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Jan PRINCE, *Senior Writer*
Homer MORGAN, *Contributing Writer*
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A flower amongst others...

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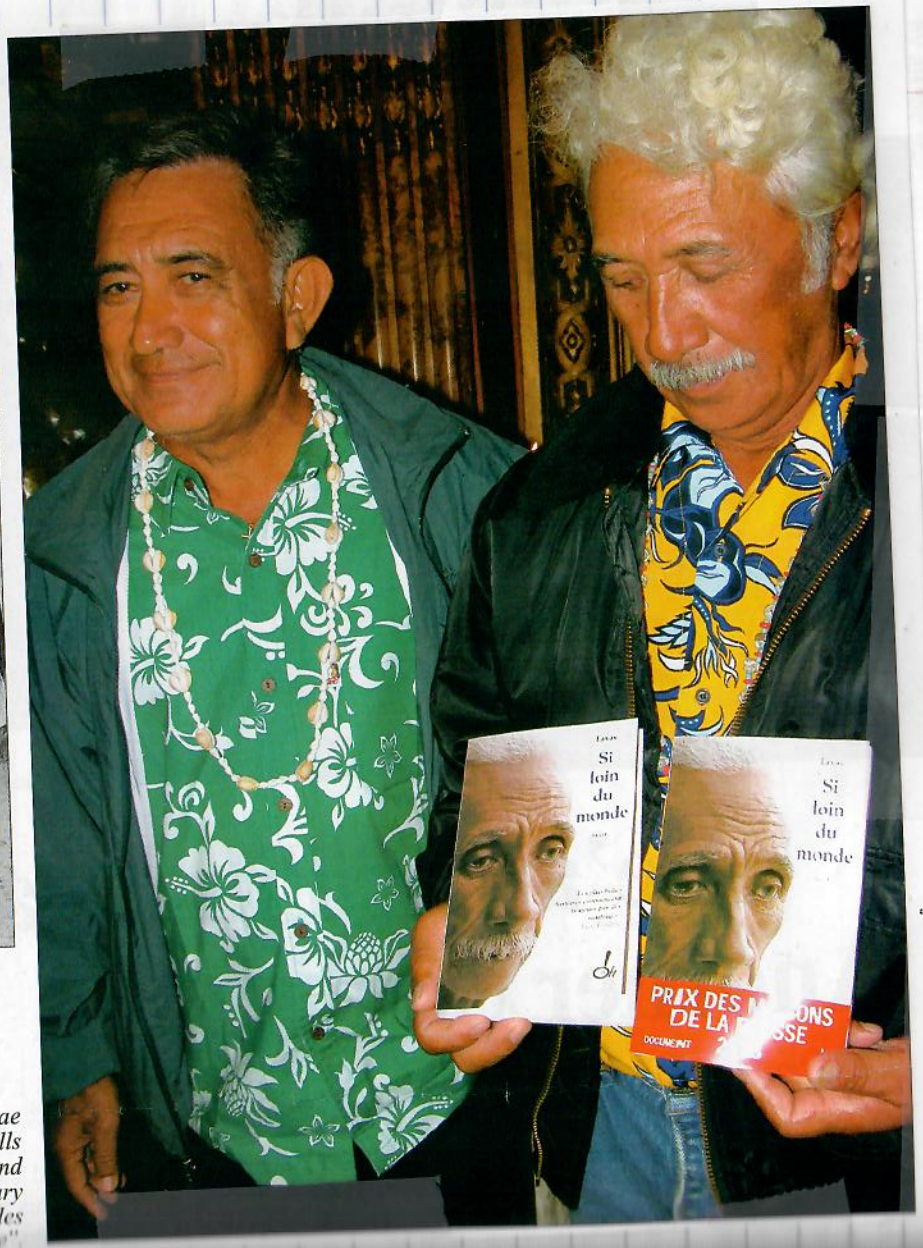
Tavae's arrrival at Faaa airport in a wheelchair.



Oscar Temaru and Tavae with the book that tells Tavae's adventure and received a French literary prize, the "Prix des Maisons de la Presse".

Death of Tavae Raioaoa

Tahiti's "Miraculous Fisherman" & "Prince of the Sea"

by Jan Prince

Tauaea "Tavae" Raioaoa was laid to rest under a weeping sky on the afternoon of September 13, after losing his long battle with thyroid cancer. He died on September 11 at the age of 64.

