-30 meters. At the ocean angle of the pass, you will see a beautiful head rising out of the blue. It is located some 30 meters off the shore. The highest point of this massive sugar-loaf is at 28 meters but it goes down to a depth of 45 or 50 meters depending on the slope. On the side opposite the drop-off there is a grotto (35 meters) in which at times a group of small tuna *(aahi)* can be seen-an incredible sight. Although fauna is not abundant, the site is pretty and is worth a trip if you are in this part of the island.

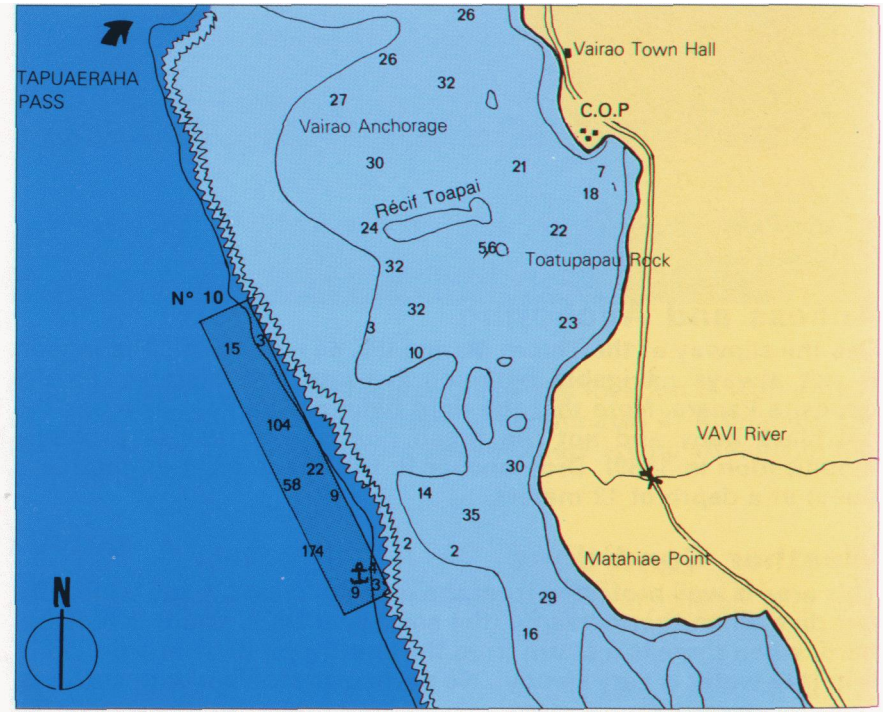
SHOM Nautical Chart No. 6828

7.10 The Vavi

Moderately Difficult – Ocean - 35 Meters – Scuba – Boat - Big fish – Coral – Camera - Dive Light

Location

"The Vavi' is the name of a river which flows into the Vairao lagoon at the 12 kilometer mark. By extension, we shall call the part of the reef between the Pacific Oceanological Centre



(C.O.P.) and Matahiae Point, at least a mile further south, by the same name. On the west coast of Taiarapu Peninsula.

Access and Anchoring

There are two slipways close to the site. The first is in the marina of the Puunui hotel (PK 7) and the second is alongside the Vairao Town Hall (PK 9.9). The bay, which is located opposite this municipal building, provides excellent anchoring for yachts. After following Tapuaeraha Pass (more commonly called 'Vairao Pass'), turn left and follow the reef to the south. One nautical mile separates you from the C.O.P. with its modern installations on the shore which are easy to distinguish. The diving area extends between this landmark and the curve formed by the reef a little before Matahiae Point. Behind the curve, the reef forms a deep guiley (35 meters), its dark blue water contrasting sharply with the surrounding turquoise. You will then be in line with the Vavi.

Drop anchor wherever you like on the narrow underwater plateau between these two landmarks; the whole ocean side of the barrier reef makes for excellent exploring.

Weather Conditions

This is a very calm area when east-northeast trade wind is blowing. The squalls raised by the *maraamu* are no bother, since they pass much further out to sea.

Approach and anchoring are difficult when there is swell from the southeast: under these conditions, it better not to dive. We have never encountered any significant current but it is probable that it does exist when there are special meteorological conditions (for example, high tides.

The water is cloudy after rain.

Diving

A succession of small cliffs (from 6 to 55 meters) characterizes the outside slope of the reef in this sector.

The place is without doubt the richest we have explored on the west coast of Tahiti, both for the variety of species spotted there and the multitude of colors. When there is no rain, visibility is excellent and you may see objects which are more than 40 meters away. A real paradise for photographers.

Yellow gorgons appear at a depth of 20 meters. In deeper waters, they are accompanied by patches of pink gorgons and several alcyonaceans with brilliant polyps. The grottos and overhangs are covered with small pink, yellow or orange coral of the Tubastrea type. Remember to take a torch in order to appreciate all the nuances. A few black coral stems (cir*rhipates)* also dot the cliff.

Groups of anthias, butterfly fish and parrot fish provide an additional touch of color.

There is no need to go deeper than 35 meters. You will only shorten your dive unnecessarily.

The site is still intact and because of this, merits special attention. Do not remove any gorgons; they lose their color on reaching the surface, quickly dry out and become smelly. Dead, they are of no aesthetic interest while alive, they are so beautiful, waving on the Vavi slopes.

SHOM Nautical Chart No. 6525

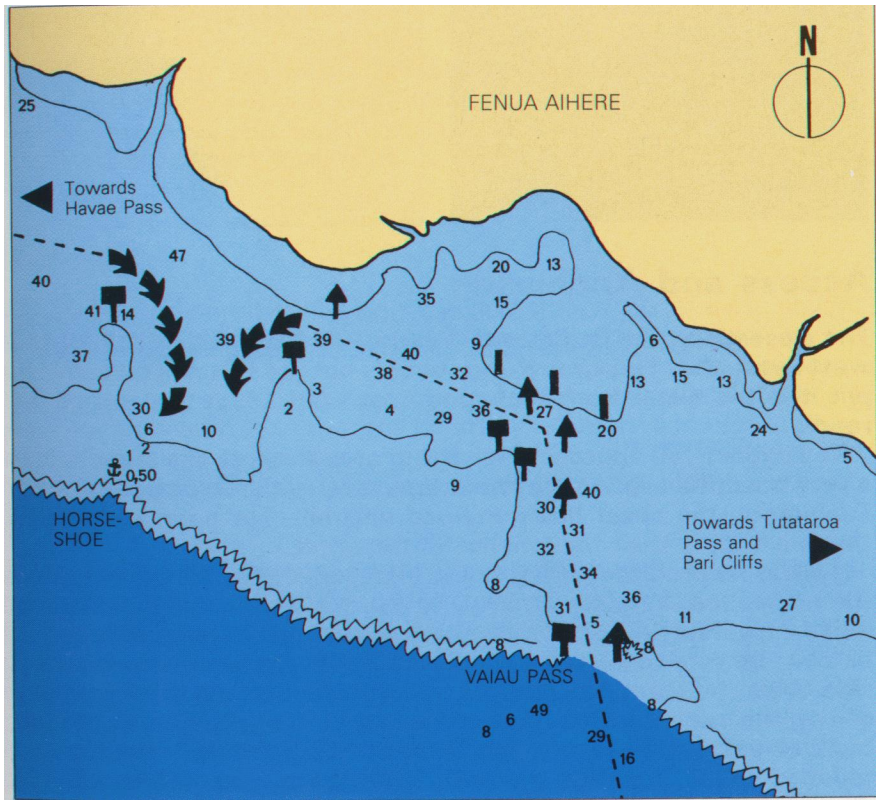
7.11 Vaiau Cove

Easy – Ocean - 20 Meters – Snorkeling – Scuba – Boat - Big fish - Coral

Location

About 1200 meters (2/3rds of a mile) before Vaiau pass, the barrier red forms a small cove in the shape of a horseshoe.

At the bottom of this calm creek, an underwater tunnel crosses the reef from one side to the other. It enables divers to cross from the lagoon to the Ocean and vice versa in an original way. Vaiau is the penultimate Pass before the Pari cliffs. In the district of Teahupoo. At the southwest end of Talarapu Peninsula.



Access and Anchoring

The closest slipway is opposite Vairao Town Hall (at PK 9.9 on the west coast after Taravao). If your boat is not too heavy, you can also put it in the water from Teahupoo beach (PK 18, at the end of the road).

We suggest you approach the diving area through the lagoon. It is a very beautiful trip. As the road stops level with Havae pass (PK 18, Teahupoo), the coast has remained unspoilt. For people who live there, a boat is their only means of transport.

There is no problem sailing in the lagoon between Havae pass and the horseshoe (3 nautical miles), unless it is abreast of Faremahora Point (just after Havae). The channel used for getting round is rather narrow; be sure to keep the black and white posts on the landward side. After the point, sail straight towards the first red buoy that you see on the sea side. This buoy is the last of five which mark the left bank of Vaiau pass (see chart). Turn at this point and then sail, at reduced speed, towards the reef. From there, you will be able to distinguish perfectly the horseshoe cove described at this location. As far as possible, go with the engine in the

upper position since approaching the barrier, the bottom rises quickly and coral density increases. At high tide, it is a little easier.

The tunnel shaft plunges vertically downwards. The entrance is in the central part of the horseshoe, a couple of dozen centimeters under the surface. You can spot it because of the slight effect of resurgence caused by the regular rise and fall of the level of the sea. An isolated rock stands out nearby. If you have difficulty finding it, reconnoiter the area with flippers, mask and snorkel.

It is also possible to get to the site sailing by sea (it is 7 nautical miles from leaving Vairao Pass and 2.5 miles from Havae Pass). A little after Havae, you will overtake the Puuotohe Pass (which is dangerous to cross). After this, you still have a mile and a half to go. Before Vaiau Pass, the horseshoe is so clear, you cannot miss it. Drop anchor inside, on a white sandy bottom. The ocean entrance of the tunnel is at the bottom of the cove, at the end of a small coral canyon at a depth of 2 meters. However in our opinion, the dive is less attractive if made in this direction.

Weather Conditions

The site is always very calm, except perhaps when there is a strong southwest swell. The *maraamu* (the southeast trade wind) is not a bother here since it is only the trip 'out'' which is made aft to the wind. No significant current. This dive is best appreciated in the morning.

Diving

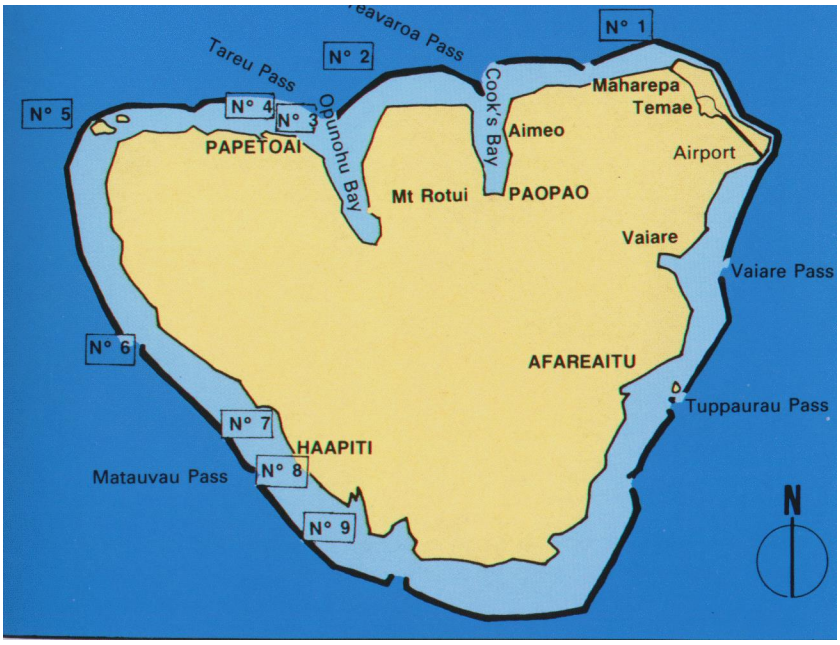
We have dived here both at high tide and at low tide: there is always enough water, it seems, to glide with a bottle on your back to the entrance of the shaft. You may graze your stomach sometimes but what is important is that you can get past! You can go down without fear, as there are no underwater monsters on the look-out. Two meters lower, a vertical fault enables you to descend even further into the depths of the reef. It is quite narrow but a diver can get through, without too much difficulty.

You will then enter a vast room. A light is not necessary as ample sunlight filters through to the interior. You simply must look around attentively. Going up towards the roof, you will find grottos full of red mullet *(iihi)* and sweepers *(mata anaana).* Some walls are covered with small pink, yellow and orange corals. A wide opening at the other end of the cavern allows you to swim out to the sea.

Do not be in a hurry to leave as the long-beaked unicorn fish *(ume herepotl), napoleons (mara)* and large parrot fish *(uhu)* which frequent the cove are shy and disappear as soon as divers besiege the area. Go left, and visit the eastern end of the horseshoe (the western end is much less interesting). By following the coral slope 8-10 meters from the bottom, You will encounter in succession two beautiful coral heads. The ocean side of these towers goes as deep as 20 meters. To find the tunnel again, at the end of the dive, do the reverse journey in less than two meters of water. About half an hour is necessary to make the whole trip. The location is also good for practicing breathing techniques. **Never go into the tunnel without an air bottle.**

SHOM Nautical Chart No. 3990

8 Moorea



8.1 Ava Iti Caves

Easy – Pass - 20 Meters – Scuba – Boat - Strong Current - Dive Light - Reduced Visability

Location

Of the five passes on Moorea's north coast, Ave Iti is the most easterly. It is the first one you will come upon as you round Aroo Point by boat from Tahiti. Sailboats rarely use this pass. It is difficult to negotiate because it is narrow and there are no conventional buoy indications.

Access and Anchoring

Ava lti is 2.5 nautical miles east of Cook's Bay. To reach it, follow the buoyed channel in the lagoon. When you reach the pass opening, position your craft along the right bank (as you exit) and anchor at 34 meters, on the sand slope just before the clearly contrasting rocky Cliff.

Weather Conditions

Our observations (which have been confirmed by the island's coastal diving clubs) indicate that there is never incoming current in Ave lti Pass. However, outgoing current can be very strong, so be careful. Abandon your diving plans if there is swell (north-northeast, or sometimes northwest). The additional volumes of water brought in by the breaking of subreef waves compounds the problem. Even when the weather is clear, underwater visibility is never excellent because the nearby lake, Temae, empties into the lagoon.

Diving

Immediately following the sand slope where you have dropped your anchor is a sharp cliff which at its highest point rises to 23 meters. After the cliff, a series of archways and caves continues

out to the pass opening. The winding landscape is very attractive, but there is little fish life. The mysterious atmosphere of this site makes it worthwhile to stop there for a moment. Photographers will find an excellent setting for backlit shots, despite the greenish dominance of the water. On a clear day you will be able to explore this side of the pass, then cross over and return along the opposite shore. Its contours are less spectacular but there are more fish.

SHOM Nautical Chart No. 6658

8.2 The Giant Roses

Difficult – Ocean - 50 meters – Scuba – Boat - Surface Coverage – Coral - Camera

Location

The giant roses are to be found between 45 and 70 meters below the surface, along the outside reef shores, from Cook's Bay to Opunohu Bay. North coast of Moorea.

Access and Anchoring

We do not have a clear idea of the exact size of the site, but it appears to be very large. The area we explored is 1.5 nautical miles west of Avaroa Pass (from Cook's Bay), or 1 nautical mile east of Tareu Pass (from Opunohu Bay). It is possible to travel from one bay to the other via the lagoon. If you choose this route be sure to follow the buoy indications from Vaipahu Point and keep the white pickets on the side facing land (small boats only).

As you reach the site, Hotel Moorea Lagoon, clearly visible on land, should be slightly to your left (as you face the shore).

Enter the water a good hundred meters off the reef. If you decide to anchor, choose the upper slope at least 10-15 meters away so that you will not be too close to the barrier reef. However, we do not recommend anchoring. You will waste too much time proceeding and returning along the outside slope as well as locating your anchoring once you ascend. A better solution is 'descending into the blue' from a moving boat. This is also a much safer solution. An inflatable marker buoy at 6 meters is a useful method for indicating the dive party's position to the boatman.

Weather Conditions

The site is very well-sheltered from disturbances originating from the south, but is very exposed to northeasterly trade winds. Anchoring is difficult and underwater visibility is reduced when the sea is high. The area is sometimes affected by strong current rising to 15 meter underwater and running parallel to the barrier reef. Should this occur, do not waste time at the surface.

Diving

This dive is very deep and only experienced divers who have already descended "into the blue" should attempt it. This type of long free fall where there are no reference points other than suspended particles is impressive. For this dive, you will descend 50 meters all at once.

Whichever surface solution you choose (anchoring or surface cover boat), do no waste any time. At this diving depth, the amount of time you will have to explore is limited and the less time you waste descending, the more you will have once you reach the bottom.

At about 30 meters, shadows become clearer. You will distinguish an underwater slope with attractive contours, though it will be difficult to judge exact dimensions. You will be able to appreciate the actual size once you reach the seabed short of 45 meters. Everything will seem out of proportion. In a subtle meeting of the animal vegetable and mineral worlds, calcareous blossoms of huge roses of *montipora* coral, fully-open in search of sunlight, cover the site as far as the eye can see. Some are 3-4 meters in diameter; others are even larger. Attractive "lettuce" corals *(agaricia)* compete with these petrified flowers for growth, sometimes successfully. This natural garden is a sight of rare beauty.

The slope continues gently down to even greater depths, but there is not much point going any farther. This would only shorten your dive... and require longer decompression stops. In our opinion, 50 meters is a sufficient depth for you to appreciate most of what the site has to offer. The only drawback to this dive is that there are not many fish swimming around.

SHOM Nautical Chart No. 6658

8.3 Opunohu Wreck

Easy – Pass - 25 Meters – Scuba – Boat - Wreck

Location

Right bank of Tareu Pass (green buoying). This pass provides access to the lovely, deep Opunohu Bay. North coast of Moorea.

Access and Anchoring

You will have no difficulty reaching the site from Opunohu Bay. If you leave from Cook's Bay, follow the lagoon buoy indications from Vaipahu Point carefully. Keep the black-and-white pickets on the side facing land. These pickets mark a very shallow area which is dotted just below the surface with corals that are the mortal enemies of propellers. Anchor at three meters, next to the only green buoy on the right bank of the pass (the first one as you enter).

Weather Conditions

The site is exposed to northeast winds. If you want good underwater visibility, you should not dive if there is swell (which causes outgoing waters and therefore many suspended particles).

In Tareu Pass, like in the pass in Cook's Bay, there is no incoming current. And when outgoing current does occur, it poses few problems.

Diving

There are many conflicting stories about this wreck: cargo ship versus warship, French or German, went down in 1919 or in 1926, wooden versus iron hull. However, there is agreement

on one point. When the ship struck the reef, the entire crew was busy waving to the ladies they had met while in port.

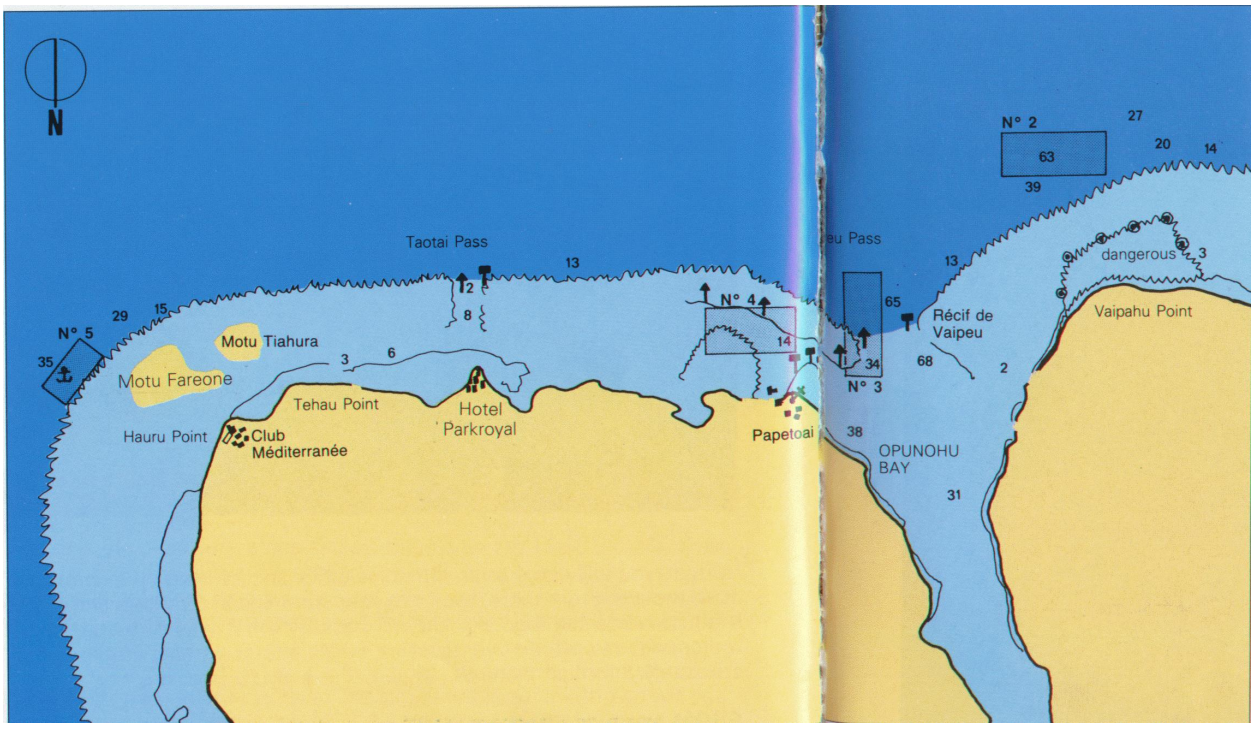
Skip over the dead coral slope and continue down to 15-18 meters. Then continue along the slope, swimming towards the ocean. Do not stop to touch the coral head land where you will see many fish milling around (napoleons, parrotfish, snappers, red mullets, etc.). Directly beyond the headland, at 25 meters, you will see the first section of the wreck lying in a bed of white sand. Once you have explored it, return to the rocky dropoff and continue your dive as far as the large fault on your left. You will see a heavy chain embedded in the sand. As you proceed up the valley which follows, you will come to an attractive stock anchor lying on a coral shelf at 10 meters. From there, return to your short line at 5 meters and follow it out towards the lagoon. You will pass by what was once the ship's motor unit. Its covered-over remains, which attract a great number of fish, are surely the most picturesque part of the entire wreck.

SHOM Nautical Chart No. 6658

8.4 The Spotted Eagle Ray Channel

Moderately difficult – Lagoon - 15 Meters – SCUBA – Boat - Strong Current - Big Fish – Reduced Visibility

Location



The lagoon channel linking Taotoi Pass (facing Beachcomber Parkroyal) and Tareu Pass (facing Opunohu Bay) on the island's north coast is a favorite meeting ground for large numbers of spotted eagle rays *(fai manu).* The spot where they can most easily been seen is along the portion of the channel near Papetoai Harbor, facing Temaearoa Point.

Access and Anchoring

You will easily spot Papetoai Harbor, at the west end of Opunohu Bay, with the help of the round church with the red roof right next to it. Just beyond the roof (as you proceed towards Taotoi Pass), the red buoy indications on the "land side' of the channel are replaced by a series of black posts marking the shallows near Temaearoa Point. You should of course also keep the posts on the side facing land.

You will be diving off the section of the channel between the third and fifth posts. If you have a boatman assuring surface cover, you may enter the water near the fifth post and just let yourself drift with the current. It will take you towards Papetoai Harbor. If you have no choice but to anchor, do so at the base of the third post, at a depth of two meters. In this case, you will have to proceed up the channel against the current. But this will ensure that that the current will bring you back to your boat when you are ready to return to your initial point of departure.

Weather Conditions

Strangely enough, the ocean swell (from the northwest or northeast) is not a handicap, but rather a help during this dive. We noticed that the likelihood of seeing a shoal of rays is much greater when the current is strong. The large volumes of water entering the lagoon with each wave increase normal water Point movement in the channel. Note that normal water movement is always from west to east, that is, from Taotol Pass towards Tareu Pass.

Diving

As we have mentioned above, strong current in the area increases the chances of coming across the spotted eagle rays. Under normal circumstances, this means a 60% chance, or on 6 dives out of 10.

The shore, which is marked with black posts, plunges abruptly. The channel seabed, at 15 meters, is covered with coral rubble. There is not much to say about this dive. Enjoying it mainly depends upon seeing the spotted eagle rays pass by. As depth at the site is shallow, you will be able to stay for a long period of time. If you don't see the rays, proceed midchannel and wait for them there. The backlit sight of 40 rays moving in close formation will be unforgettable. Unfortunately, there are always a great many suspended particles. This limits visibility and makes photographing difficult. You should therefore preferably dive in the morning, when sunlight penetration is best. The outside slope of the channel rises gradually.

If large swell making it impossible to explore this section frustrates your overwhelming desire to dive there, take the chance anyway. You might ju st be lucky enough to meet up with those 40 spotted eagle rays.

SHOM Nautical Chart No. 6658

8.5 Tiki Dive

Moderately Difficult – Ocean - 20 Meters – SCUBA – Boat - Strong Current - Big Fish – Coral - Camera

Location

Tehau Point and Hauru Point mark the extreme northwest end of Moorea. This dive will take place off the outside reef slope near Hauru Point.

Access and Anchoring

Taotoi Pass (north coast, facing Beachcomber Parkroyal) is the channel leading to the ocean closest to the dive site. The pass presents no difficulties and has good buoy indications. The site is less than 2 nautical miles away. Bear sharply around Motu Tiahura, then around Motu Fareone (the larger of the two *motus)* and anchor between the southern tip of Motu Fareone and the coral slab (bare of vegetation) which arises distinctly above the waters of the lagoon a short distance away. You will be facing Club Med (at Point Hauru) and will clearly see the long *niau* roof of its 'Tiki Restaurant'. Drop anchor about 60 Meters off the barrier reef, in clear turquoise waters.

Weather Conditions

The site is well-sheltered from east-northeasterly trade winds. Only swell from the northwest will prevent you from diving, but this does not occur often. Be careful of swell from the southwest. It tends to give greater force to the current which prevails at the site even during good weather.

Diving

You will be exploring around the same area where you have anchored. There is no point continuing any distance because the interest of the dive is not in the beauty of the site but in the large number of fish that you will encounter at that exact location.

Just proceed to the seabed and explore around there, from your anchoring to about 20 meters below the surface of the sea. Below, the underwater slope plunges abruptly and there is nothing interesting or beautiful to see.

Club Med instructors have been regulars at this spot for several years now. In fact we owe it to them that the dive is so attractive for they are responsible for the abundant fishlife. On each dive they distribute a generous supply of large carcasses of tuna, bonito or dorado and have succeeded in creating a settlement of a large number and variety of fish. Small fish will attract larger fish, which in turn attract even larger ones. Thus sharks have joined in the fun and can now be seen regularly at the site.

To fully enjoy the dive, you should take along a few pieces of fish, or better still, an entire carcass. If you have no fish, leftover scraps of meat will do the trick, though this is not your guests' favorite dish. As soon as you reach the seabed, your dive party will be enveloped in a cloud of bluelined sea perch *(taape),* black triggerf ish *(oiri rauape),* bignose unicornf ish *(karaua), butterflyfish (paraharaha)* and blue-spotted groupers (roi) which will make a mad dash at your offerings. A few large Tuamotu emperors will suddenly appear from just below, followed closely by a pair of napoleon fish *(mara)* and a few black-tip sharks *(maurt),* all hoping to join in the feast.

If the carcass is large enough to give off a strong odor, one, two or even three yellow sharks *(arava)* may ascend from the deep. They are the superstars of the feeding sessions organized by two different diving clubs. The largest measures 3 meters.

If you are diving on your own and meet up with yellow sharks, quickly place the carcass on the seabed and move away from it. *Arava* are known to have a nasty temper, so be cautious and allow them a good amount of breathing space.

This underwater exploration is without any doubt one of the most enjoyable dives in Moorea.

SHOM Nautical Chart No. 6658

8.6 Taota Canyons

Easy – Pass - 12 meters – Scuba – Boat - Big Fish – Coral – Camera

Location

Taota Pass is on the west coast of Moorea, in the district of Haapiti. It is 6 nautical miles from Opunohi Bay by the lagoon (7.5 nautical miles by the ocean). The actual dive site is at a shallow depth, at the pass opening.

Access and Anchoring

Taota Pass has a poor reputation. The lack of buoy indications and the narrowness and shallow depth of the pass make it dangerous when there is swell. Swell causes high waves, making it impossible to negotiate in the pass. Every year, many boats learn this lesson the hard way. You should navigate in this channel only when the sea is calm... and a calm sea is of course the only time you should dive. The shallow depth at the opening to Taota Pass (2.5 meters) limits navigation to craft with shallow draught. Pleasure boats wishing to stopover in the area should take Matauvau Pass, 2.5 nautical miles farther south.

Anchor on the upper underwater slope (at 12-15 meters), about 50 meters off the left angle of the pass (as you exit).

Weather Conditions

Diving is impossible when there is large swell from the southwest, which sometimes affects this side of the island. Large waves breaking against the reef will in any case discourage you from setting out to sea.

Even when swell is moderate, it causes wave action and upsurges in the canyons which are difficult to contend with. Divers may be pushed violently against the rocky walls. We therefore stress that a calm sea is imperative for this dive. You should also abandon your diving plans if there is swell from the northwest (rare), or if there is strong *maraamu* (southeast trade wind).

Diving

As you swim towards the pass opening, you will immediately come upon a series of narrow canyons along the seabed. They form a vaulted labyrinth which you will enjoy getting lost in. The effects of light are spectacular and you will see an abundance of marine life: hunchback unicornfish *(uhu),* carangids *(paaihere), angelfish (parahapeue), amberfish (mataval),* snappers *(haamea)* and surgeonfish *(manini, maito)* adore this spot. Depending on the day, you may see them in impressive numbers. Divers of all levels may enjoy this dive which is at a depth of only 6-12 meters. However, you should begin by exploring the first three canyons. If you encounter strong wave action, do not continue your dive as those which follow are sure to be even more violent.

SHOM Nautical Chart No. 6658

8.7 Iihi Valley

Moderately Difficult – Ocean - 35 Meters – Scuba – Boat - Big Fish – Coral - Camera

Location

Avamotu Pass is a narrow channel on the west coast of Moorea, near the village of Haapiti. The term "pass' is from our viewpoint a misnomer because only small motorboats can safely negotiate it. Even then, the sea must be calm.

As legend would have it, a huge yellow lizard entered the Haapiti section of the lagoon, forming Avamotu Pass. Eimeo (or Aimeho) was then named 'Moorea', from 'moo' meaning lizard and *"rea'* meaning yellow. The dive we recommend is on the ocean side, on the right bank of the channel (as you enter).

Access and Anchoring

Avamotu Pass is barely three meters wide and is less than two meters deep. It is not buoyed. A single large rock, which is always clearly visible, marks the left bank (as you enter). When the sea is calm, you will easily spot the rock in the extension of the lagoon basin, which continues up to it at a depth of 30 meters. Once at sea, position your craft at the site by aligning on the same axis, the large rock and Hotel Linareva's floating restaurant, which is clearly visible along the shore. If you align these landmarks correctly, you will anchor on the right side of the pass, at 15-20 meters.

Weather Conditions

When there is swell from the southwest, the site is difficult to locate and may be impossible to negotiate, so you should wait for better weather. Moderate-to-mild *maraamu* (southeast trade wind) presents no major problem, except for underwater visibility which will be poor.

Diving

lihi Valley, tucked between two hills of rubble which descend to 28 meters perpendicularly to the barrier reef, is a kind of oasis teeming with marine life. In addition to the large concentration of red mullets *(iihl)* which find shelter under porite "mushrooms", sea turtles, napoleons, shoals of bluelined sea perch and large solitary barracudas can regularly be observed at the site.

A wide strip of white sand stretches between 28 and 34 meters. Cross over it and you will come to a healthy coral slope which rises to 32 meters, then disappears into the blue. It is dotted with small, very healthy clusters *of pocillopora and acropora* which attract all the small marine life usually seen in this type of biotope (chromis, damselfish, zanclus, hawkfishes, etc.)

SHOM Nautical Chart No. 6658

8.8 Matauvau Pass

Difficult - Pass - 15 Meters - Scuba - Boat - Surface Coverage - Strong Current - Big Fish - Reduced Visibility

Location

Of the three passes which are found on Moorea's west coast, Matauvau Pass is without any doubt the safest one. Though it is not buoyed, the site is easy to reach from the Haapiti section of the lagoon, except when there is southwest swell of over 2 meters. This is so because it is a large pass (80 meters wide and 14 meters deep). Fishermen say that this is one of the spots

around Moorea that has the most fish. According to them, tiger sharks frequent the area regularly at night.

Access and Anchoring

As at any site where the currents are strong, we recommend that you do not anchor. It is preferable to use a surface cover boat to follow your movements. If you choose surface cover, enter the water in the lagoon, well upstream along the right bank of the pass (as you exit). Be sure to keep towards the right bank, at a depth of 10 meters, and let the current carry you to the large rock which we will describe below. When you have completed the dive, bear right to return to the barrier reef. Once you are no longer midchannel, the current poses fewer problems. Your surface cover boat will have no trouble picking you up. Signal your position by releasing an inflatable buoy marker.

If you choose to drop anchor, do so at about 50 meters off the barrier reef, in the area which is slightly set back from the left bank of the pass (as you enter). You will be anchoring at a depth of between five and ten meters, depending on whether the anchor touches the upper or lower portion of the many canyons present at the site.

Weather Conditions

You will have to accept the conditions on this dive. There is never any incoming current in Matauvau Pass. There is always outgoing current, though its force varies from day to day. Exploring will be impossible if there is swell from the southwest. The added volumes of water in the lagoon cause even more violent weather conditions. You will also be forced to abandon your diving plans following heavy rain. Underwater visibility will be too poor for your dive to be enjoyable.

Diving

The presence of a continuously strong outgoing current combined with poor underwater visibility make the exploration of Matauvau Pass quite difficult. Only divers with good skills and who are in excellent physical condition should attempt this dive. If you have anchored, begin the dive by skipping over the canyons and swimming towards midchannel. You will soon come upon a rocky valley (where the seabed is at 14 meters). The current at this spot will be stronger. Continue up the valley, proceeding towards the lagoon, until you come to a large rock. This is the final destination of this dive. You can't miss the rock because just beyond it, the seabed descends abruptly to 28 meters. Wait next to the rock for the fish to come by. Hold on if you need to. After your trek upstream, you'll appreciate the rest.

The scenery is not fantastic. The water is green and turbid, but the. parade of fish is absolutely incredible! Spotted eagle rays will "fly by" (when the current is strong), shoals of red snappers *(haamea)* and a host of carangids *(omuri, ruhi, paaihere),* impressive napoleons and white-tip *(mamaru), gray (raira)* or even yellow sharks (arava)-rest assured, they are all small-criss-cross back and forth in a never-ending procession. Before you leave, be sure to take a look under the slabs of rock in the area surrounding your observation deck. It is not rare to find one or several sleeper sharks *(rohoi)* taking a snooze.

SHOM Nautical Chart No. 6658

8.9 Atiha

Easy - Ocean - 25 Meters - Scuba - Boat - Big fish - Coral - Camera

Location

This diving site is situated on the outside slope of the barrier reef, halfway between Matauvau Pass and Avarapa Pass. West coast of Moorea.

Access and Anchoring

Specifically, the site is 1.5 nautical miles from Matauvau Pass, when proceeding along the reef towards the south, and just over one nauticaf mile from Avarapa Pass when proceeding north.

This section of the barrier reef forms a point which you will have no trouble spotting. ff you are coming from Avarapa, the dive site is exactly 500 meters beyond the reef point. Of course, if you are coming from Matauvau Pass, it is 500 metres short of the point. From that spot, you should be able to see clearly half a dozen fairly large turquoise rings over a distance of at least 100 meters. Anchor at a depth of 15-20 meters, between the barrier reef and the sandy areas so that you will not damage the clusters of coral just beyond that point.

Other landmarks you should watch out for: Once you are at the site, your craft should be aligned with three mountaintops, and just behind them, a sugar loaf peak. Do not confuse the sugar loaf peak with Mt. Mouaroa just above it.

Weather Conditions

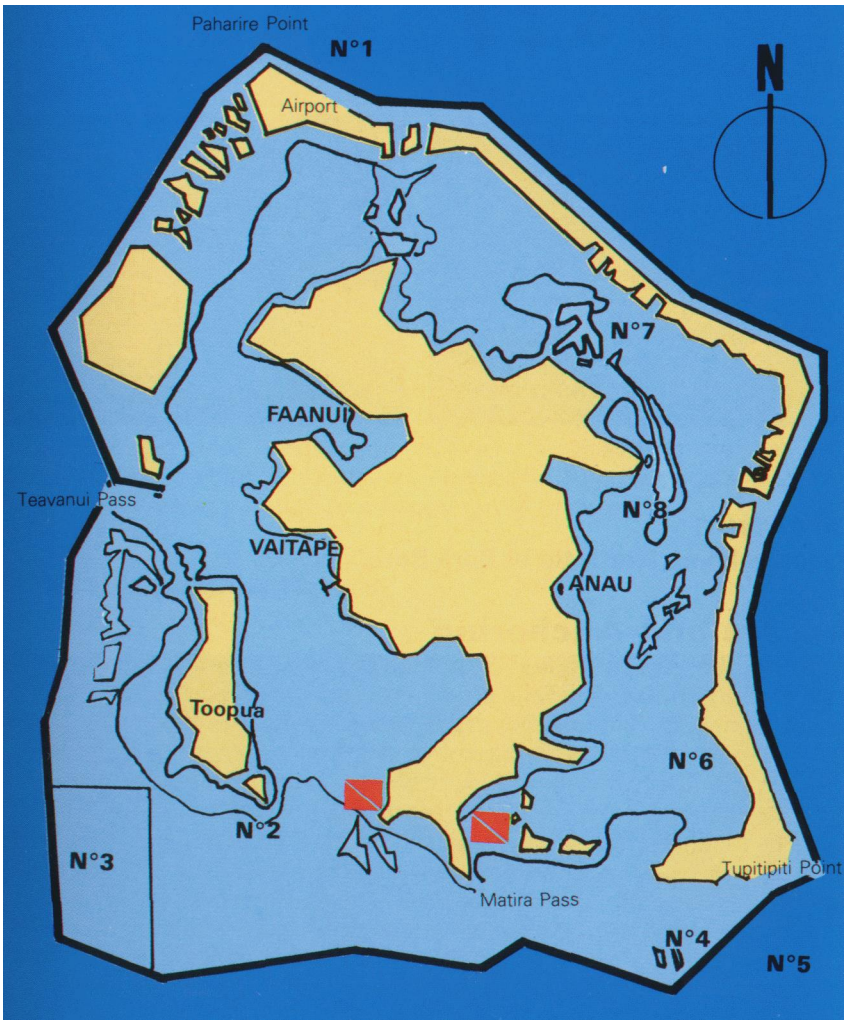
A calm sea is imperative. Do not venture out if there is swell from the southwest, even if it is moderate, or if there is strong *maraamu* (southeast trade wind). Anchoring will be unstable, the current stronger, and underwater visibility reduced.

Diving

The underwater landscape at Atiha consists of small, healthy coral valleys and patches of sand dotting the area from 18 to 27 meters deep. When the sea is calm, the water is a clear turquoise. The clusters of coral are undamaged and they really thrive among the stretches of sand. The fish life is also plentiful. As is Often the case near reef points, Atiha is a meeting ground for large deep-water fish and predators of all types. Barracudas, large carangids *(uruatl),* napoleons and small sharks are some of the species you will be able to see. The patches of white sand are not only attractive, but are often the favorite napping spot of a solitary sea turtle.

SHOM Nautical Chart No. 6658

9 Bora Bora



9.1 The White Valley

Moderately Difficult - Ocean - 25 Meters - Scuba - Boat - Big Fish – Coral - Camera

Location

Paharire Point. North tip of Bora Bora.

Access and Anchoring

To get to the "White Valley', first take the island's only pass (Teavanui Pass), then continue north along the reef until you reach Paharire Point, which is five nautical miles away. From there you will clearly see the end of the landing strip of the Bora Bora airport. Continue around the Point and proceed until you reach the old landing strip built by the American forces during the second World War. It is now used as a hangar strip.

Once you are facing this strip, align your craft with the left side and head for the open sea, keeping a northeast direction. You will soon come upon a beautiful patch of turquoise which is in total contrast with the dark blue all around. This is the White Valley'. After you have reached this point, use visual navigation to proceed up the valley towards the reef and anchor at its highest point, at a depth of 18 meters.

Weather Conditions

Abandon your diving plans if there is strong north wind. The site is well-sheltered from south winds. West winds do not blow frequently, but swell from the west sometimes affects this side of the island. We do not recommend that you dive if there is swell from the west.

Diving

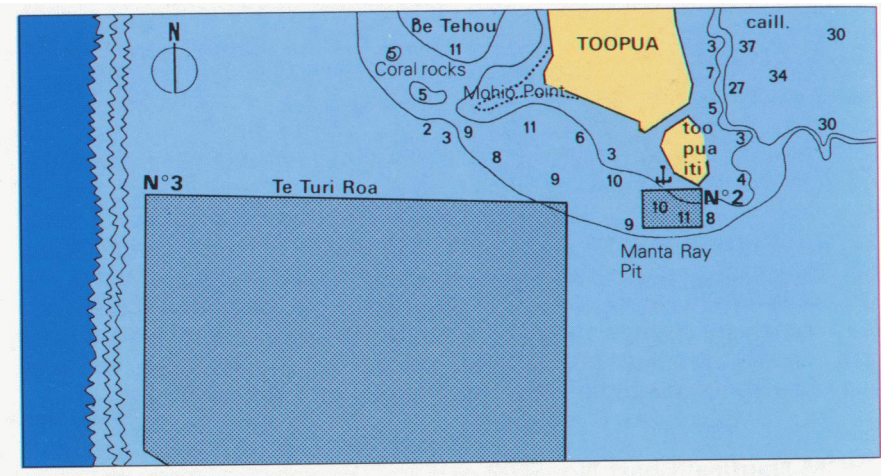
The White Valley is an extraordinary horn-shaped sandbar which stretches for about 300 meters and is about 20 meters wide at its broadest point. It slopes gently down towards the sea between 18 and 25 meters. Below 25 meters, the slope suddenly becomes very steep, plunging into a completely different world. The waters are generally very clear (except when there is swell from the northeast), allowing good sunlight penetration. This also adds to the dark-light contrast. The site is noted for its abundant marine life, especially large species that come regularly to hunt. The valley seabed is dotted with large "chandeliers" of *acropora,* which provide shelter for an array of small rainbow-colored fish. Cascades of large light brown "mushroom" *porites* with multicolored serpulids line either side. These corals attract large numbers of blue parrotfish, dolphinfish, yellow snappers, red mullets and triggerfish.

Red mullets, soldierfish, butterflyfish, scorpion fish and many others mill about in the dark recesses of these madrepore fortresses. In the open waters, you may also encounter carangids and especially shoals of barracudas which are attracted by the sound of air bubbles and will come circling around. It is not unusual to see as many as fifty or more animals of the deep, converge at the same spot. Curiosity has got the better of them and they come very close to ogle at divers. A few small, inoffensive sharks will also casually complete one of their "patrols". If you are lucky, you may even see some sea turtles or a happy group of dolphins.

SHOM Nautical Chart No. 6002

9.2 The Manta Ray Pit

Easy - Lagoon - 11 Meters - Scuba - Boat - Big Fish - Camera



Location

Southwest coast of Motu Toopua Iti.

Access and Anchoring

Motu Toopua Iti is the small sister island of the larger

Motu Toopua, which encloses the western end of the deep Povai Bay. To reach this dive site, take the small channel at the southern tip of Toopua Iti which links the bay with a shallow white sand basin (10-11 meters deep). The basin runs along the southwest coast of the island. Anchor at a depth of 8-10 meters, in front of the coconut trees lining the shore. This location is one of the most attractive anchoring spots in Bora Bora.

Weather Conditions

The site is well-sheltered from northeasterly trade winds. It is more exposed to south winds, which stir up the sand and cause reduced underwater visibility. You should choose a calm day to dive, preferably early in the morning. You will need perfect underwater visibility to be able to fully enjoy the procession of rays.

Diving

There are rays at Toopua Iti all year round. It would be unusual to make a dive and not see any.

Most of the time, manta rays travel in pairs, but they can also be seen sometimes in groups of seven to eight. Manta rays stage a fabulous underwater show as they swirl, loop, pirouette and crisscross up to the surface of the water, then disappear into the blue, only to reappear minutes later.

They are attracted by the sound of an outboard motor, so be sure to let yours turn before you enter the water.

It is worth noting that although manta rays *(fafa piti*) are close cousins to the shark, they are inoffensive and completely unaggressive. They have been nicknamed "devils of the sea", and in some regions of the world have a totally unjustified reputation for preventing divers from returning to the surface. There is no truth to this. Manta rays are impressive in size and weight (the biggest average 6 meters in length and weigh 2 tons.) Their diet is made up of large amounts of plankton which they feed into their large mouths with the help of two flat appendages on either side. Unlike other rays in the same family, manta rays do not have a poisonous stinger at the base of the tail. You may see them "fly" out of the water as they play or rid themselves of the parasites which cling to their back. Manta rays are inquisitive by nature and will not hesitate to approach you. When in their presence, rather than approaching them, you should instead descend to the seabed and wait for them to pass by. Sudden movements scare them away. You will see them make a powerful wing movement, then disappear.

Other regulars at the Manta Ray Pit include spotted eagle rays *(fai manu)* and many other species of fish which travel through the pit to reach the small channel at the southern tip of the *motu* and continue out to the deep waters of the nearby bay.

SHOM Nautical Chart No. 6002

9.3 Te Turi Roa

Easy - Lagoon - 2 meters - snorkel - Boat - Coral - Camera

Location

Lagoon between the southwest coast of Motu Toopua and Te Turi Roa Reef Point.

Access and Anchoring

Only small motorboats may enter this part of the lagoon because of the shallow depth (1.5-2 meters). No navigation difficulties but you will need to watch out for the many coral rocks scattered over the entire area. There will be even more as you near the barrier reef. No specific anchoring indications. You may enjoy rambling from one coral formation to the next until you reach the barrier reef.

Weather Conditions

The site is exposed to *maraamu* (southeast trade wind). Motu Toopua shelters only a small part of the site, closest to the *motu* itself, from northeasterly trade winds. On days when the winds are high, small, choppy waves stir up the seabed, substantially reducing underwater visibility. Calm weather is the best time to explore this site.

Diving

The part of the lagoon stretching to the southwest of Motu Toopua as far as the barrier reef is a large expanse of white sand and clear waters in many shades of blue. Large coral rocks dot the flat, sunlit plains, forming an oasis for an exceptional amount of marine life. Many different species of colorful fish mill about among branches of *acropora* and "cauliflower" coral, blue and green damselfish, shimmering soldierfish, black-and-white barred surgeonf ish, wide-eyed cardinal fish, glowing blue-spotted groupers, etc.

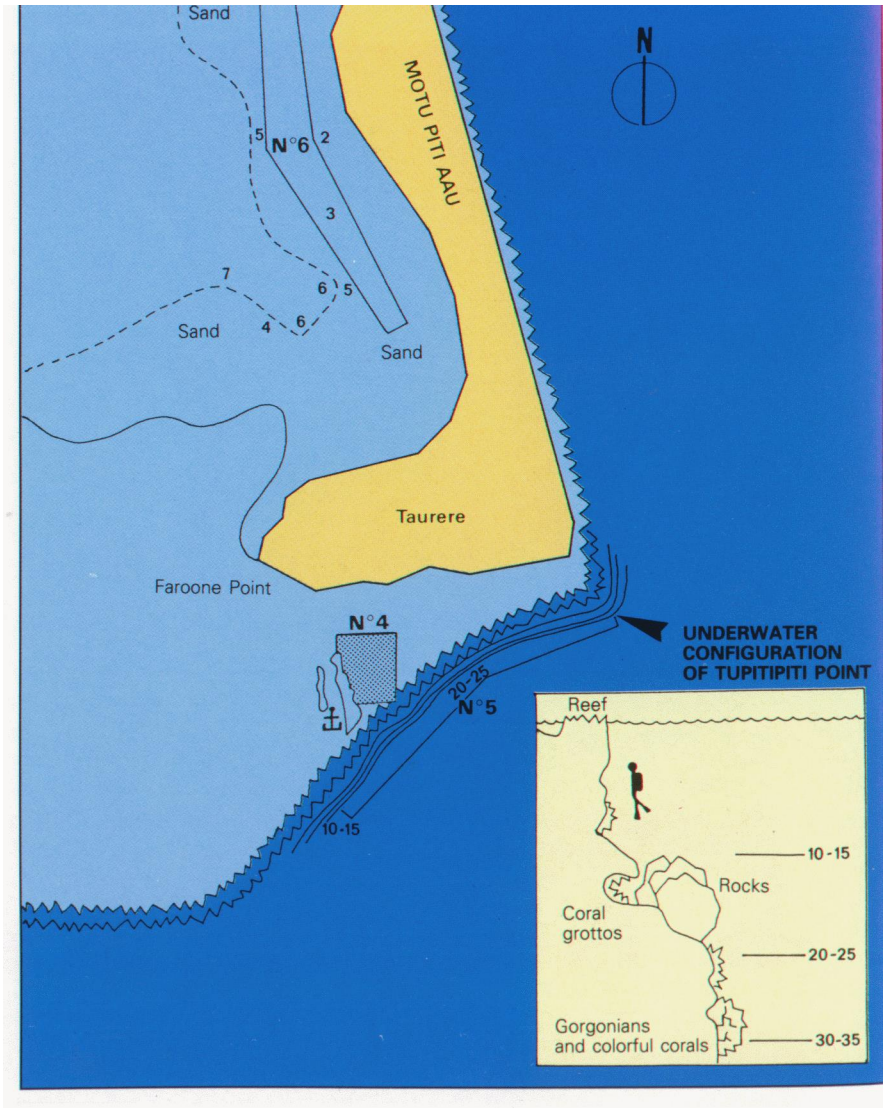
On a nearby sand bed, you will see roundnose stingrays *(fai iu)* in groups of three or four taking a snooze. As your boat approaches, they will gracefully swim away in search of another quiet spot. You will be able to proceed ahead of them by boat, then dive next to them. As you circle them in your boat, they will stop for a moment on the seabed, disoriented. You may enter the water to photograph them, but don't get too close. If the stingrays feel threatened, as a defence mechanism, they will raise the poisonous stinger at the base of their tail. The area adjacent to the barrier reef is also an interesting spot to explore. The waters are always clear because of the waves breaking off the nearby sub-reef. At the base of madrepore formations you will see hundreds of white sea urchins *(vana)* huddled together. Wrasse, parrotfish, a variety of surgeonfish, golden lined sea perches, striped triggerfish, carangids and black-tip sharks *(mauri)* are some of the marine animals which travel in and out of this coral labyrinth.

SHOM Nautical Chart No. 6002

9.4 The Aquarium

Easy - Lagoon - 3 Meters - Snorkel - Boat - Coral – Camera

Location



Lagoon between the barrier reef and the southern coast of Motu Taurere. Southeast tip of Bora Bora.

Access and Anchoring

Only small motorboats can reach this dive site. Navigate through the lagoon towards Tupitipiti Point. When you reach Faroone Point (southwest tip of Motu Taurere), towards the south, you will see a long coral flat which rises a good meter above the surface and stretches as far as the barrier reef. This is the final destination for this dive. Navigate at slow speed. As you near the flat, you will notice that the sandbed rises abruptly and is dotted with coral formations. Anchor in the small cove on the west slope of the flat. The dive site is on the other side, on the east slope (on the Tupitipiti side). The easiest way to dive is to get a foothold on the shelf, then enter the water on the other side. There is no point attempting to go round the northern tip of the shelf by boat; there are coral rocks everywhere. You would only run into them and damage your motor.