Tavae was buried at St. Hilaire cemetery in Tahiti's Commune of Faa'a. In addition to his numerous family and close friends who attended the funeral services of the "Prince of the Sea" was Pa Ariki, Queen of the Takitumu District in Rarotonga, Cook Islands. She had made a special trip to Tahiti to pay homage to the "Miraculous Fisherman of One Foot Island."

These titles were bestowed on Tavae in 2002 when he washed ashore on One Foot Island, which is located on Aitutaki atoll in the Cook Islands, 1,200 km (746 miles) west of Tahiti.

Tavae, who was born on the island of Huahine and lived in Tahiti, had spent 118 days drifting at sea aboard the *Teha Piti*, his 26-ft. (8 m.) long "poti marara". This locally made wooden boat is built to catch flying fish and mahi mahi.

Tavae had left his house in Faa'a on March 15 to go fishing offshore Maiao, a small island southwest of Moorea. By the end of the afternoon he had caught seven mahi mahi and was headed toward the atoll of Tetiaroa before continuing on home to Tahiti. He could see the lights of Moorea when his engine made a strange noise. Tavae stopped the motor and checked it to determine what the problem was, and he was unable to start it again.

He immediately sent a SOS message to Radio Mahina, but his radio wasn't powerful enough to make contact. He saw a big ship offshore Moorea and lit two distress signals, but the ship continued its route without stopping.

The *Teha Piti* then began drifting with the current, taking Tavae ever westward, past all the Leeward Islands,

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for a voyage across the ocean that would continue for almost four months. He saw islands and atolls, but was unable to reach them because he had no paddle.

Although two search and rescue planes and a boat were sent out from Tahiti, they failed to find the missing fisherman. Tavae didn't see any airplanes, although he could hear the pilots' conversations in French on his VHF radio.

As his boat drifted toward Aitutaki the pilots flying Air New Zealand planes could easily see him, but they thought he was a local fisherman, as they had heard no reports of anyone missing from Tahiti.

When he left Tahiti for his day of fishing Tavae had brought 12 bottles of water with him. The next day he began to systematically organize his survival, cutting up the mahi mahi fish he had caught into small pieces to let dry in the sun. He drank only a little of the precious water he had left.

By the second day of drifting, Tavae began keeping track of each day that passed by scraping a notch on a box of distress flares and he began to catch rainwater and store it in the ice chest and bucket on board his boat.

He continued to fish, consuming the mahi mahi, tuna and bonito, raw or dried in the traditional technique of conservation that is still used in the Polynesian islands. When necessary, he harpooned some of the fish that swam under the shade of his hull, and he kept

On this islet was a group of tourists who had come by boat for a picnic. When they saw Tavae wobbling around they thought he was an old man who had drunk too much alcohol. But the Polynesian captain of the excursion boat realized that this was not an inhabitant of Aitutaki.

No one could understand when he asked in Tahitian where he was. Then one of the men in charge of the tourists recognized that Tavae was speaking Tahitian and understood that he came from Faa'a by boat. The man told him that he had landed on One Foot Island, which was an islet within the lagoon of Aitutaki in the Cook Islands.

Two men went to look for the boat and quickly returned to give the starving man a plate of food and some water. He was so weak that he could take no more than two bites of food. They dried him off with a towel and gave him a tee shirt to replace his salt-incrusted wet clothes.

Besides being famished and seriously dehydrated he needed immediate medical care for his legs and feet, which were infected and swollen from his long exposure to the sun and standing in salt water. Some of his ribs had also been broken in a storm.

Tavae was taken to the hospital in Aitutaki where he was given wonderful care and tender attention. The people adopted him like a long lost relative. Some of them spoke Tahitian and all the women in the village wanted to cook special food for him.

They had been friends since childhood, playing soccer and going fishing together. Temaru had loaned Tavae money to buy his fishing boat so that he could earn money to support his family.

Temaru made arrangements to fly to Aitutaki to take Tavae home, and the royal family of Aitutaki accompanied them to the airport. Tavae was visibly exhausted when he arrived at the Tahiti Faa'a International Airport to a hero's welcome. He was in a wheelchair because he was still too weak to walk.

Before being driven to the Clinique Paofai in Papeete for medical care, Tavae expressed his desire to return to Aitutaki to live for the rest of his life.

A book about Tavae's miraculous survival while drifting 118 days at sea was published in 2003 by Oh! Editions in Paris. The ghostwritten story in "Si loin du monde" (So Far from the World) is written in French in collaboration with Lionel Duroy.