Weather Conditions

By north wind, the site is pleasant. When there is *maraamu* (southeast trade wind), swell affecting the barrier reef causes a light-to-strong current, depending on the force of the wind.

Diving

The entire area east of the shelf is excellent for snorkeling. Depth varies from one to three meters. Branches, clusters and bunches of fully-open corals provide divers with a glimpse of how lavish Polynesian lagoons once were. This flourishing coral colony has found excellent growth conditions. Clear waters ' excellent sunlight, gentle, nourishment-filled waves, and good shelter provided by the *motu,* the barrier reef and the old core of coral, all help preserve this site, making it one of the best snorkeling sites in Bora Bora. The fishlife is also attractive. Surmullets, sea bass, sea breams, various species of butterfly fish, chromis, damselfish, carangids, and even barracudas and black-tip sharks *(mauri)* are regulars at this site.

The narrow channel between the southern tip of the shelf and the barrier reef crest is easy to negotiate. (Depth is only 1 0 centimeters. Be sure to wear plastic shoes to protect your feet from the sea urchins.) On days when the weather is calm, you may use the channel to get a foothold on the reef and enter the water on the ocean side. You should take careful note of this because it is an interesting solution for experienced divers who may want to dive off Tupitipiti Point without having to travel via the ocean (cf. dive site description "Tupitipiti Point").

SHOM Nautical Chart No. 6002

9.5 Tupitipiti Point

Moderately Difficult - Ocean - 35 Meters - Scuba - Boat - Surface Coverage - Big Fish - Coral - Camera

Location

Tupitipiti Point Reef is the southeast tip of Bora Bora. Exploring is excellent all along the outside of the reef, from the Point to the underwater shelf of the ‘aquarium' (see previous dive site description), less than one nautical mile to the south.

Access and Anchoring

The distance you will need to cover to reach Tupitipiti is the main obstacle on this dive. The dive site is 12 nautical miles from the village of Vaitape, which means a 45-kilometer round trip. For obvious reasons of profitability, none of Bora Bora's diving clubs organizes dives to this site on a regular basis, though of course they will do so by special group request. So, to go on this dive, you will need your own equipment and personnel, and a powerful, reliable boat. It will take an hour to an hour-and-a-half to reach the site. The dive site is on the route to Tahaa. If your craft is a pleasure boat, you will be able to go on the dive as you make the crossing between Bora Bora and Tahaa.

Anchoring is tricky because the reef plunges abruptly like a cliff to more than 60 meters. One person should therefore remain on board the boat to ensure surface cover while the dive party is in the water. As mentioned in the previous dive site description, the southern end of Tupitipiti Point may be explored by entering the water from the reef, which is easy to reach from the

'aquarium' (see dive site description 'The Aquarium'). This solution is recommended for experienced divers only and, we repeat, requires excellent weather conditions (low tide, no swell at all). If you choose to dive off the reef, you should return to the same spot where you entered the water.

Weather Conditions

Tupitipiti Point is very exposed to southeast wind and swell (the prevailing weather pattern). Abandon your diving plans if there is any swell. The site is well-sheltered from north-northeastly trade winds.

Diving

The special characteristic of Tupitipiti Point is that there is no outside slope along the part of the reef which runs near it. As soon as you enter the water you will see the drop-off plunge abruptly into the deep blue of the sea. The waters are crystal-clear and invite you to descend even farther, but you need not continue very far. Between the surface and 35 meters, divers of varying experience may share the enjoyment of this dive's unique charm. At less than 15 meters, a narrow shelf marks the first portion of a drop-off, which is dotted with orange sponges and violet coral. Nearly everywhere, large caves are lined with branching *stylaster* and pink, white and violet *distichopora.* Facing the "aquarium" is an uninteresting shelf covered with coral rubble. But as you ascend towards Tupitipiti Point, large, odd-shaped rocks cover the shelf and form a labyrinth burgeoning with delicate shapes of the colored coral.

Do not enter these narrow caves if there is any swell. The wave action will cause uncomfortable, dangerous eddies. Farther down, the drop-off resumes its winding path. You will of course see a festival of colored *stylaster, even* more colorful combinations of orange, red and green sponges, and finally, to cap it all, beautiful, delicately yellow-trimmed gorgonians (beginning at 35 meters).

Black-tip sharks *(maur,,),* barracudas, carangids, parrotfish and red snappers *(haamea)* are some of the species of marine life most often found at Tupitipiti Point. This is unquestionably one of the most attractive dives in all the islands of French Polynesia.

SHOM Nautical Chart No. 6002

9.6 Giant Mussels

Easy - Lagoon - 2 Meters - Snorkel – Boat

Location

The most interesting portion of this site stretches over one nautical mile along the large Motu Piti Aau, between Mohio Point and Paoaoa Point. The site is easily visible from land. Southeast coast of Bora Bora.

Access and Anchoring

Two routes lead to the site of the giant mussels. Via the north, watch out for Mahuao Faao Reef which blocks part of the lagoon near Puhia Point (just before Revatua Hotel), then

disappears towards the south. This area is dangerous. Coral pinnacles just below the surface make navigation impossible between the coast and nearly half the lagoon. You will avoid the problem by proceeding a good distance from the shores of the *motus* which encircle the island and will be able to reach your final destination with no difficulty. Via the south, you should navigate off Matira Point, which also poses a few problems. Then continue north but keep well off the small *motus* of Piti Uu Uta and Piti Uu Tai. You will then have no difficulty reaching the large Motu Piti Aau which encloses the lagoon to the east along a distance of several nautical miles. Along this *motu,* 200 meters offshore, is where the giant mussels are the most plentiful. You will find them scattered over the white sandbed and bathed in jade-colored waters. Maximum depth is 3 meters.

Weather Conditions

Though located to the southeast, the site is well-sheltered from *maraamu* by the *motu.* The waters will be turbid if there is north wind, but this should not prevent you from making the dive.

Diving

Except for the mussels, there is nothing really spectacular about this dive. However, these enormous marine animals are one of the island's underwater wonders, so you should visit the site at least once. The term "giant mussels" is in fact a misnomer since these animals belong to the *Pinoidae* family, not that of *Mytilidae. The Atrina vexillum* does resemble an ordinary mussel but the difference is that it is eight to ten times bigger. The shell is thick and black, and it may be as long as 50 centimeters. Its weight can reach more than one kilo. This giant creature prefers sandy seabeds where it stays deeply embedded.

Contrary to popular belief, this species is not plentiful in French Polynesia and though it may be found in lagoons throughout the Society Islands,the colonies are rarely large. To our knowledge, this lagoon in Bora Bora has been an exception. We use the past tense because, unfortunately, the population of the species is. declining rapidly. We have observed that vast numbers have disappeared over the last two years, mainly because of thoughtless gathering by tour companies operating in the lagoon. The latter organize tours which include "mussel hunting" as one of the attractions, followed by a "tasting session". However, it is to be noted that this animal is not edible. Only the white muscle can be consumed, cooked in a spicy sauce. The rest is thrown back into the lagoon. The shell is of no value either because it does not keep well. After just a few weeks it begins to crack, then finally breaks. Strict regulations governing the gathering of *Atrina vexillum are* urgently needed in Polynesia. Otherwise, this extraordinary animal will soon be extinct in this lagoon in Bora Bora.

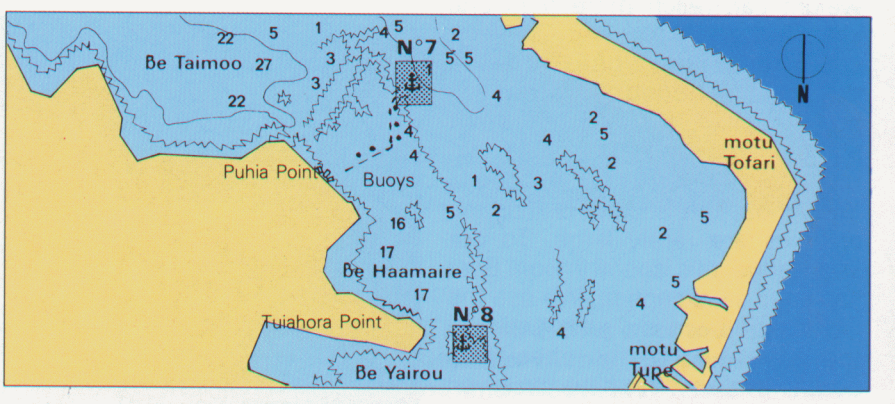
SHOM Nautical Chart No. 6002

The "giant mussel" belongs in fact to the Pinnidae *family rather than to that* of Mytilidae.

9.7 North entrance to Mahuao Faao Reef

Easy - Lagoon - 4 Meters - Snorkel - Scuba - Boat - Strong Current - Coral - Reduced Visibility

Location



Mahuao Faao Reef cuts perpendicularly through half the lagoon to the northeast of the island (near Puhia Point), then disappears towards the south, parallel to the shore along a distance of about 1.5 nautical miles. This reef encloses a large underwater site which stretches as far as Tuiahora Point. Two passes allow access to the lagoon and the ocean.

The first pass, to the northeast of the reef, is narrow and difficult to negotiate because it bends in the middle in the shape of an elbow. The second pass, at the southern tip of the reef, is wider and leads directly to Haamaire Bay. The north entrance, the one we are interested in, is located almost across from Revatua Hotel, a large colonial structure with a yellow roof which is easily visible on the shore.

Access and Anchoring

The right bank of the entrance is marked with a wooden sign carrying a two-tone plate (red on the left and green on the right). This marking is absolutely amateurish and was placed there by the hotel's diving center.

It does not really matter which side you anchor. Anchor on either shore, at a depth of two meters. Many canoes use this passage, so take care not to anchor in the center. -

To enter the lagoon, follow these directions. At the entrance of the pass, bear left and proceed along the three two-tone signs (which should remain visible port side). Once you reach the red sign (visible starboard), turn right. To reach the hotel, proceed straight ahead, following the series of red signs (which should remain visible starboard) until you reach the pontoon. If you choose to enter the lagoon by the southern tip of the reef, bear left again at the first red sign. The waters of Haamaire Bay are deep, so you will have no problem reaching the site.

Weather Conditions

This site is special because it is a "lagoon within a lagoon" and it seems to have its own particular high-water and low-water pattern. This means therefore that there is a sporadic outgoing current which can be very strong in both passes. As the site is shallow you may dive at any time. However, we recommend calm weather. Prevailing east winds cause small waves which stir up the seabed, thus reducing visibility in waters which generally have a green tinge. The best time to dive is early in the morning, or in the late afternoon if there is no wind.

Diving

The entrance is like a small pass. The current produces water circulation and brings in nutrients which attract a variety of marine life. Snorkeling is possible because the site is small and shallow (2-6 meters). A wide variety of corals adorn the seabed, including the better-known types of *acropora, millepora, pocillopora and porites.* These are only a few of the species present on the site. Some of the formations of brain coral measure several meters in circumference. They provide shelter for hundreds of damselfish, red mullets and squirrelfish. Milling around are shoals of parrotfish, black surgeons *(maito),* angelfish, butterflyfish, chromis, surmullets, king-fish, triggerfish, snappers, etc.

Molluscs are also found in big numbers, especially giant clams *(pahua),with* their thick, brightly-colored lips. The large number of shellfish strewn along the seabed is a festive sight for Tahitian gourmets. Beautiful murex and a few moray eels hide at the base of corals, as though seeking an effective protection.

Here and there you will see a few giant mussels embedded in the sand, but not nearly as many as in the sandy area near Motu Piti Aau, two nautical miles south (see dive site description "The Giant Mussels"). Carangids and spotted eagle rays are also regulars at this heavily populated site. However, the green, particle-laden waters are not conducive to taking photos.

SHOM Nautical Chart No. 6002

9.8 Mahuao Faao Manta Rays

Easy - Lagoon - 18 Meters - Scuba - Boat - Big Fish - Reduced Visibility

Location

The previous dive site description mentions that a small pass near Tuiahora Point provides access to the southern end of Haamaire Bay, which is surrounded by Mahuao Faao Reef. A small midchannel reef rising just below the surface divides the pass into two channels. The channel we are interested in is the east channel, which runs between the shoal and Mahuao Faao Reef.

Access and Anchoring

To reach the site from the northern end of the island, the easiest way is to take the north entrance to Mahuao Faao Reef (by following the buoy indications in the previous dive site description), then cross Haamaire Bay and anchor on the southeast slope of the midchannel reef. You will have no difficulty reaching the site from the southern end of the island.

Weather Conditions

The exploration of this site requires excellent weather conditions. If it rained or there were easterly trade winds the day before, abandon your diving plans because underwater visibility will be extremely poor. The land and nearby rivers and the sandy, muddy seabed cause particles to remain in suspension and give the water a greenish color. Rain and wind will only increase the turbidity of the water, though this may be tolerable during periods when the weather is very clear.

Diving

This dull-looking pass links Haamaire Bay and Yairou Bay. This is where you will see manta rays, provided however that you dive early in the morning (between 5:00 and 6:00 a.m.). Any later, the rays will not be in sight, having disappeared into the deeper waters of the nearby bay. The east channel (along Mahuao Faao Reef) forms a narrow, shallow corridor (1 0-1 2 meters) which is covered with coral formations. This is the channel most preferred by the rays and they use it most often to travel from one baytothe other. Attracted by divers, they usually come in from Yairou Bay in groups of two to three individuals.

In order to maximize your chances of meeting up with them, you should descend to the sandy seabed, at 1718 meters, at the south entrance to the channel (on the Yairou Bay side) and wait for them. If you remain patiently on the seabed, they will come close, sometimes even close enough for you to touch them. Taking photographs with a flash will be difficult though, because you will be faced with a thick, reflective curtain of suspended particles. On a good day, you may be lucky enough to see the rays put on a show by circling around curiously, then disappearing for a few minutes and returning again. Occasionally, the ra ' ys will follow divers as they explore shallow underfeatures of the channel. At first glance, the features are deceiving. The slope is covered with dead coral and the water is green and turbid. But as you get closer, you will notice the plentiful coral marine life which gradually appears from underneath madrepore rubble. Large shoals of spotted eagle rays also frequent the area.

This dive is for early-risers. A day when rough seas make it impossible to dive on the outside may be a good time to try it.

SHOM Nautical Chart No. 6002

10 Raiatea - Tahaa

We believe that the reader should be aware of the unpredictable changes in pass currents in the islands of Raiatea and Tahaa. Winds and swell play a key role in current patterns (see section 'Weather conditions'). They affect the normal cycle by which waters enter and empty out of the lagoon, and when there is excess water they influence outgoing current.

Other than during sustained good weather, it is thus difficult, if not impossible, to predict when the current will change direction. Slack waters are sometimes of short duration, sometimes they do not occur at all. This is a pity because the current which follows provides ideal conditions (clear waters, no current, etc.). This is the best time to dive, if you are lucky enough to catch it.

The best way to be sure of the direction of a pass current is to go and check it. This is what local diving club managers do. They've given up trying to understand the phenomenon.

On several occasions, we waited in vain for an incoming current or slack waters which, illogically, never came. You will just have to accept these circumstances and wait patiently on the beach of a nearby *motu.*

So, if you ever encounter outgoing current that lasts for 10 hours... don't give up hope!

10.1 The South Bank of Avera Pass

Moderately difficult - Pass - 25 Meters - Scuba - Boat - Strong Current - Coral - Camera - Dive Light

Location

"Avera Pass' is the name given by locals to the pass which appears on nautical charts under the names of 'Iriru Pass" or 'Mare Pass'. It is across from the lovely, deep Faaroa Bay on the east coast of the island.

Access and Anchoring

By proceeding through the lagoon it will take you 30 minutes of navigation to reach Avera Pass from the small harbor of Uturoa. Anchor at the edge of the drop-off, in front of the only red buoy on the left side of the pass. Depth there is 3-4 meters. If you have difficulty locating the drop-off, you should postpone your dive for a while. You have probably encountered outgoing current when visibility is near-zero. The big river that empties into Faaroa Bay drains large amounts of alluvial and terrigenous deposits which are carried towards the ocean on outgoing current.

As a consolation and while you wait for incoming current, you could always travel up the river (for small boats only). Navigate cautiously. There are many fallen branches in the area-and some which may fall right alongside you. This is not really Polynesia... it's the Amazon.

Weather Conditions

The site is sheltered from east winds (because of the motus scattered on either side of the pass). We recommend incoming current, with the best time for diving of course being during the slack waters which follow.

Diving

Just like the ten other passes that intersect the huge barrier reef which encloses the one and only lagoon in the islands of Raiatea and Tahaa, Avera Pass has colorful coral (distichopora) covering large portions of the drop-off.

Though the branches are not as thick or as long as those you can find in Tahaa's waters, their chromatic features are very photogenic. So if you plan to be in the region for some time, the trip will be well worth your while.

These corals are either yellow or mauve, but all possess a hint of white, and violet at the tip. In places, colonies of different colored corals intersect to form very attractive iridescent underwater bouquets, a real floral treat forthe eyes.

As we have mentioned before, preserve the site. Do not break off any coral. We remind you that collecting specimens of any kind while scuba diving is illegal under French law. At the foot of the drop-off, souvenir hunters will find magnificent branches which have fallen off naturally. However, don't assume the police will believe you. We have been told that the Raiatea police force is extremely vigilant and rounds are made frequently.

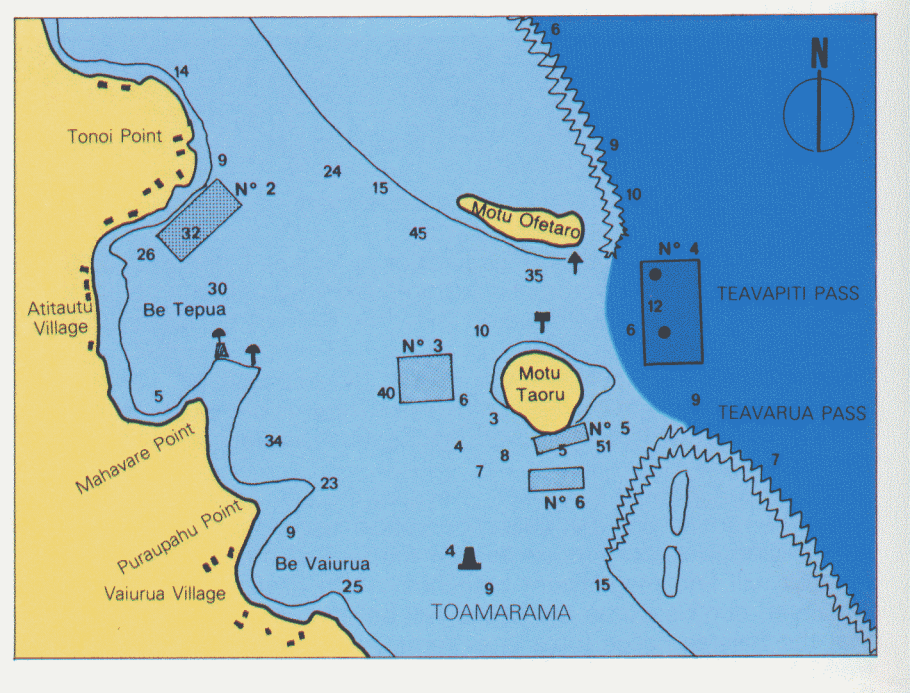
Dive towards the ocean at a depth of 20-25 meters. Below, the sand slope is uninteresting. Continue along a small drop-off covered with distichopora. You will need a dive torch to be able to discover the abundant scenery. As you continue along you will see deep faults (at 20 meters), which strangely enough offer little marine life. However, branches of black coral can be seen along the edges. In the open waters, you will see carangids, barracudas and unicornfish. After an uninteresting sand slope just beyond a steep cliff, there is a small section of drop-off. Holes in it are the preferred gathering place of red mullets (iihi) and'other fish in the same family. As you return to your boat, you may explore the shelf where you anchored and conclude a pleasant dive while completing your decompression stop at 3 meters.

SHOM Nautical Chart No. 6282

10.2 The Coaler Wreck

Moderately difficult - Lagoon - 25 Meters - Scuba - Boat - Wreck - Dive Light - Reduced Visibility

Location



It is very easy to get to this wreck because it lies just 30 meters off Bali Hai Hotel's pontoon. The site is marked with a large red or blue plastic buoy (it changes regularly), making it easy to locate. Bali Hai Hotel is less than two kilometers from Uturoa (to the south) near Tepua Bay, facing Teavapiti Pass, on the northeast coast of the island.

Access and Anchoring

Diving offshore is possible in theory (only for those with good finning skills), but unfortunately the shores are all private property. The other possibility is to dive off the Bali Hai Hotel pontoon. If you're not staying at the hotel, ask for permission first. Then, the easiest and safest way is to swim at the surface until you come to a plastic buoy. By descending along the chain, you will not miss the wreck. However, reaching the site by boat is more practical and less tiring than swimming the entire distance. If you have a small boat, you may moor at the base of the buoy. For your information, the distance between the wreck and the small harbor in Uturoa is less than one nautical mile.

Weather Conditions

Any diving can only be done when the weather is good for a sustained period of time. West winds have no adverse effect. Abandon any thought of exploring after *maraamu* or heavy rains-you would only encounter turbid waters and underwater visibility of two to three meters maximum, especially near the surface.

Diving

The chain will take you straight to the bows of the ship, at a depth of 17 meters. The hull is intact. It is well-preserved and lies in a bed of mud, on its port side. The ship's dimensions are roughly 80 meters long and 10 meters wide. Its windlasses, winches, anchors and helm are still in place. The masts descend another 30 meters. This is the preferred hunting grounds of an

old, solitary barracuda, whose dimensions are as impressive as his age. He appears and disappears as if by magic, a characteristic of his species and a skill acquired over years of experience. One of his sudden appearances can scare the wits out of an unsuspecting photographer.

Since the ship's bridge has disappeared, it is easy to enter the enormous hold of this old German coaler which went down just before the turn of the century. You are advised to bring a torch to avoid injury from the metal beams.

You will find a great deal of immobile marine life. Colorful sponges, spondylus, sprigs of black coral and gorgonians are just some of the species which have built up on the superstructures. The stern is a natural breeding ground, containing many alevins and shrimp. Yellow moorish idols, coral trout and carangids from the open waters also spend time here. Yellow4in jacks *(uruati)* often come to hunt.

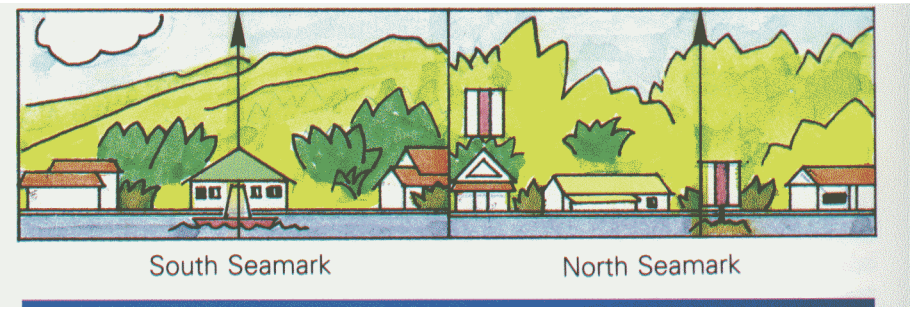
It will take you about 30 minutes to visit the wreck and return to the stern chain which will act as your railing as you complete decompression stops.

SHOM Nautical Chart No. 6282 (wreck not shown)

10.3 The Catalina Seaplane

Moderately Difficult - Lagoon - 40 meters - Scuba - Boat Needed - Strong Current - Big Fish - Surface Coverage - Wreck - Reduced Visibility

Location



Northwest side of Motu Taoru. This small island separates the wide pass entrance to Uturoa (one nautical mile farther north) into two separate passes: Teavapiti Pass, north of Motu Taoru, and Teavarua Pass, south of Motu Taoru. East coast of Raiatea.

Access and Anchoring

This wreck is difficult to find. To locate it accurately, follow this seamark alignment.

North Seamark (visible in the distance in Tepua Bay):

Align the left edge of the navigational sign in the center of the pass (a white sign with a red band) with the right edge of the yellow roof visible on the shore.

South Seamark

Align the white buoy marking the small 'Toamarama' lagoon reef with the round *fare,* visible with its many windows at the edge of the lagoon, to the south.

This will put you a good hundred meters off the northwest coast of Motu Taoru. The red buoy (not to be confused with the seamark) indicating the starboard entrance to Teavapiti Pass will be hidden from view by the island. Anchor in the sandy seabed at a depth of 25 meters. Remember that it is preferable not to anchor unless you have no surface cover. Watch out for the current which on some days can reach up to 3-4 knots.

Weather Conditions

Diving is possible during *maraamu* because the *motu* mentioned above provides good shelter from the wind. We advise you to dive only on incoming current in order to get maximum visibility at 40 meters. Again, watch out for the current because you will be near Teavapiti Pass. Maximum safety and visibility conditions are during the slack waters of incoming current. Be advised that with outgoing current, visibility close to the wing is near-zero, which means that you might miss the wreck completely. A sound piece of advice in this case: wait for a better day.

Diving

"February 19, 1958, 8:45 a.m. While we were on duty at Uturoa police station a seaplane from the Inter-Island Airline Company, which was scheduled to land on water not far from the village, flew overhead. The craft's flight was normal. It turned right and was proceeding southeast. On reaching the site, we realized that at approximately two kilometers southeast, near Teavapiti Pass, the Inter-Island Airline seaplane had crashed into the water. At that moment, only one wing was still visible..."

This is the opening paragraph of a detailed police report of the Catalina accident, the first air disaster in French Polynesia.

At the time of the accident, the lagoon was calm; there were no high waves or strong currents. Though the sun was hidden, the surface of the water was shining. Light refraction experienced by the pilot was the first contributing factor to the manoeuvre which led to the accident. The right wing suddenly touched water, the seaplane pivoted and the fuselage split in half before disappearing into the ocean.

When rescue boats were less than 10 meters from the plane, the wing which had remained vertical suddenly sank. Eleven persons miraculously managed to escape from the broken fuselage, just seconds before it went under.

Divers from Raiatea Diving Club found the wing after many long hours of searching in the vicinity of Teavapiti. The wing lies 38-40 meters below the surface at its deepest point.

Without wasting any time, descend along the sand slope. As you reach a depth of 25 meters, you will see a small rock staircase. The incline of the slope becomes less steep. At the bottom of the slope, at 30-32 meters, turn left (in a southerly direction). You will immediately see the top of the wing, which itself lies slightly below, standing alone and nearly intact in a bed of sand.

The most interesting feature of the wreck, in fact, lies in the impressive number of fish which swim around it. Thousands of striped blue sea bass (taape), surmullets *(tauo)* and one-spot sea bass *(taivaiva)* create a living floral bouquet as they swim gracefully around divers. Shoals of yellowfinned surgeonfish (parai) soon join them. Near the engines, whip fish, red mullets, soldierfish and squirrelfish dart back and forth under the stare of impressive-sized eels.

As you ascend to 32-35 meters and continue back along the lower portion of the sand slope, you will come to a drop-off covered with green sponges, gorgonians and branching black coral.

This dive could take you far, so you should plan to have a cover boat and sufficient air supply. If not, quickly admire the thousand-and-one details of the wreck and return to your anchoring. If you're unable to find it, go back along the sand slope and complete your safety stops closer to Motu Taoru.

SHOM Nautical Chart No. 6282

10.4 Teavapiti Shelf

Moderately difficult - Pass - 25 Meters - Scuba - Boat Needed - Surface Coverage - Strong Current - Big Fish

Location

In the previous dive site description we mentioned that the north section of the pass located a mile southeast of Uturoa is called 'Teavapiti Pass'. Access to the ocean on this side of the pass is blocked by an abyssal shelf linking the two shores. Midway, it is at 12 meters deep and at 8 meters along the shores. We suggest that you explore the ocean side of the shelf.

Access and Anchoring

You may anchor at the base of either of the two buoys (green to the right and red to the left, according to conventional pass buoying). They are anchored in the shelf by two moorings. One buoy may have been removed temporarily for maintenance. We advise you to anchor near a buoy. When you want to return to your boat, especially when there is a strong incoming current, as we shall see, the mooring and heavy chain are easier to locate than standard anchoring. Your life may depend on it.

Weather Conditions

The pass is heavily exposed to east winds, and swell is large when it reaches the shelf. Choose a calm day for your dive. Incoming current is imperative, but be careful because it can be violent; 4-5knot peaks are not uncommon. Underwater visibility is very poor on outgoing current.

Diving

There is nothing really exciting about the scenery in general. Strong pass currents sweep the site daily, making it impossible for coral larvae to take hold.

Once in the water, descend directly along the outside slope of the shelf and proceed close to the seabed at 22-25 meters maximum. Below, uninteresting sand slopes begin. The current tends to push divers against the outside slope of the shelf, which is good. Do not go into deep water. You will be carried into the pass and getting back will require great physical effort on your part. Keep to the foot of the shelf and wait there

for the fish in the area to pass by. Big fish and other species from deep waters love this spot. You will see shoals of sea pikes, barracudas, elongate surgeonfish *(tiamu)* and carangids, as well as manta rays, angelfish, white-tip sharks *(mamaru),* amber-fish, black jacks, unicornfish and large triggerfish.

If you have someone steering your boat, you could dive off the shore, then continue along the ocean side slope of the shelf, and end your drive by exploring some areas on the opposite shore. If you have anchored, you will need to go back to the other side of the pass by proceeding along the seabed, then slowly come up and take a sharp right turn to reach the buoy mooring where you anchored. If the current is strong when you enter the water, let a long line trail from the back of your boat. You can use it as a railing.

SHOM Nautical Chart No. 6282

10.5 Teavarua Aquarium

Easy - Pass - 10 Meters - Scuba - Boat - Strong Current - Coral

Location

Southern tip of Motu Taoru. You will recall that the small pass located to the south of this *motu* is called 'Teavarua Pass'. East coast of Raiatea.

Access and Anchoring

Anchor at 3-4 meters, near the fringing reef at the southern tip of Motu Taoru.

Weather Conditions

On incoming current, the water can sometimes be exceptionally clear. You may also dive on outgoing current; the water will be very green and visibility considerably reduced, but you will see a great deal of fish.

Diving

The small reef which for a short distant fringes the southern tip of Motu Taoru leads out to the ocean where it defines the right bank of Teavarua Pass. However, for this scenic dive you should stay at the southern tip of the *motu.*

The reef is composed of built-up dead coral. There is nothing very interesting on this side. There is, though, an abundance of fish because many species choose the spot as their living quarters. The decayed formations provide good shelter and the pass currents bring large amounts of food. Red mullets (iihi), squirrelfish, damselfish, angelfish, butterflyfish, moray eels,

surmullets, surgeons *(maito,* etc.) and small shoals of sea bass *(taape and toau)* mill about in and around this coral labyrinth. Outgoing current, which brings nutrients from the lagoon, is a time of frenzied feasting. As a result, visibility is poor.

The reef gently continues down to 4-5 meters, where the sand slope starts. At that spot you will see small shoals of unicornfish and shortnosed unicornfish (ume), Tuamotu emperors (oeo) and, in the open water, carangids. Small madrepore formations scattered along the sandy seabed at 6-8 meters are the hiding places of many Javanese moray eels. Divers from the Raiatea Diving Club often come to feed them. It may be questionable whether this is a good idea. We have serious reservations, because here as well as at other sites in Moorea, Rangiroa and Manihi, as we shall see, some of the fish are no longer fearful. They now come begging for food... and occasionally mistake a flash, accessories or even a human hand for bait. We advise you to be extra careful when in the presence of these animals which are responsible for many incidents of bites.

During the slack waters of incoming current, the site is excellent for novice divers.

SHOM Nautical Chart No. 6282

10.6 The Aquarium Flat

Difficult - Pass - 50 meters - Scuba - Boat needed - Surface Coverage - Strong Current - Big Fish

Location

This shoal is near Teavarua Aquarium. It is located in Teavarua Pass, about 30 meters from the fringing reef on the southern coast of Motu Taoru. You will be able to see it as you steer your boat slowly along the right bank of the pass, 30 meters from shore. We did not take bearings on seamarks because the site can be located visually when the weather is good (the only time you should go). Northeast coast of Ralatea.

Access and Anchoring

The site is not easy to find. You may circle around for several minutes before you see a light spot which indicates the top of the flat, less than 40 meters below the surtace. All around, the waters are dark blue.

Anchoring is not advisable because the current is often very strong. Returning to an anchoring against the current is only possible in theory and otherwise would be dangerous because the dive (performed at 45-50 meters) does not allow any time (or air) to be wasted uselessly.

Slack waters are best if you choose to anchor. But this can also be a trap, as we found out. As we have said before, tides in this region are unpredictable. Slack waters sometimes last a very short time; sometimes there are none at all. When we least expected it, a strong incoming current formed just as we had got down to 50 meters. Getting back was long and tiring. We had to haul ourselves up to our boat a meter at a time-and the clock kept ticking. You can believe that our decompression stops that day were very long.

You, though, may profit from our experience. The best solution is to have a cover boat follow your every movement. If the weather conditions are good, following air bubbles from the surface poses no problem. But you will have to take into consideration that they will shift as a result of wave action. A surface marker buoy trailed by the group leader would be a much better idea. For your ascent, the boatsman could send down six meters of lead for divers to hold onto as they complete their decompression stops. You may enter the water from the flat.

Weather Conditions

Abandon your diving plans if the weather conditions are not excellent. Incoming current is mandatory for an enjoyable and safe dive as well as for locating the site, which is virtually impossible on outgoing current.

Diving

As you enter the water you will see the almost cone-shaped shoal which looks like a large rocky peak. Its sharp points are prickled with many small growths of orange coral.

After the peak there is a kind of platform which plunges abruptly into the blue in the direction of the lagoon. Follow it, keeping to the side which is towards the open water. As you continue down you may admire the many grooves or faults where colored coral finds shelter. At 35-40 meters you will come upon a popular spot of yellow-fin jacks *(uruati)* weighing 20-40 kilos. Meeting up with one of these powerful, alert species which resembles a boxer is an emotional and intensely exciting moment. The noise or reflection of air bubbles arouses the yellow-fin jack's curiosity and it will usually circle above the dive party before continuing on its way, once its curiosity has been satisfied.

At 40-45 meters the platform plunges vertically to greater depths. At 4548 meters, against the drop-off, long branches of coral *(cirrhipates) stand* erect facing the surface like stretched springs. Seeing this coral is the purpose of the dive.

If the current permits, ascend in the direction of the peak. Otherwise, return directly to the surface, completing the necessary safety stops and respecting ascent rate. This dive is recommended for experienced divers only.

SHOM Nautical Chart No. 6282

10.7 Pool Flat 1

Easy - Lagoon - 20 meters - Scuba - Boat - Strong Currents - Coral - Reduced Visibility

Location

If we take the small harbor of Uturoa as the initial point of reference, the pool flat we are interested in is less than one nautical mile away (1,300 meters to be more precise). You will reach it by proceeding north along the coast. You should not miss it. It is marked with a large red metal buoy.

Access and Anchoring

The pool flat is the first flat marked with a buoy that you will come to once you have passed the pool. When facing the pool from the lagoon, you will see a tall white lighthouse with a green dome. You will have no difficulty anchoring on the flat which rises to 3-4 meters below the surface.

Weather Conditions

Because of the nearby land, the waters are turbid even under normal conditions. You should therefore avoid diving after heavy rains or when there are east winds. The current in the area flows in a northwest-southeast direction. Some days it is very strong.

Diving

It is difficult to comment on this site's coral landscape, which is basically uninteresting. The surrounding muddy seabed, the work to transform the nearby shoreline and the rivers in the vicinity, all contribute to reduced underwater visibility. However, there is an abundant variety of immobile marine life. Mother-of-pearl, spondylus, branching black coral and brightly colored attached sponges line the sides of the peak. There are even small colonies of yellow and violet *distichopora* coral-a rare sight inside a lagoon.

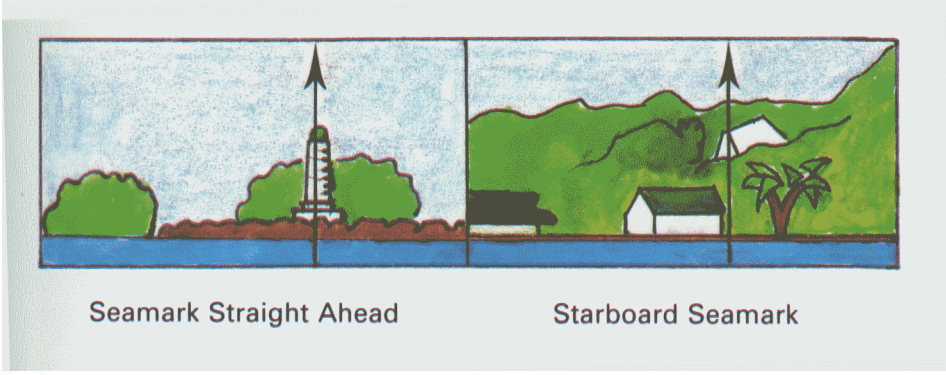
Take along a dive torch. Average exploring depth is 15-18 meters, with some interesting spots at 20-22 meters. The visit will take about 20 minutes. To avoid the virtually non-stop traffic from canoes and other boats, return to where you anchored for decompression stops.

SHOM Nautical Chart No. 6282

10.8 Pool Flat II

Easy - Lagoon - 20 Meters - Scuba - Boat - Strong Current - Coral - Camera - Reduced Visibility

Location



This shoal is no more than 100 meters west of the first flat.

Access and Anchoring

This flat rises to 4 meters below the water surface. It is not buoyed. Take your bearings from the first pool flat, then cover the short distance separating the two at slow speed. Once you

reach the site, the light green waters will guide you. Here are some bearings which will also help you. Bows southeast (facing the two *motus* in Teavapiti Pass).

o Seamark straight ahead (facing southeast)

Position the tall white lighthouse with the green beacon in the center of the *motu* located the farthest to the right on the horizon (MotuTaoru).

o Starboard seamark visible on land (facing southwest)

Land is at 200 meters. Align the roof of the red house (near the shore between two coconut trees) with the white roof just above on the hillside.

By positioning your boat in the intersection of these alignments, you will be at the pool flat.

Weather Conditions

Same weather conditions as "Pool Flat 1'. Locating this site will be more difficult if the lagoon is turbulent.

Diving

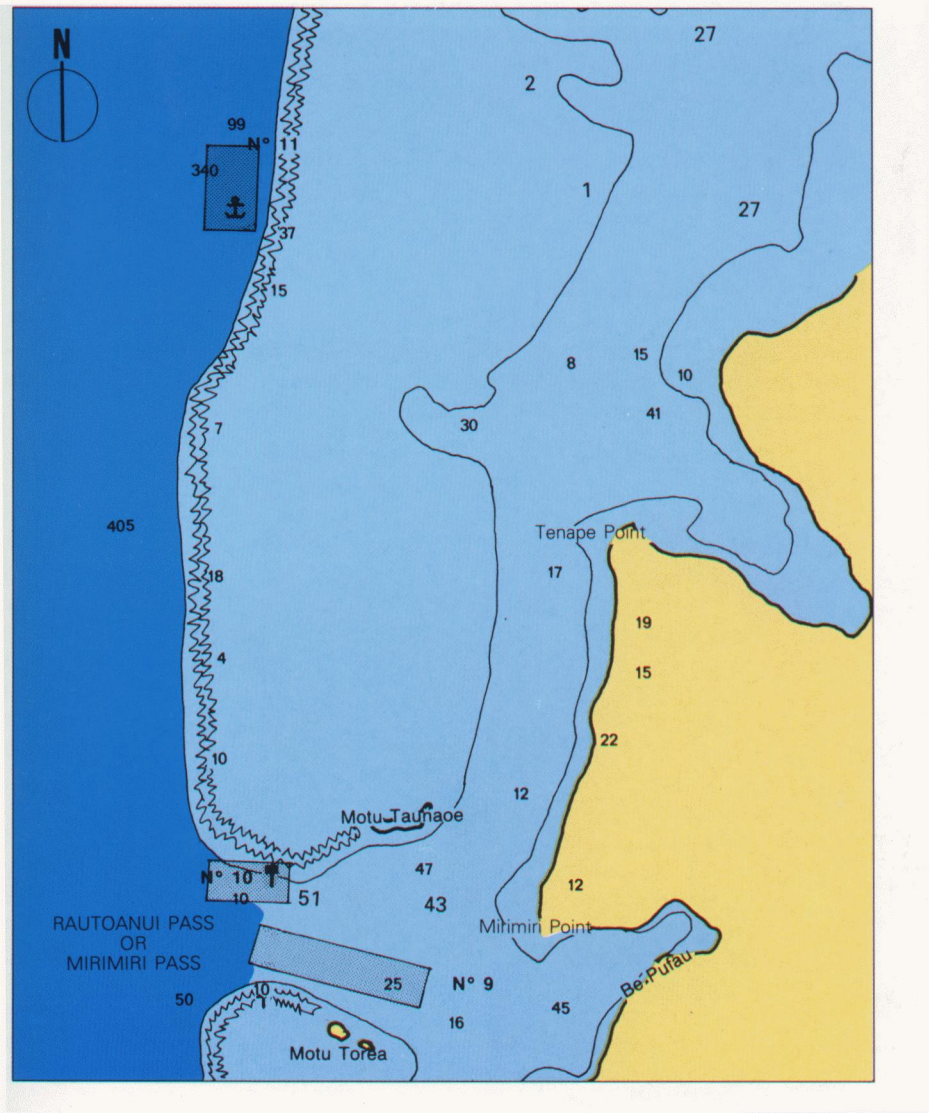
If you try to forget how turbid the water is, the site is charming. The flat is in the shape of a figure-8. Exploring will take a good 20 minutes, but macrophotographers will want to stay for hours. A few long branches of *black cirripathes* coral are great for some rare-quality close-ups of open polyps. Attractive auburn-colored sprigs of branching black coral hidden in hollows in this shoal also make for interesting exploring. Mussels, spondylus, parrotfish and surgeonfish are a few of the species you will also see. Average diving depth is 20 meters. Return to your anchoring for any needed decompression stops. This site is a macrophotography wonderland.

SHOM Nautical Chart No. 6282

10.9 The Violet Coral Drop-Offs

Moderately Difficult - Pass - 40 meters - Scuba - Boat - Strong Current - Surface Coverage - Coral - Dive Light

Location



Right bank (green buoying) of Rautoanui Pass (the name shown on nautical charts). Islanders call it "Mirimiri Pass', after the headland where the two navigational signs indicating proper midchannel alignment are located. Northwest coast of Raiatea.

Access and Anchoring

Five nautical miles of navigation through the lagoon will enable you to go round the northern end of the island and reach the site. You will encounter no navigation problems, except near the airport where you will need to remember to go between the two large white buoys which mark a passage through the reefs. You will not be able to anchor, so you will need to have a cover boat to follow the divers while they are in the water. A surface marker buoy trailed by the dive leader is strongly recommended. Divers may enter the water from the underwater slope on the right bank, near the first green buoy marking the entrance to the pass.

Weather Conditions

The area is always well-protected from easterly trade winds. West winds are infrequent. Swell from the west (especially from the southwest during the cooler season) is not troublesome because the site is inside the pass. Incoming current is mandatory.

Diving

You should dive along the right bank, at a depth of 35-40 meters. You will immediately see small, scattered clusters of corals which are present down to the depth of 12-15 meters. Below, the slope is smooth and uninteresting, so descend directly to 30 meters. There you will see rocky outcrops forming a staircase. Underneath are thick colonies of *distichopora violacea* coral. As their name indicates, these branches of coral are a deep, almost "electric" violet. An interesting feature of Raiatea and Tahaa is that each of the 1 1 passes in the two islands has its individual color range. In this pass the dominant color is violet. In other passes, the dominant color will be red, orange, yellow, or an attractive blend of hues, like in Avera Pass and Tetuatiare Pass.

You will need a dive torch to discover all the beautiful colors. The current will slowly take you towards the lagoon. As it carries you along, halfway through the pass, you will see a sort of steep headland which rises to 42 meters and descends, inwards, to 50 meters. Holes in it are covered with violet coral. Only experienced divers with sufficient air supply should explore at this depth.

You will not find much marine life at this site. There are more fish at the pass opening, though you may see shoals of carangids pass by in open water. Decompression stops should preferably be completed along the underwater slope. This may be difficult on days when the current is strong and will require more time. In that case you will have no other choice but to complete them in the open water. The cover boat can send down 6-8 meters of lead rope so that all the divers may drift together and not risk being separated.

SHOM Nautical Chart No. 6282

10.10 The Three Miri Rocks

Moderately Difficult - Pass - 32 Meters - Scuba - Boat - Strong Current - Big Fish - Coral

Location

Left bank (red buoying) of Mirimiri Pass. Northwest coast of Raiatea.

Access and Anchoring

There are no access problems. Follow the lagoon buoying. It will take 20 minutes to get from the east coast to the west coast by going round the island at its northern tip. Anchor at 3-4 meters, about 10 meters short of the red buoy marking the entrance to the pass.

Weather Conditions

Diving will be perfect when trade winds strike the east coast of the island. Abandon your diving plans if there is large southwest swell, which occurs more frequently during the dry season, from May to October. Incoming current is always preferable.

Diving

To be sure to find the rocks, anchor at the spot mentioned above, then proceed from there as indicated. There is no point going into the pass. There's nothing interesting to see. Once in the water, skip over the dropoff near the buoy. ,

At 12 meters, the wall is dotted with holes formed by erosion. Taking a quick look, you will see many colonies of dark-colored coral, green and orange sponges, and the species of fish usually found in this type of environment. The drop-off continues down to 28-30 meters, followed by a sand slope. At that point, swim towards the ocean. At the foot of the dropoff you will see a series of rocks and boulders. Three of them, which are much bigger than the others, attract a wide variety of fish. It is a favorite gathering place for surgeonfish, yellow-finned surgeonfish and blue-striped and gold-spot sea bass. At 32 meters, at the foot of the rocks, white-tip sharks *(mamaru)* hide in dark caves. When visibility is good, you may also see yellow-f in jacks *(uruati)* pass by in the open water. No great distances need to be covered to explore this site. You may ascend directly to the flat to complete decompression stops.

SHOM Nautical Chart No. 6282

10.11 The Coral Garden

Difficult - Ocean - 45 Meters - Scuba - Boat - Coral - Camera

Location

The coral garden is a large shelf on the outside slope of the reef, 1.5 nautical miles north of Mirimiri Pass. Northwest coast of Raiatea.

Access and Anchoring

Take Mirimiri Pass to the ocean, then proceed north along the reef over a distance of one-and-a-half miles. After you pass two thrust faults in the barrier reef, position your boat midchannel in the construction site of the new towing dock visible on the shore between Oporo Point and Farepoe Point. Once you reach the spot, try to sight a single rock on the crest of the reef. This will confirm that you are at the right location. Anchor at a depth of 1012 meters, on the upper outside slope.

Weather Conditions

The area is well-sheltered from easterly trade winds. Do not anchor if there is large swell from the west. You will not encounter any current difficulties.

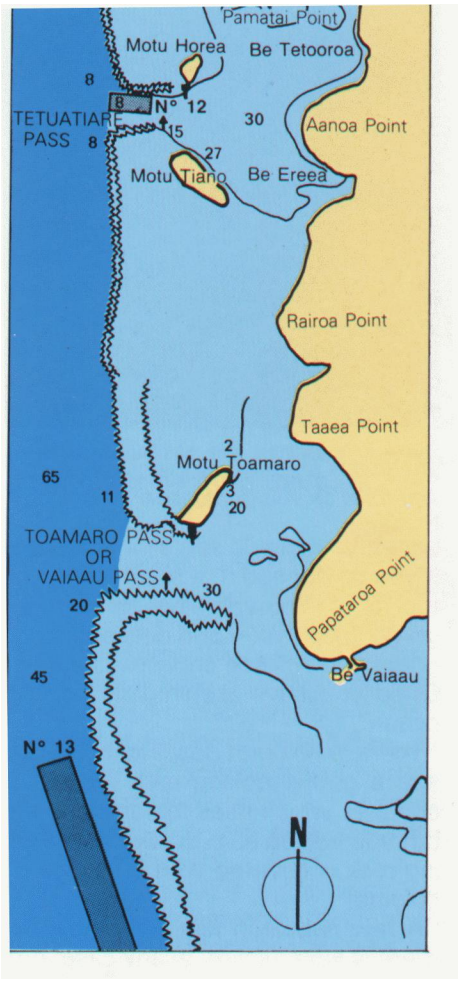
Diving

The first portion of the dive is typical of underwater slopes that are extensions of barrier reefs in the upper Polynesian Islands. You will see many clusters of *acropora and pocillopora* which in places are covered with calcareous *halimedea* algae. Some portions are in good condition, large areas of others you will notice are dead or hardened. Since there is nothing very interesting here, you would do best to proceed directly down to 33-35 meters where you will

come to a sandy area. It continues to 3840 meters, where you will find a vast coral oasis, the final destination of this dive.

You will not see many fish in this area, except from time to time a small white-tip shark, a snapper or a few unicornfish. The coral scenery, though, is superb and alone is worth the trip. You will not find any dead or broken coral here. The madrepores are strong and healthy. They come in all sizes, shapes and species. Clusters of *montipora* fully open, seeking lightlettuce-like *agaricia;* large "mushroom" *porites* with multicolored serpulids; branching *acropora;* sturdy "cauliflower" *pocillopora,* and other colonies forming bouquets, slabs, dishes and bowls compose this petrified flower garde6. You may explore as far down as 50 meters and below. We stopped at 45 meters, which we felt was enough to see and appreciate most of the site's beauty.

10.12 Tetuatiare



Moderately Difficult - Pass - 30 Meters - Scuba - Boat - Strong Current - Coral – Camera

Location

Outside bend on the left hand side of Tetuatiare Pass, west coast of Raiatea. Tetuatiare is almost 10 nautical miles from Uturoa (by the northwest).

Access and Anchoring

You may look forward to the boat ride on your way to this site. You will discover a good portion of the west coast of the island which is still undeveloped. The buoying indications in the lagoon are good, but you may also reach the site by taking Mirimirl Pass to reach Tetuatiare by the ocean Anchor at 3 meters, on the outside left hand bend in the pass (the side with the red buoys). We recommend that you short anchor so that your craft does not run aground on the reef crest.

Weather Conditions

Anchoring will be difficult and we do not recommend it if there is swell from the west. Like most dives on this side of the island, conditions are excellent when easterly trade-winds blow. Incoming current is best if you want good underwater visibility.

Diving

In this part of the pass, the narrow underwater shelf on which you have dropped your anchor plunges abruptly to 40 meters. Once you are in the water, you should see a long gorge which cuts vertically into the drop-off. If you do not see it, it means that you have either anchored too

far out, or too far in. You will have to swim along the drop-off until you reach the gorge. Skip over it and descend to 20 meters. On the left-hand side of the gorge you will see crevices covered with a dark violet, almost blue, coral. Once you have admired it, fin in the opposite direction, towards the ocean.

There is no point descending below 25-28 meters. At this depth you will see a gothic-looking arch against the drop-off. It opens onto a round chimney which rises towards the surface. It is too small for you to enter, but you will be able to take very interesting backlit photos. The surrounding rock is covered with branches of *distichopora* coral in many different colours.

A few napoleon fish will follow divers from a distance, but in general, there is little fishlife. In any case, not when we were there. In our opinion this is an excellent dive for a one-day outing of sight-seeing and underwater exploring.

SHOM Nautical Chart No. 6284

10.13 The Vaiaau Valleys

Moderately difficult - Ocean - 28 Meters - Scuba - Boat - Coral

Location

Outside reef slope, south of Toamaro Pass (also called Vaiaau Pass). West coast of Raiatea. This pass is located 12 nautical miles from Uturao (by the northwest tip of the island) and 3 nautical miles from Tetuatiare Pass, discussed in the previous dive site description.

Access and Anchoring

Once you reach the pass, continue south along the reef for about 500 meters. The most interesting part of the site begins there and continues over a wide distance. You may anchor on the upper outside slope (at 8-10 meters), facing the hangar clearly visible in Vaiaau Bay.

Weather Conditions

The site is well-sheltered from northeasterly trade winds. However, *maraamu* can be strong. Underwater visibility is affected if there is swell from the southwest. You will encounter no unusual current difficulties provided you keep a good distance from the pass.

Diving

The reef descends to 25 meters in clear waters, stops, then at 28-30 meters continues gently down into the deep. The spot is very pleasant. There is a calm and quiet similar to the atmosphere in the green valleys of me cou ntryside. The slope continues down into the blue in a series of para l lel de pressions separated by small coral hills. You will see small Juste rs of coral, mainly *pocillopora and acropora.* Here and there, larger colonies dot the scenery-. petals of *montipora,* half or full clusters of *favia* and "mushroom" *porites.* You will also see an abundance of serrated *fungia.* This species is the only form of freeliving coral in Polynesian waters (it is not sedentary on the seabed). You will also see many humphead parrotfish, unicornfish and triggerfish.

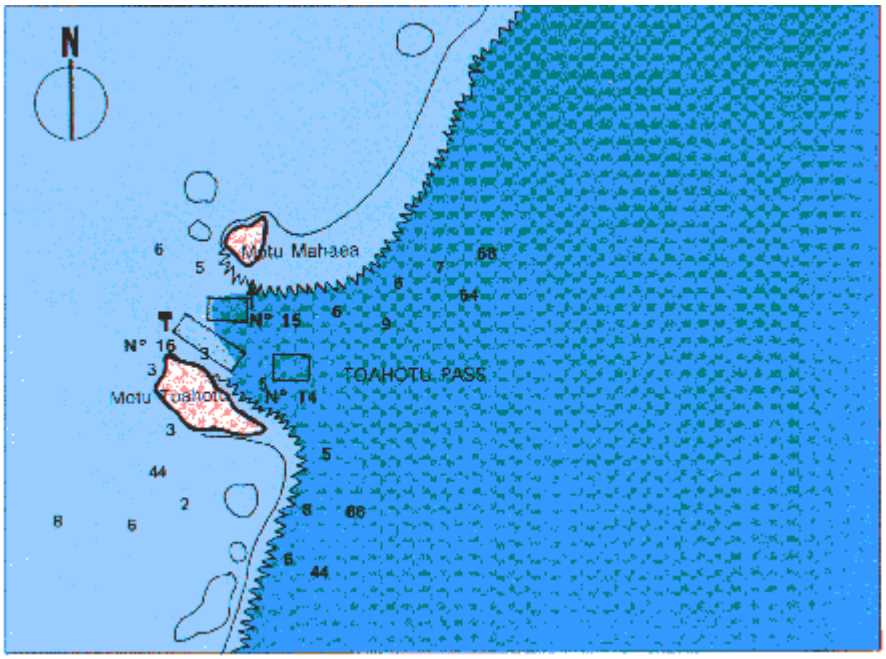
Though the scenery on this dive is quite attractive, it is not worth your going out of your way (especially if you make the long trip from the northern tip of the island). This dive is more suitable for travelers who may be stopping over in the area, or for persons on a one-day tour of southern Raiatea.

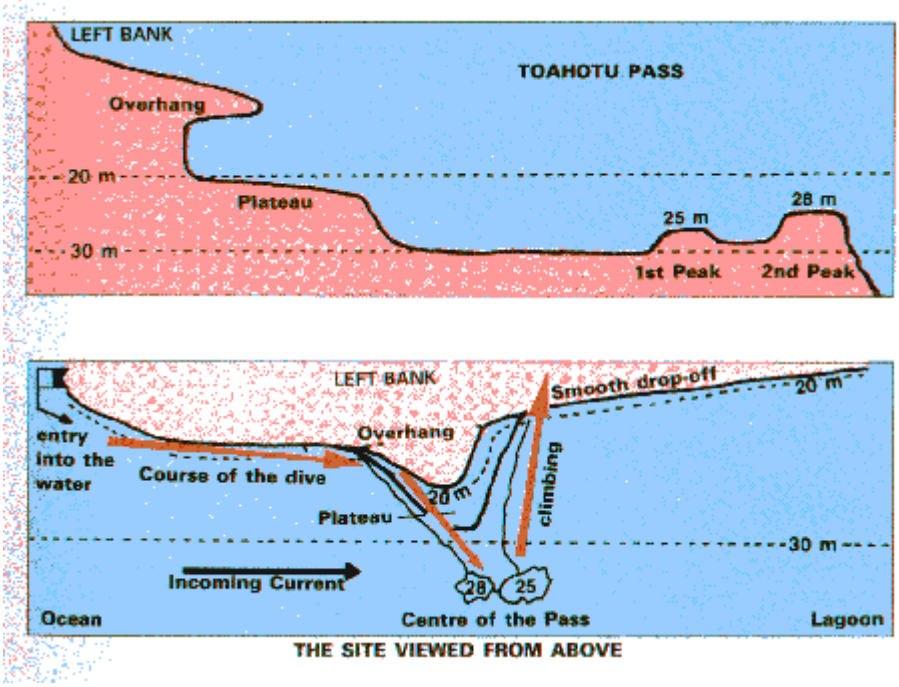
SHOM Nautical Chart No. 6284

10.14 Toahotu Peaks

Difficult - Pass - 30 Meters - Scuba - Boat - Strong Current - Surface Coverage - Big fish - Coral - Camera

Location





Toahotu Pass is a wonderful small pass which leads to the east coast of Tahaa Island. It is roughly midchannel in the deep Haamene Bay, five nautical miles from Raiatea.

Lovely *motus* bathed in turquoise waters and lined with white sand beaches run along both shores. On the nautical chart they are designated as Motu Mahaea (right bank) and Motu Toahotu (left bank), but locals call them "Motu Ceran' and 'Motu Atger', respectively.

The two underwater peaks we suggest you explore on this dive are near the center of the pass. They can be reached from the left shore (red buoying).

Access and Anchoring

Depending on the weather on the lagoon, it will take 20 to 30 minutes to reach Taohotu Pass, north of Toahotu Island. Follow the buoying indications carefully because there are many reefs between the two islands. Divers wishing to explore the pass in detail on their own may plan their dive with the small dive center at Hibiscus Hotel (at the entrance to Haamene Bay). The staff is friendly and the center is handy because it is less than five minutes from the dive site.

For safety reasons which we will discuss later, do not anchor. A surface cover boat is mandatory. We also strongly recommend a surface marker buoy trailed by the group leader.

Align the first fish farm (visible at the entrance to the pass, along the extension of Motu Tohaotu) with the large TV antenna atop Mount Tapioi, visible on the hills. Enter the water from the edge of the drop-off (at 7-8 meters), a good distance towards midchannel. You will have to locate it by sight.

Weather Conditions

Swell, which is sometimes large near the pass when east winds blow, will only be troublesome as you enter the water. We rated this **dive maximum difficulty, not because of the depth,**

which is average (30 meters), but because of the strong currents which we advise you to be very careful of.

We explored the site during outgoing current (the prevailing current at Toahotu Pass). The water was turbid because it contained particles from the lagoon. This compounded the difficulty of reaching the peaks and made it tiring and therefore dangerous. Attempting this dive without being familiar with the area will probably mean a wasted effort. The current carries you far, as we discovered.

Incoming current is extremely helpful. It will enable you to reach the site quickly and easily. The clear waters are an added benefit, for locating the peaks and for a much more enjoyable dive.

Diving

Skip over the underwater slope and continue down to 20 meters where you will have to stabilize. Then let the current carry you inside the pass. Don't stop along the way. Otherwise, when you reach the site you will be sorry you wasted precious minutes.

The brief drift will take you to the beginning of a long rocky overhang in the drop-off. Be careful, this is your key reference point. If you miss it you will not find the peaks. This long, winding formation lies horizontal and is surrounded by a smooth, narrow shelf which disappears towards midchannel. Swim in this direction until you reach the end. You should now be able to see the peaks. To reach them, descend along the lower base which at 30 meters continues straight ahead up to the peaks. By taking this route, you will be able to haul yourself up along the rocky seabed, if need be, and not be pulled into deep waters far from the site.

Two or three large napoleon fish often swim above divers as if inviting them to continue. In fact, following them is how we found this spot hallowed by Neptune. Before continuing on, you should explore the seabed. We spotted two brindlebass *(hapuu reru)* but were not able to approach them.

The two peaks stand side by side, facing the clear, blue waters of the pass which plunges to over 50 meters. The first peak rises to 28 meters below the surface, the second, to 25 meters. Both are covered with small growths of orange coral. An exceptionally large numberof deep-waterfish swim around the peaks, unafraid. The sudden arrival of divers causes a tremendous melee of hundreds of surgeons and epaulette surgeons *(paraii-tiamu and oturi),* bigeye kingfish *(omuri),* blacktongue unicorns *(ume kuripo)* and big nose unicorns *(karaua), batfish (paraha pau),* amberfish, barracudas, napoleon fish, yellow-fin jacks *(uruati)* and small whitetip sharks *(mamaru).* The sight is impressive, especially when you see bigeye kingfish *(omuri)* dashing in every direction like torpedos. You need not move an inch on this dive; the festival of fish before your eyes will leave you little time to explore anything else. We did not investigate the outside slope of the peaks which continues down into the blue in a series of faults and caves, but we are sure it deserves a separate dive of its own.

As you conclude your dive do not let the current carry you into the open waters. Return along the drop-off where your ascent, and decompression stops, will be more comfortable. Your surface cover boat should pick you up on the underwater shelf (at 3-4 meters) which runs along the left bank of Toahotu Pass.

SHOM Nautical Charts Nos. 6282 and 6283

10.15 The Coral Caves

Moderately Difficult - Pass - 30 Meters - Scuba - Boat - Strong Current - Coral - Camera - Dive Light

Location

Right bank of Toahotu Pass (green buoying). East coast of Tahaa Island.

Access and Anchoring

No access difficulties. Anchor at 3-4 meters, at the base of the only green buoy marking the shore.

Weather Conditions

This site is relatively well-sheltered from dominant east winds because of the *motus* located on either side of the pass. The large swell sometimes caused by the east winds gradually loses its force as it enters the pass and rarely affects diving near the green buoy. However, if anchoring seems unstable and you are not too sure, do not dive off this shore. As always, we recommend that you wait for incoming current. Your dive will be safer, and the clearer waters you can sometimes be lucky enough to encounter in this area will enable you to see all the sights.

Diving

The topography at Toahotu Pass is anything but boring. Peaks, faults, shelves and caves are found in quick succession, offering divers a great number of exploration sites, all located within a very small area. There is much to see here, specially below 45 meters. Unfortunately we were not able to explore at that depth as much as we would have liked. Nature is the master here. Man must submit when the heavens and the sea join forces.

We were able to explore the entire right bank. There is nothing extraordinary to see along the first two-thirds. The slope is not very steep and there are no madrepores. Here and there along the smooth rock are outgrowths of yellow coral or holes which are the home of red mullets *(iihi).*

The interesting portion of the dive begins near the green buoy. However, you need to descend to a depth of 27- 28 meters before you can witness the astounding beauty of the site. Niches filled with yellow *distichopora* coral adorn a nearly vertical wall. This coral colony is an example of rare beauty, in terms of the number of branches it contains and their size. We invite divers to display the utmost respect for this colony by not breaking off any part of it. The density of the formations is misleading. You must remember that the site is the only one of its kind and it covers a very small, concentrated area. On just a few dives careless or unscrupulous individuals could destroy forever what nature took dozens of years to construct. Need we add that this coral has no commercial value. It cannot be worked because it is too porous and fragile. The only function of these coral jewels is to be admired in their natural habitat of a clear, blue ocean seabed.

Around a bend in the rock you will come to a very large, very smooth triangular slab of rock which rises to 30 meters below the surface of the sea. The side facing the open water plunges abruptly to 53 meters midchannel. We explored this side down to 4 meters. There are many faults in the rock and an abundance of stocky clusters of colored coral. The very strong incoming current in the pass will make it impossible for you to return to your anchoring. (Only very experienced divers followed by a cover boat should attempt this.)

The best solution is to remain on the slab, at the base of the wall you went along earlier (at 26-27 meters). There you will see a series of caves decorated like cathedrals with a thousand chandeliers of yellow *distichopora,* and a final touch provided by the coral marine life swimming in and out. To return to your boat, ascend to the surface by proceeding along the cliff. This will take you to the flat near the green buoy where you anchored.

SHOM Nautical Charts Nos. 6282 and 6283

10.16 ***16 The Tiny Coral Caves***

Easy

Pass

20 Meters

Scuba

Boat

Strong Current

Coral

Camera

Flashlight

Surface Coverage

Location

Left bank of Toahotu Pass (marked by a red buoy). East coast of Tahaa.

Access and Anchoring

Anchor at 3 meters, at the base of the only red buoy on the left bank. You will be diving upstream, towards the ocean. If you have someone steering your boat, you should enter the water midway from the pass opening, on the upper underwater shelf along Motu Toahotu (at 2-3 meters). Have your boat anchor at the base of the red buoy and wait for you there. We found this to be a way to avoid the fatigue of swimming upstream and consumption of air which is better put to exploration of the site itself.

Weather Conditions

Anchoring will be stable, even by east wind. Incoming current is mandatory for a pleasant dive.

Diving

This dive is specially recommended for divers who may not have the skills to explore the caves on the opposite shore. They should take heart, however, because on this dive they will also be able to admire Tahaa's underwater specialty: yellow coral. Whichever approach you use (upstream or downstream), your dive will be along the underwater slope in the second half of the pass (the red buoy marks the end). This is where you will find a series of smooth, detrital slopes (which are of no interest) and steep cliffs dotted with niches of yellow coral and long branches of black *cirripathes* coral. Stabilize at 17-20 meters maximum. Most of what there is to see is at this depth. Take along a dive torch. This can be a very pleasant dive when the waters are clear. You may meet up with a small shoal of yellow-finned surgeonfish *(parai),* or one or two napoleons from the nearby peaks, a few hundred meters upstream. The amount of fish at this site varies greatly according to season, lunar cycle, etc.

SHOM Nautical Charts Nos. 6282 and 6283

10.17 Tiva Pass

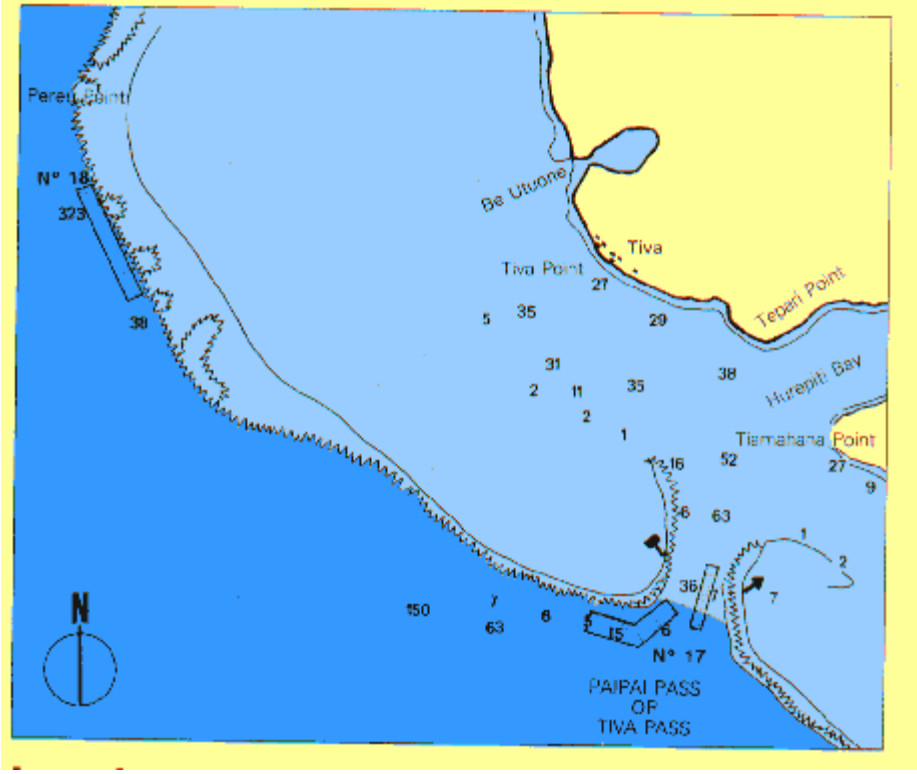
Left Bank: Easy - Pass - 18 Meters - Scuba - Boat - Strong current - Coral – Camera

Right Bank: Moderately Difficult - Pass - 35 Meters - Scuba - Boat - Strong Current - Surface Coverage - Coral – Camera

Location

The name of this pass on SHOM nautical charts is "Paipai Pass'. Islanders call it "Tiva Pass', after the village located over one nautical mile to the north. Ferries and schooners take this pass en route to or from Bora Bora.

Access and Anchoring



To reach Tiva Pass from Raiatea, the shortest route is of course through the lagoon. The area between the two islands is dotted with reefs which are dangerous for navigation. However, they are well marked, so just follow the buoying indications (for daylight navigation only). Just over seven nautical miles separate Uturoa and Tiva Pass. Both shores offer pleasant diving.

Right bank (green buoying): Do not anchor. Enter the water from **the edge of the drop-off at the pass opening.** The current will carry you to the dive site. Your boat will be able to pick you up in the lagoon. The advantage of choosing this solution is that you will be able to explore the entire slope

ff you choose to anchor, you should do so at the base of the only green buoy marking the shore. Do not confuse the buoy with the seamark, which is farther inside the pass. To return to your boat easily, fin upstream in the direction of the ocean.

Left bank (red buoying): Drop your anchor near the red buoy, at a **depth of 5-6 meters.**

Weather Conditions

The site is well-sheltered from northeasterly trade winds. Southeast winds are stronger, especially when returning to Raiatea (small, head-on waves). West winds are infrequent, but large swell from the west sometimes affects this side of the island. Abandon your diving plans if there is swell from the west. For both dives, we recommend incoming current.

Diving

Right bank The interesting section is in the first half of the pass, between the green buoy and the entrance to the pass, at a depth of 2535 meters. In the very steep underwater cliff are many grooves where you will see very beautiful colonies of yellow *distichopora coral.*

Left bank Proceed along the drop-off in the direction of the ocean, at a depth of 15-18 meters. There is no point going any farther since there is nothing else to see. In this section currents

and waves have also created grooves clinging to which are attractive branches of yellow coral and many brightly-colored concretions. You will also see a large number of iridescent fish (blue-spotted groupers, angelfish, butterflyfish, surgeonfish, parrotfish, etc.). Adventure around the bend in the pass and explore the outside reef. As you return to your boat, at 3 meters you will come upon two attractive channels which arise perpendicularly up to the crest of the barrier reef. Erosion caused by swell has created tortured formations of arches, caves and outcrops which produce very attractive scenery.

SHOM Nautical Charts No. 6282 and 6283

10.18 Coordinate 323

This name corresponds to the most recent hydrographic reading for this area as indicated on the SHOM nautical chart.

Moderately Difficult - Ocean - 35 Meters - Scuba - Boat - Fish - Coral - Camera

Location

The exploration site is located outside the reef slope, three nautical miles north of Paipai Pass (local name, 'Tiva Pass-). West coast of Tahaa.

Access and Anchoring

From Uturoa, it will take you 40-50 minutes to reach -Coordinate 323". The easiest way is to navigate through the lagoon to Paipai Pass. Pay close attention to the buoying indications marking the many reefs in the lagoon between Raiatea and Tahaa. Once at sea (after taking Tiva Pass), proceed along the reef to the north, keeping about 100 meters offshore. It is difficult to give exact directions to the site because there are no striking landmarks on shore. However, here are the references we use regularly that help us find the location easily.

At Tiva Village (you will clearly see the village church), the reef forms the first headland you will encounter. Do not waste time here and proceed quickly past it. Continue navigating for about five minutes, then spot the crest of the barrier reef. You will soon see rocks rising above the surface (they are roughly indicated on the nautical chart). As the area is well-sheltered, they are always visible, except when there is strong swell from the west. Navigate until you reach the last two rocks, which are about 50 meters apart. These are the last two rocks you will encounter before reaching Pereu Reef Point, half a nautical mile north. By positioning your craft between the two rocks you should be able to count eight islands visible on the horizon, to the north-northeast. When you have matched all these coordinates, you are at the correct site. Anchor at a depth of 20-25 meters, a good hundred meters from the barrier reef. Note that you will be better off if you are slightly too far south of the site, rather than too far north.

Weather Conditions

This side of the island is well-sheltered from dominant east winds. It is very exposed to west winds. However these do not occur frequently. Abandon your diving plans if there is strong swell from the western direction.

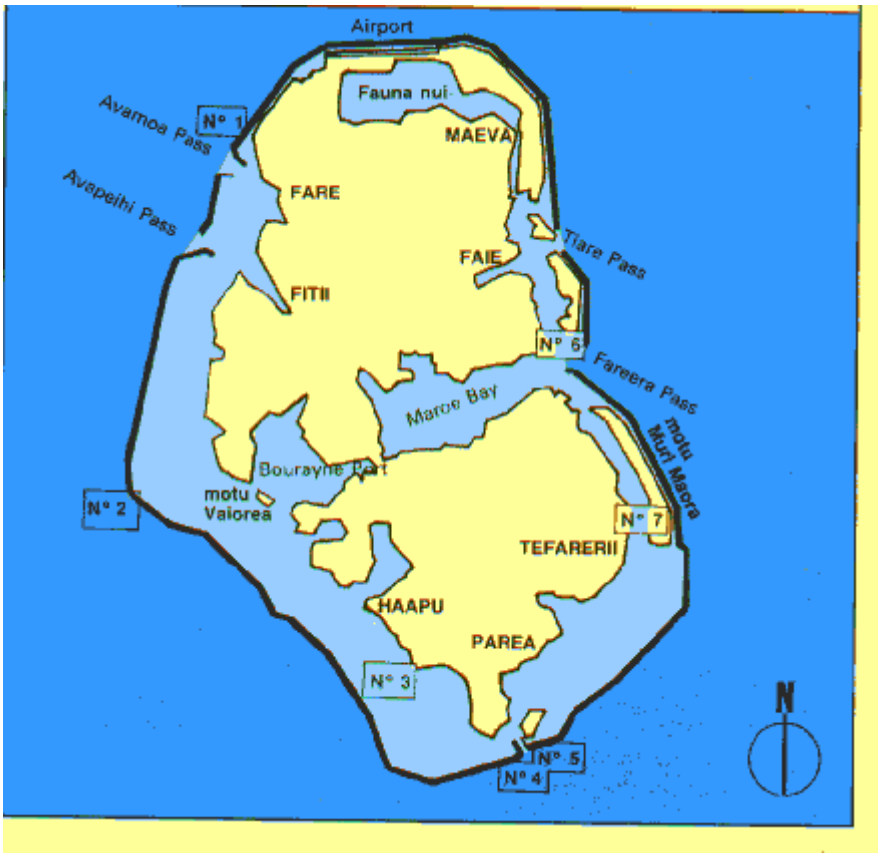
Diving

"Coordinate 323" is one of the most enjoyable dives we made in the Leeward Islands. The waters are often amazingly clear and there is visibility down to below 40 meters. The outside reef slope plunges abruptly to 30-32 meters. To enjoy all the sights, you should remain at this depth. You will not have to fin long distances. Just wait not far from your anchoring and watch the procession which your presence is sure to trigger.

There is no point investigating the dark corners of madrepore formations looking for the habitual small marine life. This is the domain of "big" species. You will see a large array of deep-water fish. The site seems to be a meeting place for barracudas, two-spot snappers, sea bass, unicornfish and short-nosed unicornfish, napoleons, carangids, white-tip sharks *(mamaru)* and even sea turtles. Below, along the sandbed, Tuamotu emperors circle in small groups, along with impressive-sized, though timid, unicornfish. The coral scenery is also impressive. You will see large *porites* which are two meters tall and even greater in circumference. Watch out for the clusters of fire coral *(millepora)* which are as beautiful as they are stinging.

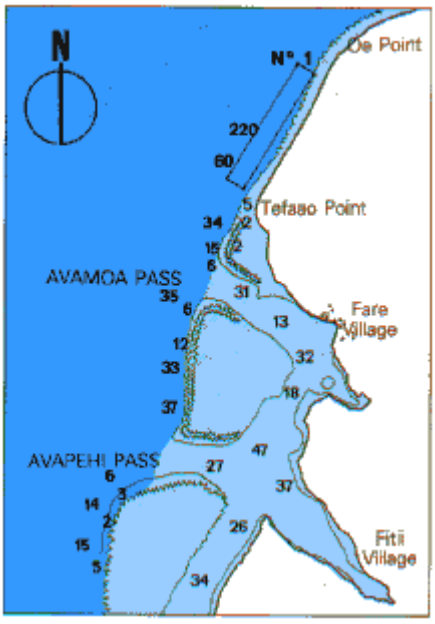
SHOM Nautical Charts No. 6282 and 6283

11 Huahine



11.1 Reef South of Oe Point – 25 Meters

Moderately Difficult - Ocean - 25 meters - Scuba - Boat - Big Fish - Coral



Location

This is an underwater slope of the fringing reef, between Tefaao Point and Oe Point, at the northwest end of Huahine.

Access and Anchoring

You will have no problem reaching this site, which is a few minutes from the village of Fare. Exit through Avamoa Pass, then proceed north, keeping a good distance from the fringing reef. There is no lagoon in this area. No specific anchoring indications because the area is relatively uniform, but be sure to stay well below Oe Point. There is perhaps more to see in the area halfway between the two

points, about a mile and a half from Fare. Anchor at 12 to 15 meters and at least 100 meters from the shore.

Weather Conditions

This section of the west coast of Huahine Nui is well-sheltered from easterly trade winds (as long as you stay below Oe Point). Swell from the west will cause problems for anchoring stability and for underwater visibility, which is often poor because of the many sand valleys in the area. No special current problems.

Diving

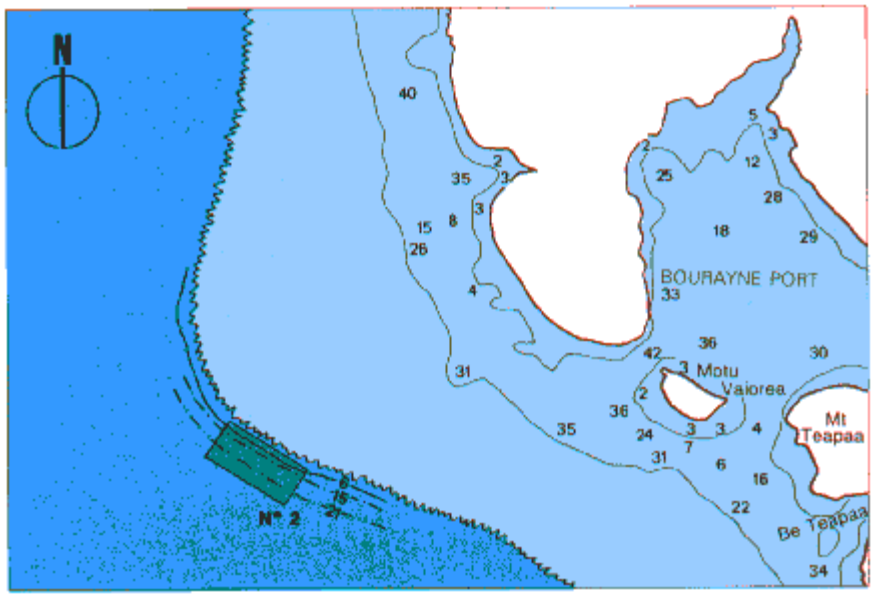
Dolphins love this quiet spot. They happily follow boats but disappear as soon as divers enter the water. While diving you will only hear their cry. Between 6 and 12 meters, the underwater slope is not steep. Long stretches of polished rock are broken in places by sand gullies. Exploring becomes interesting at 15-25 meters. Below, the sand slope continues a slow progression towards the blue deep. There is much marine life in this section. You will see a "coral staircase" of large *porite* colonies, 11 cauliflower" corals *(pocillopora) and acropora* corals that attract and provide shelter for a wide variety of fish which adore this type of biotope: red mullet (iihi), squirrelfish, soldierfish, blue spotted grouper (roi), damselfish, etc. Unicornfish *(ume, ume tarei),* surgeonfish, sea bass, surmullets and parrotfish also move about in this limestone-rich labyrinth. The site is typical of underwater slopes in the high islands of the archipelago of the Society Islands. Pleasant, easy diving in clear waters.

SHOM Nautical Chart No. 6434

11.2 Bourayne Port Reef Point – 35 Meters

Moderately Difficult - Ocean - 35 Meters - Scuba - Boat - Big Fish - Coral – Camera

Location



Bourayne Port Reef Point is located 4 nautical miles South of the village of Fare, at the western end of Huahine lagoon. This point, formed by a barrier reef, appears to have no name, at least according to the most recent SHOM nautical chart- admittedly it is from 1967.

For clarity, we have decided to name it

after the large bay (Bourayne Port) across from it, between Huahine Nui and Huahine Iti. The southern slope of this point is the most interesting site.

Access and Anchoring

The exact site is 3.5 nautical miles from the mouth of Avapehi Pass. This pass is one of two access channels to Fare. We were not able to take bearings on seamarks because there are no prominent features on land. Once at sea, continue south along the reef for 3.5 nautical miles. The point formed by the reef is the first one you will encounter. You can't miss it. Turn sharply around the end and continue about another 300 meters, then anchor at 15 meters on the upper underwater slope**.**

Weather Conditions

This location is very exposed to southwest swell, which occurs frequently in the cooler season. The best time to explore is when the northeast trade winds strike the other side of the island, but be careful as you may get an easterly wind with residual swell from the west. It wouldn't be the first time. There will occasionally be swell caused by the *maraamu* (southeast trade wind), depending on how hard it blows. Moderate current.

Diving

The first section of the underwater slope is uninteresting. Continue down to 32-35 meters. That is the best spot. Farther down, you will only find sand. The number of fish varies from day to day. Of the dives we made at the site, some were disappointing; others were spectacular, mainly because of the many carangids and barracudas which came to greet us.

Close to the seabed, along 35 meters, you may meet up with Tuamotu Emperors (oeo), unicornfish, different varieties of surgeonfish *(ume kiripa, ume tarei),* triggerfish, big blue parrotfish *(uhu raepuu)* and all the small fish you usually see *(maito, roi,* etc.), which rarely wander away from their coral feeding grounds. The coral at this depth is healthier and more attractive. In one spot, there are two large separate growths which are the popular gathering place of red mullets and multicolored sea bass *(urio).* You need to descend to 36-38 meters to reach this point. Under masses of madrepores there are some orange-colored coral *(distichopora) and* attached yellow sponges. When the water is clear, exploring becomes very interesting.

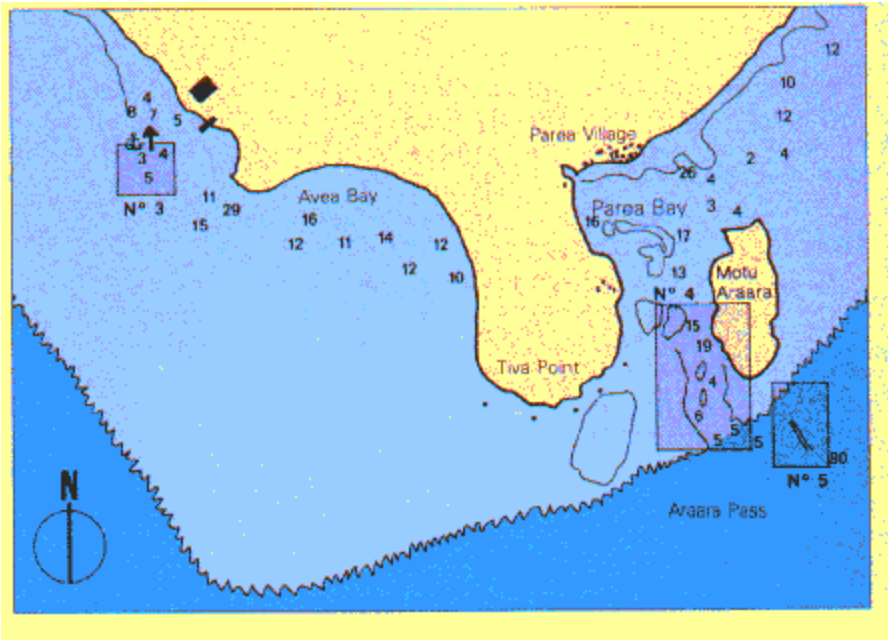
SHOM Nautical Chart No. 6434

11.3 The Sea Anemone Reef – 3 Meters

Easy - Lagoon - 3 Meters - Snorkel - Boat - Strong Current - Coral – Camera

Location

This small lagoon reef is on the southwest coast of Huahine Iti, about loo nautical miles from the shore, between Haapu Bay and Avea Bay. The exact location is difficult to indicate because the nautical chart does not represent the area accurately. But in fact, the site is very easy to find.



Access and Anchoring

The reef is 6.5 nautical miles from Fare. Continue south, keeping well within the buoyed channel. The scenery is pleasant, especially near Bourayne Port Bay and its midchannel *motu.* You will see the entire west coast of Huahine Nui and a good bit of Huahine Iti. Once you have passed Haapu Bay, you will notice an enormous rectangular shaped rock in the mountain. It overlooks the road which circles the island. Just across from this landmark is a green lagoon navigational buoy (see inset). You can't miss it; it's the only green buoy between Bourayne Port Bay and Haapu Bay. To avoid damaging the surrounding coral, anchor at the base of the buoy.

Weather Conditions

The site in which this dive takes place is well-sheltered from trade winds blowing in a westerly direction. If there is a strong *maraamu,* it can affect this area more and may be bothersome. In this case, underwater visibility will be greatly reduced. A mild current coming from the south also crosses the area quite frequently.

Diving

The area of approximately 300 square meters which spreads south of the green buoy (across from the rectangular-shaped rock embedded in the mountain) is really an exceptional site. On the seabed, which is no more than three meters long, there are beautiful clusters of blue and violet coral with finger-like outgrowths blend with other varieties of yellow, brown and green coral. "The blue reef" would also be a good name for this site. Unfortunately we do not have the exact name of this coral species, but it most certainly belongs to the genus *Acroporidae.*

Sea anemones *(S. kenti)* add even more to the rich color combinations, blossoming to their full splendor and providing a delicate hint of pink and white. Excellent sunlight penetration in these shallow waters makes the area a photographer's paradise. Exceptional shots can then be taken by adding light from a flash. Shoals of tiny fish also abound in the area. Brown and green parrotfish, golden spotted sea bass, wrass, damselfish, clown fish and many more add life and movement to this environment which can be enjoyed either snorkeling or scuba diving.

SHOM Nautical Chart No. 6434

11.4 Parea Pass – 10 Meters

Moderately Difficult - Pass - 10 Meters - Snorkel - Boat - Strong Current - Big Fish - Coral

Location

Araara Pass is a small pass at the southern end of the island of Huahine It!. Its local name is "Parea Pass', after the village to which it leads. Since it is quite shallow and has many small reefs, it is navigable only by small boats. Furthermore, it is not buoyed. This pass is said to be difficult to cross and dangerous when the sea is rough.

Access and Anchoring

There are two routes which you can take to reach Parea. The first is to go along the west coast of the island through the lagoon. The distance is less than 9 nautical miles, but Tiva Point at the southern tip of the island is difficult to negotiate. Water depth is no more than 50 centimeters, sometimes less at low tide. You may have to bring up your outboard and pull your boat. Plastic shoes are a must. Obviously only small, lightweight boats with low draught can take this route. The second route is easier, but it is also longer (almost 13 miles). Take the man-made channel between Bourayne Port Bay and Maroe Bay (on the east coast), then proceed south along the island until you reach the pass. The scenery is very pleasant. Once you arrive, anchor on one of the midchannel reefs, or on the right shore (facing the sea).

Weather Conditions

Southeast swell penetrates deep into the pass. So don't get too close to the pass opening if the sea is high. You should also be careful of the strong currents which scour the pass at certain times of the day. If you're not prepared to battle with the elements, stay close to your boat.

Diving

Popular belief claims that there is a *marae* buried somewhere in the pass or in its immediate vicinity, but so far no one has unearthed it. It is true that numerous finds, such as adzes, pierced stones and *tiki* figurines, have been made by local divers. These finds seem to support the claim, or at least help substantiate its historical importance. The supposed historic monument does not have a good reputation in any case; sinister stories of supernatural "protection" are more or less associated with it.

However, don't let that stop you from enjoying this pleasant site. The most probable explanation is that cult objects were discarded there upon the arrival of the first missionaries.

Exploring is best done snorkeling. Few areas are very deep: 6 meters in the pass; 9-11 meters at the opening. Large coral growths *(pocillopora)* arising to a meter below the surface are dotted about the midchannel area. Fishlife is plentiful, especially along the shores. Parrotfish, unicornfish and good-sized surgeons make this site a treasured spot.

SHOM Nautical Chart No. 6434

11.5 Parea Valley – 12 Meters

Easy – Ocean - 12 Meters – Snorkle – Scuba – Boat - Big Fish

Location: This dive site is located about 400 meters to the left of the mouth of Parea Pass (facing the ocean), at the southern end of the island of Huahine Iti.

Access and Anchoring

The two routes for returning to Parea were described in the previous dive description. To get to Parea Valley, follow these directions: once at sea, turn left as though you were going north along the east coast. If you keep 200 meters off the barrier reef you will not miss a white sandbank which contrasts strongly with the dark blue all around. This sandbank is almost directly in front of Motu Araara on the right bank of the pass. You will have good hold for anchoring on either side of the valley.

Weather Conditions

Navigation in the vicinity of this pass is dangerous when the sea is rough. Swell becomes large because of the shallow depth at the opening. High, close waves form an impressive barrier which is not easy to get past. The biggest problem, though, is getting back. Pinpointing the channel is sheer guesswork because of the height of the waves and the lack of buoying. For all these reasons, do not head out when the sea is threatening. Many small boats have paid a heavy price for not heeding this warning. The site is very exposed to *maraamu.* Northeast winds cause a lateral swell which can make anchoring unsafe. In general, swell conditions make for poor visibility.

Diving

In good weather, water visibility is excellent. The turquoise color puts any home swimming pool to shame. The valley, which is so straight you would think it were man-made, stretches from north to south and averages 1 meters in depth. At one point, it cuts through thick rock covered with hardy coral where you will see beautiful specimens of Tuamotu Emperors. The number of fish varies from day to day. Some days there are so few that they are almost invisible, on other days there are more, though there are never vast numbers.

On the whole, this site has relatively little plant and animal life, but the atmosphere is intriguing. It also makes for good snorkel exploring. The site is perhaps not worth your going out of your way, but is a good stop-off point after visiting Parea Pass or Murimaora Reef.

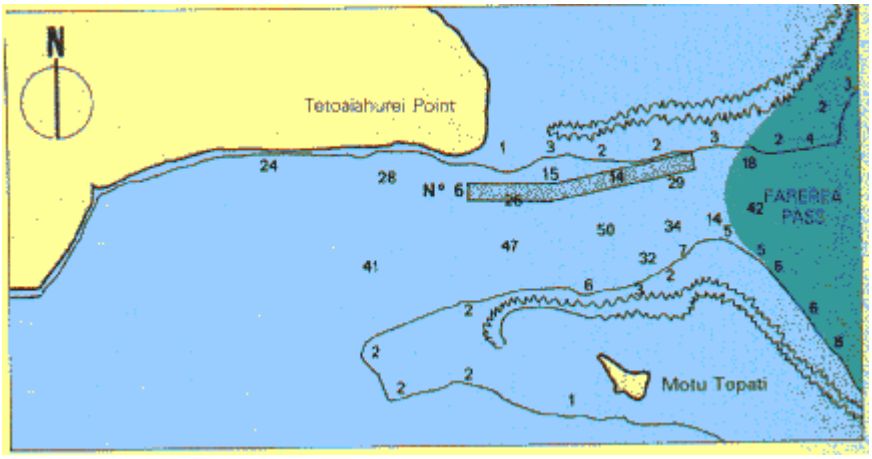
SHOM Nautical Chart No. 6434

11.6 The Bullfish Drop-off – 35 Meters

Moderately Difficult - Pass - 35 Meters - Scuba - Boat - Surface Coverage - Strong Current - Coral - Dive Light - Reduced Visibility

Location

This spot is located on the right bank (green buoy) of Farerea Pass, on the east coast of Huahine. This pass is across from the biggest bay in the island, Maroe Bay, and this explains why the pass is more often designated by the name 'Maroe Pass".



Access and Anchoring

To reach this diving site from the west coast, take the tiny channel linking Bourayne Port Bay and Maroe Bay, squeezing between Huahine Nui and Huahine Iti. But be careful, only small boats can navigate in the channel. Once you reach Maroe Bay, you should continue until you come to the only green buoy on the right bank of the pass. If you have no cover party following your movements, anchor at the base of the buoy.

Weather Conditions

Do not dive if there is a strong east wind. Incoming current offers the best chance for good visibility. The waters of Maroe Bay are always turbid.

Diving

Skip over the underwater slope and go straight down to the sandy area at about 22-23 meters. You should then stay at that depth and fin towards the bay. When the current is going out, you will encounter no more than 20 meters of turbid waters. Below that depth, visibility is much better though there is no comparison with incoming current. The decor is not extraordinary, on the contrary. To the right, patches of barely living coral dot the slope in places. To the left, sand strewn with coral rubble gradually blends with the blue of the channel. On some days, you can spot some very interesting fishlife: Tuamotu Emperors (oeo), unicornfish *(ume),* huge white-spotted pufferfish, *(huehue),* shoals of featherfin bullfish *(paraha ave).*

A slow drift will take you to a small, rocky drop-off. Its steepness is a sharp contrast to the seabed just explored. The drop-off begins at 26-27 meters and continues to below 38 meters. It seems to be the "official headquarters" of the blood sea bass *(rari),* which otherwise are rare in French Polynesia, especially in concentrated numbers. They are not timid at all. Divers arouse their curiosity-proof that this drop-off has not been fished, perhaps because of the great depth. Though the meat of the blood sea bass is delicious, Polynesians so far have not learned to appreciate it.

On the upper portion of the drop-off, a few branches of black coral standing erect facing the sky seem to be the private property of a group of good-sized bullfish. There is no point going any farther because you will be nearing Maroe Bay where the waters are much too turbid for any

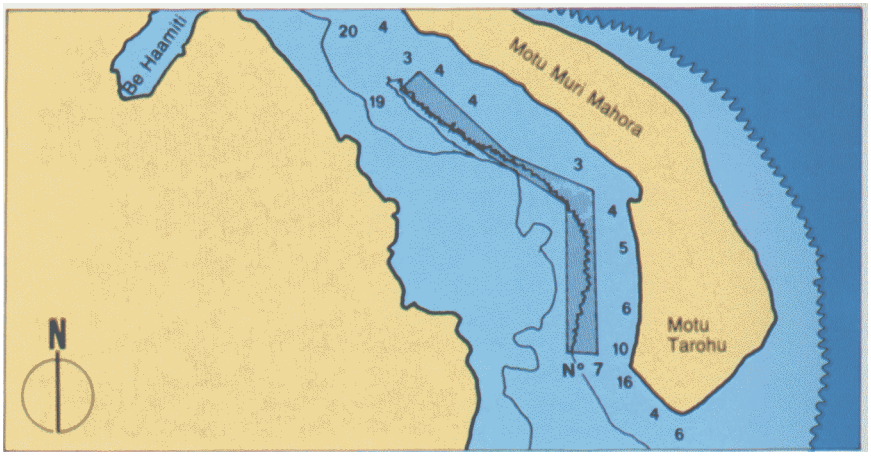
exploration to be enjoyable. Ascend along the underwater slope and return to your boat, completing a decompression stop at three meters if you need to.

SHOM Nautical Chart No. 6434

11.7 Muri Mahora Reef – 3 Meters

Easy - Lagoon - 3 Meters - Snorkel - Boat - Coral

Location



The long Motu Muri Mahora is a belt-like formation along the east lagoon of Huahine Iti, some distance from the coast. This part of the lagoon is virtually just a narrow channel between a large fringing reef and the *motu* itself. The reef forms a two-dimensional elbow as it slopes alongside the incline of the island to the south for a distance of half a nautical mile.

Access and Anchoring

When setting out from the west coast, the easiest way in our opinion is to follow the indications given in the last dive site description, until you reach the small Motu Topati on the left bank of Farerea Pass (red buoys). Bear right and take the lagoon channel which goes along the east coast of Huahine It! to the south. You could also go around the southern end of Huahine Iti but we remind you that navigation at Tiva Point is difficult because of the lagoon's shallow waters (50 centimeters or less). That would be your only problem before reaching the motu. Then just follow the buoys. Drop anchor wherever you like along the reef, at 1-2 meters.

Weather Conditions

Since the shores are so close, this reef has excellent shelter, from both easterly and westerly winds. There is also no special current problem.

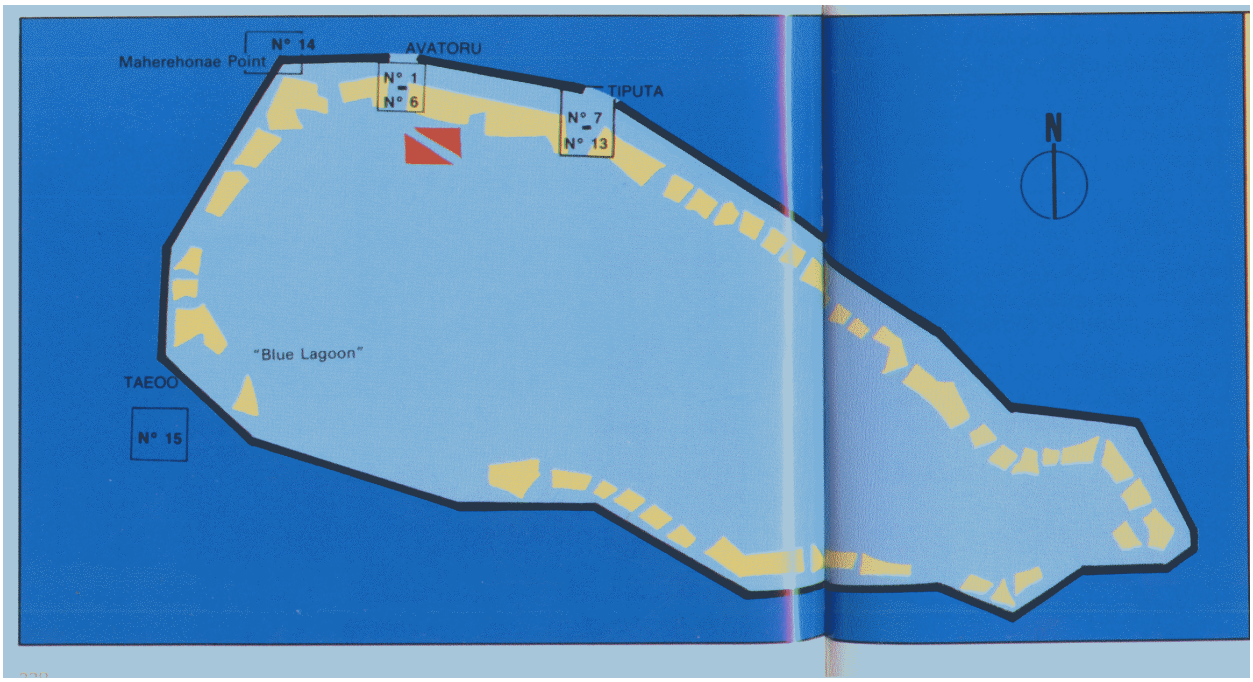
Diving

The site is superb, mainly because it is always so calm. The lagoon shore of motu Muri Mahora is lined with white sand and coconut trees which shelter small fishing cabins. Very attractive shades of blue in the channel, color this naturally-formed swimming pool. The best exploring is along the reef on the lagoon shore side of the channel. Snorkeling there is possible for everyone. Depth does not exceed 2-3 meters. This exceptionally sheltered area provides excellent growth conditions for colonies of *porites,* branching *acropora (A. pulchra)* and the blue

variety of *acropora* discussed in the dive site description of the "Sea Anemone Reef". Together they form a very attractive garden. Unfortunately, you will see very few large f ish.

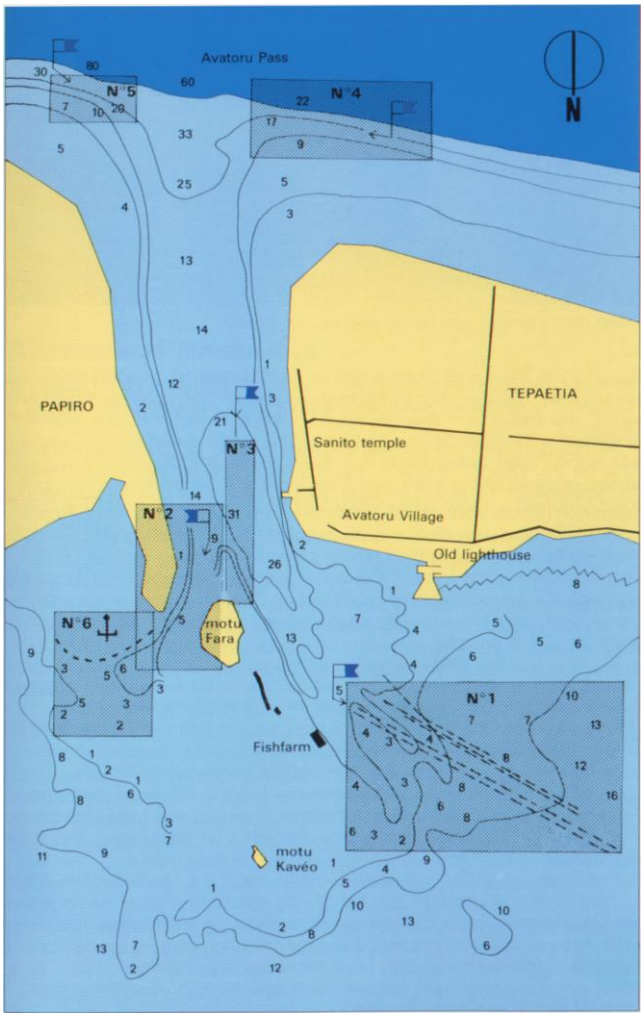
SHOM Nautical Chart No. 6434

12 Rangiroa



12.1 Mahuta

Moderate Difficult - Lagoon - 18 Meters - Scuba - Boat - Current - Surface Coverage - Big Fish - Coral – Camera



Location

Mahuta is the part of the lagoon in the extension of Avatoru Pass, southeast of Motu Fara. The site is a popular fishing spot for the inhabitants of the village. The influence of the pass makes catches plentiful.

Access and Anchoring

From the village of Avatoru, the site is 5 minutes away by boat. It is located midchannel and is thus affected by tidal currents which can be as fast as 6 knots.

Anchoring is dangerous since it is impossible to get back to the boat. Thus you should not

attempt to do so. As with all dives in the Tuamotus, surface cover is needed to keep divers in sight as they move about.

Enter the water at about 30 meters, across from the fish farm which runs along the flat between Motu Fara and Motu Kaveo, from a small white sand valley which you will easily see from your boat. Depth at that spot is about 6 meters.

Weather Conditions

Your dive off Mahuta should be at the end of incoming current, for two reasons: visibility will be better and the current, which will not be as strong, will give you time to leisurely discover the abundant and varied marine life.

The site is very exposed to southeast winds which blow frequently in the Tuamotus and are non-stop in July and August. The occurrence of a tidal bore at Mahuta generally indicates an incoming current in Avatoru Pass.

There is no point attempting a dive on outgoing current. Visibility would be very poor.

Diving

Mahuta is an attractive dive. Three valleys run parallel towards the east. Only the two closest to Motu Fara offer interesting exploring. The small passage you took to enter the water becomes a small white sand valley at about 1 0 meters. It is 6-8 meters wide and is lined on both sides with *porites,* "cauliflower" coral *(pocillopora)* and many strong clusters of *acropora.*

As you drift with the current, you will be able to contemplate the rich marine life. Like its neighbor "the tiny pass", Mahuta is an intermediary zone between the ocean and the lagoon. You will therefore see species common to both environments. Parrotf ish are well-represented: humphead parrotfish, blue parrotfish, mouse parrotfish, etc. There are also sea bass, surgeonfish and unicornfish which swim in a twirling motion up to the surface looking for food. Deep-water fish are also plentiful: carangids, barracudas, manta rays and the inevitable Tuamotus sharks (gray sharks, black-tip sharks and white-tip sharks). A hammerhead shark or a brindlebass may also pass by.

At the end of the valley to the extreme south you will find a small "circus arena" surrounded by coral formations. You will see the bars of an old shark cage sticking out of the sand. This is the spot where one of the instructors from the Raie Manta Diving Club in Avatoru comes to feed the moray eels. "Princess", a large Javanese moray eel, appears the minute she hears the sound of divers' air bubbles. Along with "Princess" and a few of her ill-tempered compatriots, the feeding sessions also attract a quantity of paddle-tail snappers *(tuhara),* marbled sea bass *(hapuu) and* small sharks. Napoleon fish *(mara),* attracted by the frenzy, also make their entrance into the arena.

Feeding sessions are always an impressive sight. However, we do not advise you to improvise one. The diving club instructor knows the area and the species perfectly. Many hours of diving and observation at the site, have enabled him to detect the mood of his moray eels, who can be very temperamental. So don't take unnecessary chances.

SHOM Nautical Chart No. 6363

12.2 The Tiny Pass

Location

"The tiny pass" is the name of the narrow channel stretching southwest of Avatoru Pass, between Motu Fara and the southern tip of Motu Papiro.

Access and Anchoring

To reach the site, proceed north of Motu Fara. There is a large flat at the southern tip which makes navigation dangerous. The tiny pass is actually one branch of Avatoru Pass (which translates as 'three passes'). Anchoring is impossible because of strong tidal currents in the pass. You will therefore need a surface cover boat. Enter the water across from the fish farm on Motu Papiro, at the entrance to the tiny pass, preferably along the underwater slope extending from the northern tip of Motu Fara.

Weather Conditions

This tiny pass is an excellent diving site. It is sheltered from northeast trade winds by the large Motu Lepaetia and to the northwest by Motu Papira. To the south, Motu Fara shelters it from *maraamu. Dive* as incoming current subsides, or during the slack waters which follow.

Diving

Photographers will love this dive. Prolonged immersion is possible thanks to the shallow depth- 1 2-15 meters on the average. Sunlight penetration is excellent, making the site an ideal underwater studio for shots using a combination of natural light and flash light. The background and the key actors are all present.

In clear, turquoise waters, you should proceed along the underwater slope of Motu Fara, at a depth of 5-6 meters. You will soon come upon a series of crevices, small overhangs and other cavities. This is where the dive really begins. A dive torch will be necessary in order to appreciate the full panorama of colors and variety of the marine life which inhabits this area.

Clusters of pink, yellow and orange coral *(dendrophyllia)* and small brownish-green sponges, color the recesses and the undersides of rocky shelves. The many loaches and groupers which make their home here comeouton theirdoorstep, intrigued bythe divers passing by. Trunkfishes and puffers, scorpion fish, angelfish, butterflyfish, Tuamotu emperors, bullfish, yellow moorish idols, red mullets, soldierfish and squirrelfish are some of the species you will be able to photograph at leisure.

Once you have explored this portion, you may drift towards midchannel (12-14 meters) where you will see an egg-shaped basin which descends abruptly to 18 meters. Among the large masses of polished, eroded rock covering the seabed, you may admire beautiful coral trout *(tonu),* large green parrotfish on the prowl, Tuamotu emperors, and shoals of sea bass and carangids. Don't be surprised if you see a manta ray, shark or napoleon fish.

Stay on the right side of the basin. As you ascend to 10-12 meters, you will be able to explore a superb series of caves which you need have no fear of entering.

End the dive at the small shelf just after the basin and ascend to less than five meters from the surface. The marine life in this portion is well worth a visit.

12.3 The Avatoru Pass Caves

Moderately Difficult - Pass - 25 Meters - Scuba - Boat - Current - Surface Coverage - Coral - Camera

Location

The Avatoru Pass Caves are located in the first branch of the pass as you come from the lagoon. They continue for more than 200 meters, as far as the northeast tip of Motu Fare.

Access and Anchoring

Enter the water midchannel, at about 200 meters north of the wharf situated on the east bank. Anchoring is not possible. A surface cover boat and a surface marker buoy trailed by the group leader are mandatory.

Weather Conditions

You will have to dive when incoming current is subsiding, or preferably, during the slack waters which follow. Be careful of tide reversal which may occur within less than 30 minutes. No special weather problems. The site is well-sheltered by the surrounding land. Tidal bore may be felt near Motu Fara.

Diving

Once you reach the seabed, drift with the current but keep to midchannel. If you drift too much to the right, you may miss the caves and be carried out to "The tiny pass". Once you have been in the water for a few minutes, you will notice a series of caves to your right. Depth will increase as you continue along, but you should stabilize at 25 meters. Don't forget to take along a dive torch so that you will be able to appreciate the colors of the site and the marine life.

Spotted, speckled, striped, marbled or dotted... there are not enough adjectives to describe the wide variety of patterns you will see on the angelfish, butterflyfish, damselfish, yellow moorish idols, emperors and other such imaginatively named reef fish. Scorpion fish hiding in dark recesses proudly display their dangerous spines, while a multitude of other species whirl about briskly and gracefully in this natural aquarium. The dive will take you from cave to cave, and finally to the underwater slope of Motu Fara for a decompression stop.

SHOM Nautical Chart No. 6363

12.4 Right Side of the Avatoru Pass

Moderately Difficult - Ocean - 40 meters - Scuba - Boat - Current - Surface Coverage - Big Fish - Camera

Location

Drop-off on the right hand side as you leave Avatoru Pass.

Access and Anchoring

On the right side as you leave the pass, look for the edge of the dropoff, which is a good distance at sea, at a depth of 17 meters. Once you have located it, continue alongside it to the east until the wharf visible from the pass disappears behind land. You should dive from this spot.

Anchoring is impossible. A surface cover boat and surface marker buoy are mandatory. You will be diving on the portion of the dropoff facing the pass.

Weather Conditions

It is preferable to undertake this dive on incoming current. Visibility will be better. But if you aren't interested in taking photos or aren't extremely concerned about excellent visibility, this is one of the few dives in Rangiroa which can be completed on outgoing current. However, you will have to proceed along the drop-off, to the bend in the pass.

Do not let yourself drift towards midchannel. The current will take you out to sea and tidal bore will make your safety stops unstable and dangerous. These factors will also make surface cover very difficult.

The area is very exposed to northeast trade winds.

Diving

This site has no madrepore formations or exquisite clusters of coral growing with the exuberance of a Japanese garden. But it has not always been so. A series of hurricanes in French Polynesia in 1983 severely damaged the area. Sand and coral rubble cover the slope, which looks as if it has been scraped clean by some incredible force. The variety and quantity of deep water marine life render this an interesting site.

Descend to 20 or 25 meters and swim towards the pass. You will not need to descend farther as the fish will come to you. Napoleon fish will be the first to greet you. The Raie Manta Diving Club have tamed some of them. They will gladly 11 pose" for you. At the slightest hint of a crust of bread, dozens of zebra unicornfish come running, followed by red snappers *(haamea)* and blue- striped snappers (taape).

Gray sharks, barracudas, sea pikes, spotted eagle rays and albacore tuna swim in the open waters. Manta rays are plentiful from June to No- vember, especially on outgoing current when they feed ravenously on the food particles brought in from the lagoon. Large shoals of blue jacks are also present at certain times of the year.

In the bend in the pass, experienced divers will be able to descend to 35-40 meters and "bathe" in a shoal of blood-colored bigeyes. If the current begins to come in, you may let it carry you into the lagoon. If the current is going out, ascend along the drop-off and complete your decompression stops as close to shore as possible.

12.5 Left Side of the Avatoru Pass

Moderately Difficult - Ocean - 35 meters - Scuba - Boat - Current - Surface Coverage - Big Fish

Location

Drop-off immediately to your left as you leave Avatoru Pass.

Access and Anchoring

As you leave the pass, navigate in a northwest direction until you can barely see the house on stilts located on the west coast of Motu Fara. Enter the water from the extreme edge of the underwater shelf which is 250 meters off the coast along the large Motu Papiro. You will not be able to anchor. A surface cover boat and a marker buoy are mandatory.

Weather Conditions

This dive is possible only on incoming current. Outgoing current on this side is much stronger than on the right bank and tidal bore is violent, especially when there is swell from the north. Southeast winds present no problem.

Diving

This drop-off has the same type of scenery as the drop-off on the right side of the pass. The hurricanes ripped off the strong coral formations which were there before 1983, but large fish and carnivorous species of all types are plentiful.

Skip over the drop-off, which is quite uninteresting by the way, and proceed directly down to a depth of 35 meters. You will gain nothing by descending any farther (except waste precious minutes for more decompression stops). The current will slowly carry you towards the pass. In addition to the attractive anemones clinging to the slope, your attention should also be directed towards the open waters. In February and March, this is a popular gathering place for shoals of blue jacks *(paaihere) and* black jacks *(ruhi).*

Ruhis preferto hunt along the outside of the reef, while *paaiheresfollow* their prey into the *hoas,* the lagoon, and finally into the pass, following an apparently well-defined hunting pattern. There are also many kingfish *(pahuru)* in Avatoru Pass. They travel in small groups of 20 at the most. You will also see barracudas, sea pikes, gray sharks and napoleon fish in the bend in the pass. You will also be able to admire a few albacore tunas, but they rarely come near enough to be photographed close-up. Conclude your dive deeper into the pass and complete any decompression stops you need.

SHOM Nautical Chart No. 6363

12.6 Papiro Point

Easy - Lagoon - 4 Meters - Snorkel - Boat - Current - Coral - Camera

Location

The east coast of the large Motu Papiro runs along Avatoru Pass. At the southern tip of the *motu* is a small peninsula which is swept by warm, shallow waters from the lagoon. The snorkeling site we have chosen is at the tip of Papiro Point.

Access and Anchoring

You will need a boat to reach Papiro Point because you will have to cross Avatoru Pass. Take 'The tiny pass" by going around the northern tip of Motu Fara, then continue alongside the fish farms on the right, on the fringing reef. At the tip of the peninsula, bear right and stop just short of the tip. Though shallow (2-3 meters), the waters are not dangerous. Anchor at 2-3 meters.

Weather Conditions

This area is situated in the immediate extension of "The tiny pass'. It is therefore swept by tide currents, though the latter are not as strong as the currents in the pass. For better visibility and greater safety, dive as incoming current subsides, or better, during the slack waters which follow. Be careful, though. Current reversal can be swift, and slack waters will therefore be of very short duration.

As soon as you see the first sign of reverse current (waters becoming turbid), return to your boat. In general, the site is quite well-sheltered from north winds. It is also well sheltered from southeast swell (when there is *maraamu)* by the reef along the southern part of Motu Fara.

Diving

The underwater shelf at Papiro Point is one of the best snorkeling sites in Rangiroa.

The nearby pass assures good wave action at this site. This factor, coupled with the benefit of a shelter provided by the surrounding *motu,* contribute greatly to active coral growth. You will see large blossoming colonies of *acropora* and "cauliflower" coral *(pocillopora),* in yellow, pink or blue.

Marine life at the site is plentiful for the same reasons. You will see every possible species of parrotfish, surgeonfish and butterfly fish. Surgeonfish represent the biggest population. They move in large shoals, sometimes by the hundreds. Chromis and damselfish adorn the clusters of coral, offering rare shots for photography enthusiasts. You may also see a brigade of carangids suddenly charge, creating a frenzy in otherwise apparently quiet waters. Also contributing to the colorful panorama are morayeels, triggerfish, white-spotted pufferfish, trumpetfish, red mullets, surmullets, rainbow wrasse, goatfish, groupers, blue-spotted groupers, angelfish, butterflyfish, etc.

This is a fantastic spot for discovering French Polynesia's marine life. It can be enjoyed by all since an aqualung is not needed.

SHOM Nautical Chart No. 6363

12.7 Tiputa Pass Cave

Moderately Difficult - Pass - 35 meters - Scuba - Boat - Current - Surface Coverage - Big Fish - Camera - Dive Light

Location

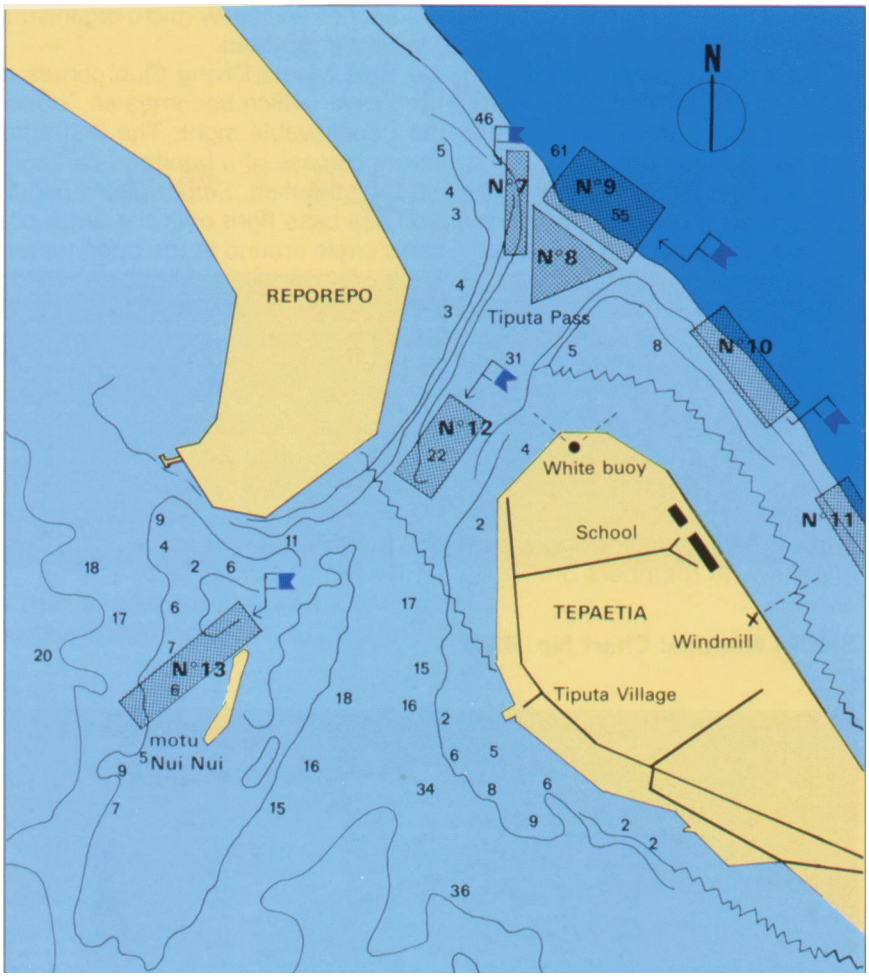
The cave is located in the bend in the drop-off, on the left hand side as you leave Tiputa Pass.

Access and Anchoring

From the village of Avatoru, Tiputa Pass is 15-20 minutes by boat, but it will take twice as long if there is southeast wind. (Southeast wind occurs frequently and blows strongly in the wintertime

in the southern hemisphere.) From Kia Ora Hotel or the village of Tiputa, correct positioning at the site takes only a few minutes.

Navigate along the left bank of the pass towards the sea, then sight the extreme edge of the underwater shelf which extends northward, forming a large curve. Proceed alongside the drop-off and continue as deep into the bend as possible, but keep the headland of Motu Nuhi-Nuhi in sight.



You will not be able to anchor. A surface cover boat and marker buoy are mandatory.

Weather Conditions

This dive must be made on incoming current. The area is very exposed to north winds which cause large swell in the vicinity of the pass. Tidal bore and *maraamu* may occur, particularly near Motu Nuhi-Nuhi.

Diving

Descend into the blue waters to a depth of 30-32 meters. At about 20 meters you will see the upper portion of the drop-off and a few gray sharks. A few minutes' swim will bring you to the bend in the pass, a rocky area with holes, around which you will see zebra unicornfish, red mullets, sea bass, yellow-finned surgeonfish and a few large napoleon fish.

Thirty-two meters from the cave, there is a balcony-shaped drop-off which descends to 45 meters. Inside the cave you will see many red mullets and attractive black branching coral, which will remind you how rare this type of coral is in the Tuamotus. Do not touch it. This could damage the living tissue covering the branches and allow micro organisms, which would rapidly kill the colony, to find a foothold.

This is where an instructor from the Raie Manta Diving Club comes to feed the sharks. From the safety of the cave, which becomes an "observation deck", divers may admire the unbelievable sight. The instructor reaches out and offers the predators the carcass of a bonito or carangid. The odor carried by the current is a strong stimulant. Sea bass and paddle tail snappers, red mullets and marbled sea bass fight over the small bits of flesh suspended in the water. Sharks circle around in the open waters in increasingly larger numbers. Ten, twenty, or

even thirty gray sharks *(raira)* converge from the four corners of Tiputa, darting like bullets in every direction. They criss cross and nearly run into one another until one of them snatches the bait. Then, more and more fish converge, swimming faster and closer in a frenzy of excitement, a fascinating sight of such extraordinary savage beauty that it all but alienates man's instinctive fear of sharks. Sudden quiet returns once the supply of fish is up.

Make your decompression stops in the open water, in the current inside the pass.

This is an experience you should not miss. For your pleasure and safety, enjoy it with members of Avatoru's Raie Manta Diving Club.

SHOM Nautical Chart No. 6363

12.8 The Valley

Location

There is a large underwater shelf at 45 meters near the mouth of Tiputa Pass leading to the ocean. It is called 'The Valley' because the drop-offs enclosing the mouth of the pass make the shelf narrow at that point.

Access and Anchoring

Access to the site and entry to the water are the same as for the previous dive (see 'Tiputa Pass Cave'). Here too, anchoring is not possible. A surface cover boat and marker buoy are mandatory.

Weather Conditions

Dive as incoming current subsides so that you will avoid its strongest effects. See weather conditions provided under 'Tiputa Pass Cave' for wind and current indications.

Diving

Begin your dive as though you were going to explore the cave, but once you reach it, continue down the drop-off until you reach the shelf which is slightly less than 45 meters deep. Don't expect fabulous scenery. The strong currents sweeping the area wipe the rock clean and prevent coral larvae from taking hold. You will therefore not see the iridescent species which usually gravitate around coral formations. However, deep-water fish and large predators are plentiful.

At 40-42 meters you will meet up with a shoal of thousands of silver scads *(ature),* with many gray sharks swimming among them. Barracudas, sea pikes and dogged-tooth tunas swim in the open waters. From July to October, there are manta rays and in February-March, caringids gather by the thousands.

Often, a large moving shadow comes in from the blue in the direction of the divers. Worry sets in... heart rates speed up, but as the shadow slowly moves closer, surprise replaces fear. It was only a squad of 50 to 100 spotted eagle rays circling above the diving party. Do not attempt to go near them; instead go down to the seabed. Then watch the intrigued rays pass unexpectedly close by, offering a good photo opportunity.

If you go on this dive between December and February, you may experience what divers call the "big chill". The big chill leaves you breathless, gives air a strange taste and upon surfacing

you feel you have experienced something very unusual. December to February is when large hammerhead sharks *(Sphyrna mokarran)* occupy the site. According to R.H. Johnson, in his book *Sharks of Polynesia, "*the *tamataroa is* found more often along the shore than out at sea. But *tamataroas are* actually found almost everywhere. It is not unusual to see them in passes and atoll lagoons". In French Polynesia, this species is not considered dangerous to man. This has been confirmed by a good number of actual experiences in Tiputa Pass. When not stimulated by food, *tamataroas* pay no attention to divers. In other regions of the world, however, this species has been known to attack man. Therefore, you should be on your guard. Remember that this shark can measure as long as 4 meters and weigh 500 kilos.

The current will slowly carry you inside the pass where you may complete your decompression stops while drifting.

SHOM Nautical Chart No. 6363

12.9 Tiputa Caves

Difficult - Pass Dive - 60 meters - Scuba - Boat - Strong Current - Surface Coverage - Big Fish – Camera - Dive Light

Location

These caves are located on the drop-off, in the center of the mouth of Tiputa Pass**.**

Access and Anchoring

As you leave the pass, bear right. Sight the drop-off and align your boat with the white buoy visible on land at the bend in the east bank. Anchoring is out of the question because you would not be able to return to your boat.

A surface cover boat is mandatory. Dive a distance from the dropoff so that the current will not push you back against the underwater shelf.

Weather Conditions

This dive must be made on incoming current. Check local marine forecasts for tide range. Tide range can be unpredictable and may be affected by a number of factors (wind, swell, etc.). With north wind, swell may be large in the vicinity of the pass. The area is well sheltered from southeast trade winds, but tidal bore near Motu Nuhi-Nuhi will make decompression stops uncomfortable.

Diving

Only seasoned adventurers should attempt this difficult dive. In addition to the depth of the site and the strong current conditions, the diversity, size and numbers of some of the species of sharks are particularly impressive.

A surface cover boat, marker buoy, and an extra cylinder when you take your decompression stop at three meters are necessary. Once submerged, descend immediately into *A group of ten gray sharks* the blue. As you go down, you can *at Tiputa.*

*B*e sure to meet up with a large shoal of barracudas and several inquisitive gray sharks *(raira).* At the depth of 50 meters, follow the drop-off towards the pass and you will come upon a sand slope and coral rubble. You are now midchannel.

The clear waters, the deep blue and the marine life are absolutely superb. Silver scads by the thousands *(ature)* move about in tight-formation shoals, casually patrolled by gray sharks. Continue swimming perpendicularly to midchannel, remaining at 50-55 meters until you see the rocky 25 caves below, at 60 meters. Clouds of yellow-finned surgeonfish (parai) whirling above, or even a few white-tip sharks *(mamaru)* napping in the doorways, will help you spot them. In the light of divers' torches, thousands of red mullets (iihi) huddled together will begin to move, quickly scattered by black jacks. Red mullets in such large numbers are a rare sight.

The walls of the caves are covered with small yellow sponges and delicate branches of *stylaster coral.* The open waters also offer spectacular sights: manta rays and spotted eagle rays, dozens of gray sharks (hundreds in wintertime), lemon sharks and white-tip reef sharks (C. *albimarginatus),* napoleon fish, black jacks and even big-headed jacks *(uruati).*

Hammerhead sharks are regulars at this spot from December to February. On several occasions, divers have even encountered brindlebass from the open waters.

Ascend and complete your decompression stops in open water as you drift in the incoming current which will take you towards the lagoon.

SHOM Nautical Chart No. 6363

12.10 Right Side of Tiputa Pass

Moderately Difficult - Ocean - 30 meters - Scuba - Boat - Strong Current - Surface Coverage - Big Fish - Camera

Location

Drop-off on the underwater slope, to the immediate right as you leave Tiputa Pass.

Access and Anchoring

On incoming current you will have no major problem reaching the site from the ocean. On outgoing current you should preferably navigate along the east bank of the pass (especially ff there is north wind). Tidal bore waves will not be as high or violent as on the opposite bank.

Once at sea, bear right and look for the edge of the drop-off 300 meters offshore. Continue alongside the drop-off until you see Tiputa school. You will recognize the buildings' blue roofs. Enter the water opposite the school, slightly outside the drop-off. You will not be able to anchor. A surface cover boat and marker buoy are mandatory.

Weather Conditions

You may make this dive on outgoing current provided you ascend along the drop-off once you reach the bend in the pass. Do not let the waters carry you midchannel. Tidal bore, eddies and outgoing currents are very active. However, you may let incoming current carry you into the pass. Your safety stops will be even more comfortable.

The area is very exposed to northerly trade winds. Abandon your diving plans if there is very large swell.

Diving

Dive along the drop-off towards the pass, at 25-30 meters maximum. Like Avatoru Pass, the drop-offs near Tiputa Pass were affected by a series of hurricanes in 1983. Coral growths were damaged in places down to 20 meters. Large portions were carried ashore as far inland as the coconut groves.

The site is a favorite among deep-water fish and large predators. Dolphins are also frequent visitors here. They greet divers with their very audible cry. They pass by quickly, then disappear as suddenly as they appeared. and of course there are sharks, mainly gray sharks *(raira), but* from December toFebruary, you may also see hamme rhead sharks at 4045 meters. Striped jacks and black jacks abound, even out of spawning season. They travel in small groups. Attracted by the reflection of air bubbles rising to the surface, they approach divers fearlessly. From September to December, red snappers come to spawn. At that time of the year they form impressive living walls which are a photographic wonder. You will see shoals of barracudas, and spotted eagle rays "flying by" as you near the pass.

The lord and master of deep waters, the giant grouper (l.8-2 meters), occasionally leaves his hiding place and honors divers with his presence. This does not happen often and when it does, emotions run high. The authors of *Fishes of Polynesia* tell how Jack Bennett captured a *hapuu reru* in the 1960s which weighed 142 kilos and measured 2.1 meters. This prize catch's stomach contained five good-sized lobsters, and a shark which measured 70 centimeters.

SHOM Nautical Chart No. 6363

12.11 The Windmill Drop-Off

Moderatley Difficult - Ocean - 25 Meters - Scuba - Boat - Surface coverage - Big Fish

Location

Outside underwater slope located opposite Tiputa village's large windmill.

Access and Anchoring

Same exit indications as the previous diving site (see "Left Side of Tiputa Pass'). Pass by the school and continue until you reach the large metal windmill which is perfectly visible on the shore. Enter the water opposite this landmark, at a depth of 15 meters. You may anchor along the edge of the drop-off provided there is no swell. However, because most divers enjoy taking their explorations as far as the area surrounding Tiputa Pass, we recommend that you use a surface cover boat.

Weather Conditions

This dive is possible on incoming or outgoing current. The site is not directly affected by the pass. Northeast winds often cause bothersome swell as you enter the water, but this will not be a problem once you reach the seabed.

Diving

The windmill drop-off is just beyond the drop-off discussed in the previous dive site description. The two drop-offs differ very little.

Because the pass is some distance away, there are fewer fish, but strangely enough, the coral is much healthier. It provides a home for red mullets, loaches and large moray eels. In the

open waters you will see shoals of carangids, sea pikes, gray sharks, red snappers and dog-toothed tunas.

The sound of divers entering the water often attracts a small group of dolphins. If you have a few crusts of bread, unicornfish and sea basses will come running. Those fish attract others, and before you know it, you will have the entire court at your feet. This is an excellent introductory dive to the region.

SHOM Nautical Chart No. 6363

12.12 Parai Hole

Moderately Difficult - Pass - 25 Meters - Scuba - Boat - Strong Current - Surface Coverage - Big Fish - Camera

Location

An attractive overhang blocks the end of Riputa Pass. This long, narrow canyon is called "Parai Hole'.

Access and Anchoring

Go up the pass along the right bank (east) until you reach the large white buoy visible in the bend. Enter the water opposite the buoy, midchannel. You will not be able to anchor. A surface cover boat and marker buoy are mandatory.

Weather Conditions

You will be able to perform this dive only on incoming current. The site is well-sheltered from east winds. North winds cause swell which penetrates deep into the pass and is most bothersome on entering the water. Tidal bore can be felt at dive levels in the vicinity of Motu Nuhi-Nuhi.

Diving

At a depth of less than 25 meters, let the current carry you and drift above the seabed. Keep to midchannel. As you drift, you may be lucky enough to see spotted eagle rays "fly by", or a large white-tip reef shark (C. *albimarginatus)* on the prowl. In a few minutes you will reach the first gully. There is no point stopping there as there is nothing interesting to see.

About 1 0 meters farther on, you will come to a narrow, 2-3 meter deep canyon at the end of the pass. You may enter it for shelter from the current. That's what the fish do!

Thousands of fish mill about in the confusion of rocky masses. Mainly red mullets, sea bass, red snappers and loaches, but also gray sharks, white-tip reef sharks and even a few sleeper sharks which have come to nap in the holes where wave action is intense. A large grouper visits the area from time to time. The most extraordinary sight, though, is the many shoals of yellow-finned surgeonfish *(parai)* and their cousins white-tail Lancet *(parai oturi)* and Bleeker's surgeonfish *(tiamu)* which will pass boldly right under the nose of your camera lens.

The *parai* or yellow-finned surgeonfish *(Acanthurus xanthopterus)* is the largest fish in the family acanthuridae which has an erectile "scape l ". Like some other fish in the same family (convict tang, black, striped, red-spot, orange-spot and white-tail), the *parai* has a pair of sharp,

erectile spines at the base of its tail which are its defense system. These are deployed at the slightest sign of danger.

This defense system, which you should avoid touching, explains why this species is included in the family of surgeonfish. Some *parai* are 70 centimeters long, but average length is 40 centimeters. The *parai's* meat is appreciated and the species has been fished so extensively in the Society Islands that it is now rare.

There is still an abundant population of *parais* in Rangiroa. They are unafraid and will let divers come close to them, but they can spot a diver arming a speargun and will disappear in a flash and remain at a respectful distance from the human being and his speargun.

SHOM Nautical Chart No. 6363

12.13 Nuhi-Nuhi Valley

Moderately Difficult - Lagoon - 15 meters - Scuba - Boat - Strong Current - Surface Coverage - Big Fish - Coral - Camera

Location

This beautiful underwater valley is located midchannel in Tiputa Pass. It stretches into the lagoon, along the west coast of Motu NuhiNuhi.

Access and Anchoring

Bring your craft to about 200 meters from the northern tip of the *motu.* Enter the water about 30 meters to the right of the north/south axis of this small island. However you will not be able to anchor. A surface cover boat and marker buoy trailed by a diver are mandatory.

Weather Conditions

Nuhi-Nuhi Valley is in the extension of Tiputa Pass and is therefore subject to the tide currents which affect the area daily. Incoming current is mandatory for completing this dive under optimum conditions of visibility and safety. The site is excellent by north wind. If the *maraamu* is blowing, the *motu* shelters the site from southeast swell.

Diving

This expedition will take you down to an attractive coral valley at 1 5 meters. The eroded sides of the valley are dotted with crevices. You will see one quite spacious crevice on the right slope. You may enter without fear and admire the colorful marine life.

Nuhi-Nuhi is an intermediate zone between the ocean and the lagoon. You will find sedentary species, but also fish which generally live outside the reef. However, from time to time, they come to this huge enclosed ocean-Rangiroa lagoon. Visitors include manta rays which playfully romp about at the surface (generally from July to October), shoals of spotted eagle rays, gray sharks and even napoleon fish.

Meadow parrotfish travel in small groups of 5 to 1 0 and nibble on madrepores here and there. If you try to get close to them, these timid fish will begin their cumbersome style of swimming, leaving behind a small cloud of ground coral. Despite their large numbers, photographing them is not easy.

The large shoal of bigeye kingfish *(omuri)* is even more impressive. They are everywhere during the day and circle around divers, unafraid. At night, these nocturnal creatures go their separate ways in search of food.

Black-tip sharks *(maori)* and white-tip sharks *(mamaru)* criss cross divers with apparent indifference, though with a tinge of curiosity.

Nuhi-Nuhi Valley is an excellent site to explore if you do not have enough time to dive outside the atoll. Novice divers can perfect their skills while enjoying spectacular sights.

SHOM Nautical Chart No. 6363

12.14 Maherehonae Point

Moderately Difficult - Ocean - 25 Meters - Scuba - Boat - Surface Coverage - Big Fish - Coral - Camera

Location

Maherehonae Point is the extreme northwest tip of the atoll. It is 8 nautical miles from Avatoru Pass and 15 nautical miles from Tiputa Pass.

Access and Anchoring

This dive is especially recommended for divers touring the Tuamotus by boat. Due to the distance and the amount of time required to reach the point, diving clubs in Rangiroa do not usually include this site in their regular schedule of dives. Some very unusual dives are therefore made each year in this little explored area. No specific anchoring indications. The best part of the site is between Maherehonae Point and the large rocks to the south along the coast of the atoll. From your boat you will not miss them. Enter the water at 5-6 meters, from the upper portion of the outside slope. Additional surface cover is recommended.

Weather Conditions

The site is well-sheltered from east-southeast winds. During the hotter season, watch out for strong northeast swells.

Diving.

Underwater photographers and moviemakers will be thrilled by this site

Maherehonae Point is one of the most colorful sites it has been our pleasure to explore in Rangiroa.

A spectacular effect is provided by branches of *stylastercoral* which has formed extensively on the drop-off, in the rocky crevices, at the base of coral growths and even among some species of madrepores. A delicate form of pink *stylaster* has found shelter among fire coral *(millepora)- an* example of the stronger protecting the weaker. Everywhere else, the *stylaster* is bright orange. A close cousin to *distichopora,* which is found in abundance in Raiatea and Tahaa, this coral has many thin branches. The overall formation depends on the wave action prevailing at the site. *Stylaster* prefers passes and the drop-offs on the outside of reefs where wave action is constant but not too strong. The large amount found at Maherehonae Point probably has to do with the fact that the site is sheltered from wind and east swell. *Stylaster and distichopora* are the only corals in Polynesian waters which preserve their color when dead.

Formations you will discover at 6-15 meters on the upper portion of the drop-off include large masses of fallen rocks which form crevices, caves and tunnels. Although the first pass is nearly 1 5 meters away, the marine life there is abundant. Shoals of red-spot surgeonfish (meha) play in the undertow. Parrotfish and blue jacks race in and out of rifts and small *hoa* dot the upper portion of the reef. Farther down, sea turtles, gray sharks and black-tip or sleeper sharks move about in what in places is a violent passage.

A short distance from the drop-off you will see good-sized long-nosed unicornfish *(ume herepoti).* Divers may continue down to 25-30 meters and admire the coral on the outside slope which continues down to 1,200 meters.

SHOM Nautical Chart No. 6420

12.15 Taeoo Underwater

Moderately Difficult - Ocean - 25 Meters - Scuba - Boat - Surface Coverage - Coral - Camera

Location

Taeoo refers to the area at the southwestern tip of the atoll. Its special feature is the small lagoon it forms within the very large lagoon of Rangiroa. The only sound to be heard in this area is waves breaking on the reef and the cry of marine birds. Long stretches of white sand edged with coconut trees and bathed in clear, turquoise waters compose Taeoo's beauty and have earned the location the name 'blue lagoon''. Most of the island's hotels and pensions organize one-day excursions to Taeoo on request. Taeoo is a one-hour boat ride from Avatoru.

Access and Anchoring

The area of interest to divers is Taeoo's underwater slope. It stretches over more than 2 nautical miles towards the south. Unfortunately, the only way to get there is by going around the atoll by the sea. The site is 24 nautical miles from Avatoru Pass. This dive is therefore specially designed for persons traveling by boat (charter, cruise, world travelers) and approaching the atoll at its southern tip. This would be the case on a crossing from Tahiti to Rangiroa. However the Raie Manta Club organizes day trips for divers on request. The club uses a powerful and safe speed-boat. When the sea is very calm, anchoring is possible on the upper portion of the drop-off, at 8- 10 meters.

Weather Conditions

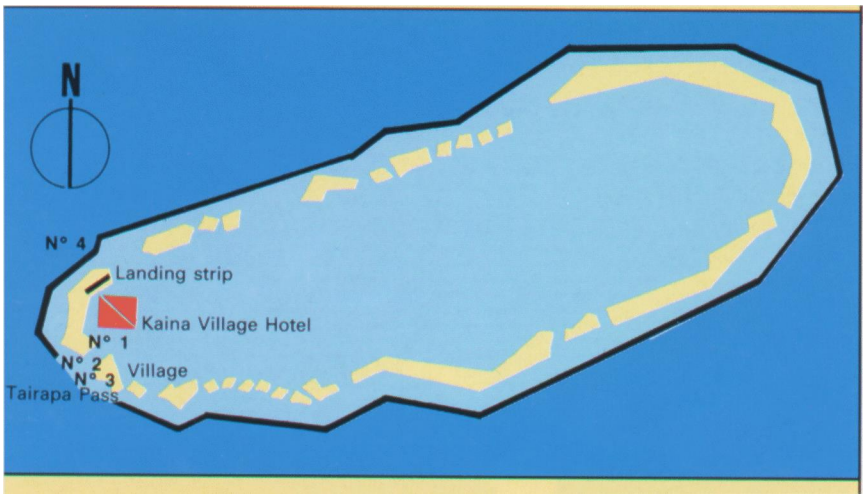
The area is well-sheltered from northeast trade winds. We have not attempted the dive when there is strong *maraamu.* There is usually not much swell. However, watch out for southwest swell which affects the area regularly during the cooler season, from May to October.

Diving

This dive takes place along the drop-off at a depth of between 3 and 35 meters. The site is really unique and photographers will certainly be enthralled by it. The waters are exceptionally clear. At 10-12 meters, the slopes of the underwater reef are cut by an impressive series of rifts, chimneys, tunnels and grottos. You will find sty/astereverywhere, stronger and more colorful than those at Maherehonae Point. Gray sharks, unicornfish, various species of jackfish and barracudas of uncommon size swim by nonchalantly among this splendid scenery. This dive should not be missed on any account.

SHOM Nautical Chart No. 6420

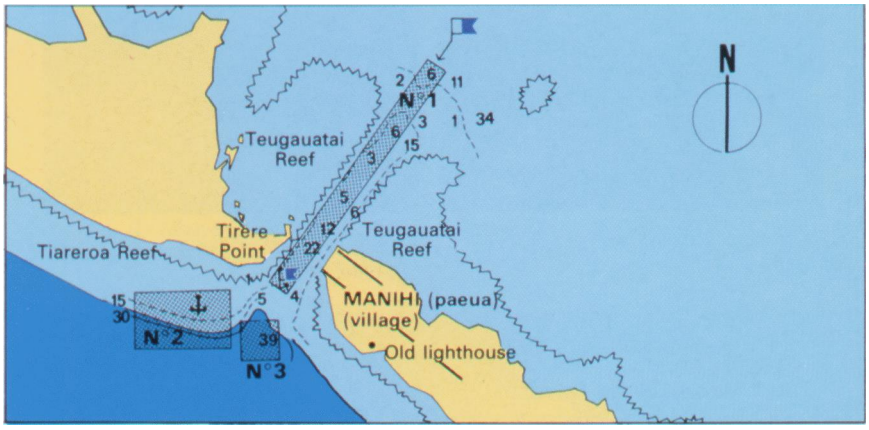
13 Manihi



13.1 Descending Tairapa Pass

Moderately Difficult - Pass - 20 Meters - Snorkel - Scuba - Boat - Current - Surface Coverage - Coral - Big Fish

Location



The descent is along the right bank of the pass, which is marked with red buoys.

Access and Anchoring

Anchoring is not possible. It is essential that a surface cover boat follows every movement of the divers. You can enter the water from two different points. Dive across from the first red buoy marking the mouth of the pass (incoming current), or from the fish farm on the upper coral shelf which blocks the mouth of the lagoon pass (outgoing current).

Weather Conditions

In good weather, the general contours of the pass are a real treat (shallow depth, small exploration site), but in stormy weather, divers are in for a rough time. When northwest swells scour the atoll (e.g., during the cooler season), the high waters in the lagoon cause extremely violent outgoing currents which gather exceptional momentum because the pass is so narrow. The concentration of water in such a narrow space causes upsurges, eddies and tidal bores with choppy, high waves which make diving in the pass impossible.

You should encounter no problem when northeasterly trade winds are blowing. But your diving plans should be abandoned if there are strong south winds or southwest swells on this side of the island in the hotter season.

Diving

Descending an atoll pass is an exciting, adventureful experience during which you will make all kinds of encounters. Diving in this Manihi pass is particularly interesting because its small size (500 meters long and barely 100 meters wide) and shallow depth enable both scuba divers and snorkelers to discover it in pleasant, safe conditions. The left bank, which is marked with red buoys, has much to offer. The seabed on the right bank is covered with bones, pipes and other waste from the nearby village and mooring dock.

If you prefer snorkeling, you will have to wait for incoming current before taking to the water, letting yourself drift with the current along the shoreline until you are almost out at sea. Perfect visibility enables you to discover shoals of yellow and white butterflyfish, feather-fin bullfish and in particular, hundreds of the short-corned unicornfish between the surface and 10 meters.

Corals, mainly large clusters of *pocillopora,* are found all along the way, down to the small drop-off which begins at a depth of 15-16 meters. However, only scuba divers can go down to this section. A series of small, low caves begins at the foot of the drop-off. If you stay on your knees, you will be able to enter them. They are the lair of the loaches and groupers. There are all sorts: marbled, speckled, spotted, from tiny creatures measuring barely a few centimeters to potbellied monsters weighing several kilos.

As you near the lagoon, the pass comes to a dead end but suddenly continues up to the surface where it is closed off by a reef, which prevents large boats from entering. When the weather is good, experienced divers can descend on outgoing current. The waters will be turbid but there will be more fishlife.

When you reach the ocean, return to the underwater shelf to complete any necessary decompression stops. It is on the right as you exit.

SHOM Nautical Chart No. 6364

13.2 Right Side of Manihi Pass

Moderately Difficult - Ocean - 30 Meters - Scuba - Boat - Big Fish - Coral - Camera

Location

Outside underwater slope in the immediate vicinity of the right side of Tairapa Pass.

Access and Anchoring

Once you are at sea, proceed slightly west, aligning your boat with the red buoys on the left bank of the pass. You may anchor in this passage, on the underwater flat just before the drop-off. Depth at this point is five meters and the distance to the shore is about 150 meters.

Weather Conditions

The area is well-sheltered and the best diving conditions occur when there are north winds. On the other hand, the area is highly exposed to southerly winds and swell. It may be impossible to get to the pass ff there is strong *maraamu.* In good weather, the direction of the current in the pass generally does not affect diving conditions, except for visibilty in the first 25 meters and in the immediate vicinity of the pass.

Diving

Though this dive is intended for divers with some experience, there is much for novices to explore at shallow depths. The sight in the shallows is just as interesting as at greater depths. There is a good amount of marine life between 20 and 30 meters and the species in the area travel continuously back and forth between the two depths. This dive does not require much moving around, except for descending along the drop-off and the few minutes of finning needed to finally reach the mouth of the pass.

This is an excellent spot for getting close to groupers and loaches and taking photographs of them. There are many at this site, even when it is not spawning season. The marbled sea bass *(hapuu)* is the most frequently encountered species. There are no *hapuus* in the Society Islands, but they abound in some atolls in the Tuamotus where they can be seen in lagoons as well as on the outside slopes, between sea level and 30 meters.

13.2.1 Grouper Gathering

Every winter in the southern hemisphere, Manihi Pass becomes the scene of a fabulous event: the grouper gathering. This is the spawning season for the whole species and every adult of reproduction age heeds the call. From the four corners of the atoll they gather by the thousands at the prescribed meeting place along the pass, then disappear into the ocean.

Where do they go and at what depth? As yet, no one knows exactly. They reappear one or two days later and return to their respective hunting grounds. The complete cycle takes no more than 5 to 6 days. It is quite possible that similar spawning activities may occur in other parts of the Tuamotus, but observation of the phenomenon is rendered much easier by the small size of Tairapa Pass. This may explain why the site is so popular with divers who want to witness this scene.

Because the lunar cycle seems to have a direct effect on when the groupers begin to gather, it is difficult to give an exact date when the grouper gathering occurs. **Generally the great assembly takes place during the first two weeks of July.**

Divers who are interested in observing the event may contact the Kaina Village Hotel Divng Club (via the reservations desk in Papeete) at this period of the year. You will get all the "last minute" information. Then all you need to do is jump on the first plane.

During the mating season, they gather by the thousands in their favorite spot (see inset). Brown, with scattered white spots, the *hapuu's* garb resembles military combat clothes. Curious, unafraid, stocky and powerful, this fish assumes a clumsy good-naturedness which can be quite deceiving. Like all fish of the family *Serranidae,* it has an insatiable appetite. In a flash, with its protruding mouth, it can swallow prey of virtually its own size.

In Manihi, *hapuus* follow divers like puppies, out of curiosity as much as gluttony. Some will even let you pet them. However, if a diver shows a piece of fish or mollusc, *hapuus* immediately lose their apparent composure and attack the bait as one man. And they won't be the only ones to charge at the bait. Watch out for large moray eels. They have become so accustomed to the meals served by members of the local diving center that they will brave the open water to claim their share. Don't let them come near and watch your fingers, otherwise you may learn from experience that eels sometimes can't tell the difference between bait and divers' fingers!

Bits of bread will attract unicornfish, triggerfish, blue striped sea bass and even a few Tuamotu Emperors, while gray sharks, white-tip lagoon sharks, carangids and barracudas swim nonchalantly a short distance away.

Near the pass at 30 meters, you will find a beautiful shoal of priacanthes. Photographed, they offer a very unusual contrast between the pure blue background and their bright red coat.

SHOM Nautical Chart No. 6364

13.3 The Mouth of Tairapa

Moderately Difficult - Ocean - 35 Meters - Scuba - Boat - Strong Current - Surface Coverage - Big Fish

Location

Outside slope of the mouth of Tairapa Pass.

Access and Anchoring

As for the previous dive, align your boat with the red buoys which are visible on the left edge of the pass. You may drop anchor in this passage, as close to the drop-off as possible, at a depth of five to six meters.

Weather Conditions

Northerly winds and swell make for excellent diving conditions. Abandon your diving plans if there is *maraamu* or strong south-tosouthwest swell. In good weather, diving is possible on outgoing current. On outgoing current, drop your anchor as indicated above. In case of incoming current, it is preferable to use a surface cover boat.

Diving

Though the exploration site is located right in the middle of the pass, where currents are generally the strongest, diving is still possible on outgoing current. All you need to do is to descend along the drop-off to a depth of 35 meters, then swim towards midchannel. You will feel the first effects of the current as you take the corner.

If you feel that the current is too strong, remain on the drop-off where there is much to see. Otherwise continue further down, stopping along the seabed to catch your breath if you need to before reaching midchannel.

The large mass of outgoing water is concentrated in the first 20-25 meters. You will clearly see a section of turbid water with many suspended particles pass by above your head. Visibility and the force of the current, even at 35 meters, can vary greatly from one day to the next. But it is a time of busy activity for many species of fish. Suspended between two waters, they anxiously await food particles brought in from the lagoon. The main species you will see lying in wait there are short-nosed unicornfish *(tahiti)* and zebra unicorn *(karava),* which can be found in big numbers in Manihi.

You will also come very close to shoals of sea pikes and barracudas, sea bass, red snappers and large Tuamotu Emperors. Gray sharks and carangids also come to inspect the strange creatures which turn out to be divers. Marbled sea bass *(hapuu)* will of course swim round you, begging for food.

Return to the drop-off, then to your boat anchoring for decompression stops. On incoming current, enter the pass and continue your dive along the banks while completing decompression stops at a depth of three meters.

SHOM Nautical Chart No. 6364

13.4 The Carrot

Moderately Difficult – Ocean - 25 meters – Scuba – Boat - Big Fish - Coral

Location

The Kaina Village Hotel Diving Club gave this place its name. It is taken from the red-and-white cone flag at the beginning of the airstrip which indicates wind direction.

Access and Anchoring

It will take you about 20 minutes on a quiet sea to reach 'The Carrot' from Tairapa Pass. Once you are in the open sea, turn right and proceed north along the atoll coast until you reach the beginning of the airstrip which is buoyed with the cone flag.

You should enter the water across from it. If the weather is good, you may anchor on the upper outside slope, at a depth of around 15 meters. However, we advise you to use a cover boat. This will enable you to explore more of the drop-off under appreciable safety conditions.

Weather Conditions

The whole area is very exposed to north winds. You should not attempt to anchor if there is swell coming from a northerly direction. Diving is good when *maraamu* blows through the pass and disturbs the waters in its vicinity.

Diving

Though the fish life is not dense, we strongly advise you not to leave Manihi without going on this dive. Indeed the site offers extraordinary scenery and nowhere else in Polynesia did we find such exceptional coral scenery.

You will see large, healthy coral formations covering the slope until they disappear in the deep. Here, the brownish-yellow and brownish-green layer of *porites and acropora* seems to have lost its regular pigmentation and instead displays a whitish or cream coloring. Even the fire coral *(millepora),* which normally is a vibrant deep yellow, seems to suffer from the same fate and displays a very pale pistachio color. The pale coloring of the entire reef-everything is in half tones-contrasts with the pure blue of the ocean. This effect is accentuated by the deep sunlight which penetrates right through the clear waters. Visibility is still good down to a depth of 50 meters.

Many marbled sea bass *(hapuu)* hide among the tentacles of madrepores. Black unicornfish *(ume kuripo), carangids* (ruhi) and tunas *(vau)* pass by in the open water. An unsual environment which you should not miss.

SHOM Nautical Chart No. 61 1 0

14 Glossary

(t)=Tahitian name

Amphidromic Point: the no-tide point at which the level of the sea remains constant

Analgesic: a pain reliever

Antihistamine: an allergy-fighting drug

Biotope: the ecological region or niche which is the environment of a species of animal

Carne: from the French, 'meat', a diet based on meat

Cnidarians: the sub-phylum of Coelenterata which includes three classes: hydrozoans, anthrozoans and schizozoans. Most corals and madrepores belong to these three classes.

Corticoid: a cortisone-based drug used to fight inflammation

Dive party: a group of divers in the water

Echinoderms: marine animals which make up a phylum of the animal kingdom. Echinoderms have a radiating symmetry, the body is divided into five equal parts extending from a central disk. This very ancient group of animals includes five classes: Echinidea (sea urchins), Stelleroidea (starfish), Ophiuroidea (sand stars), Holothrioidea (sea cucombers) and Crinoidea (feather stars).

Ecology:the study of the environment of living organisms and their interrelationships with that environment

Evasan: emergency medical transport

Fare (t): a house

Feti (t): family member(s)

Flow: The rising movement of the sea, said of rising tide

Geomorphology: the natural topographic features of a site

Hoa (t): the fault in a coral ring which allows the interaction of ocean waters and lagoon waters at high tide

Hupe (t): a breeze blowing from land at night

Ichtyology, ichtyologic: relating to fish

Incoming current: a pass current moving in a lagoon-to-ocean direction

Ischaemia: inadequate blood supply to an organ due to obstruction or constriction of the blood vessels

Knot: a unit of measure defining the speed of a boat: 1 knot is equal to 1 nautical mile per hour

Motu (t): an island in a lagoon

Maraamu (t): southeast trade wind

Marae (t): the ancient site of religious ceremonies

Miki-miki (t): the low vegetation found on atolls

Nautical mile: 1 nautical mile is equal to 1852 meters

Necrosis: the localized death of living tissue

Niau (t): braided coconut palms

Pass: a channel in the reef which allows access to the lagoon

Period (swell period): The lapse of time between the propagation of two successive waves at the same point. The longer the period, the greater the force of the wave.

Popaa (t): a foreigner

Pruritic: which causes itching of the skin

Slack waters: period of time during which the sea neither rises nor falls

Thermolabile: which may be destroyed by heat

Tidal bore: a high, breaking wave of water formed when two opposing currents meet

Tide range: the difference in the height of the sea between consecutive high and low water