The book received a French literary prize as members of the jury were particularly impressed by the fisherman's willpower, "his knowledge of the sea and his great belief in God". A motion picture based on Tavae's story has also been planned with French film director and producer Jack Dorffman.

A new chapter to Tavae's life was symbolically written in March 2005 when officials of Tahiti and the Cook Islands gathered together in Faa'a for the blessing of Tavae's new fishing boat, which he appropriately named

an eye on the enormous sharks that were attracted by the fish. As the weeks passed and the Austral winter approached, he also saw humpback whales that were migrating from the Antarctic to seek the warm waters of the tropics where they would give birth to their calves.

To protect himself from the elements as much as possible, Tavae covered his body with old sacks and he crawled into the storage apace under the bow of his boat for shade during the day and warmth at night.

A devout Christian with a strong religious faith, Tavae talked to God throughout the day, giving thanks when he speared a mahi mahi and praying for his own survival.

At the beginning of July Tavae saw an island and for four days he drifted towards it. On July 10 his boat landed on the reef around Motu Rapota on the southern point of the island of Aitutaki. Although he was extremely weak, he grabbed his bamboo hapee (fish basket) and paddled ashore, using the lid of his ice chest as a body board.

Tavae, 33, had weighed 80 kilos (176 lbs.) when he left his home in Tahiti, but after drifting on the ocean currents for almost four months he weighed only 49 kilos (108 lbs.) when he was found. His hair had turned totally white, he couldn't walk, he had lost a lot of muscle tone, and his skin was loose on his face and body.

The gendarmes in Tahiti were informed of Tavae's situation and they notified Tavae's family that their father was alive and safely on shore in Aitutaki.

The long-awaited phone call from their father came on the evening of Caren's 14th birthday. She was Tavae's youngest child, and she couldn't have asked for a better birthday present.

Tavae had been a widower since 1995 and six of his eight children are still alive. They live in Tahiti, Huahine and the Tuamotu atolls. All of them knew for sure that their father would be found before it was too late.

Tavae was still in the hospital in Aitutaki when he received a telephone call from Oscar Temaru, the mayor of Faa'a.

"Tapuae Tai Aitutaki – One Foot Island".

Aitutaki's Mayor Tai Herman was among the Cook Island delegation attending the baptism ceremonies for the new "poti marara" boat. He told the story of how Tavae was nicknamed "Papa Ru", after a legend of a Polynesian warrior named Ru who was from the Austral Islands. According to the story, Ru left his island of Tubuai to look for new land and ended up on Aitutaki. In his own way, Tavae became a modern day legend.

Mayor Herman jokingly told Tavae, "The next time that you plan to go drifting between Tahiti and Aitutaki, let us know in advance so we can arrange for your welcome with some "vahines" on the reef to crown you."

Although he never realized his dream of living in Aitutaki, Tavae did go back to visit in 2005. He returned again in 2009 when the first stone was laid to build a museum as a tribute to "Papa Ru". His "Teha Piti" fishing boat is still there

4/1/2016

PRÉSIDENCE

Édouard Fritch a parlé environnement avec les Églises du Pacifique

Le président du Pays a reçu, hier matin, des représentants de la Conférence des Églises du Pacifique, afin de s'entretenir avec eux notamment sur les problématiques liées aux conséquences du changement climatique sur les États insulaires.

Édouard Fritch a rencontré hier les représentants de la Conférence des Églises du Pacifique.

Dans son discours, Édouard Fritch a souligné que "*Églises et gouvernements doivent assurer ensemble des responsabilités distinctes mais complémentaires*". "*Si le rôle des dirigeants est de protéger les populations des catastrophes naturelles, de renforcer les rivages et préserver les activités économiques, des éléments tels que la foi, la religion et la culture sont tout aussi essentiels pour les populations*", a-t-il dit. "*Si la séparation des pouvoirs, élément essentiel de la laïcité républicaine, est évidemment nécessaire, les préoccupations des gouvernements et des Églises convergent. Au-delà des espaces, ce sont des hommes, des femmes, des enfants, des cadres de vie, des cultures, des langues qui sont menacés*." Édouard Fritch a appelé les Églises du Pacifique à relayer ce message.

Le président a enfin exprimé son soutien et celui de son gouvernement à toutes les actions et réflexions menées par les Églises du Pacifique autour de ce sujet, notamment lors du prochain synode de l'Église protestante, qui se tiendra en août, au cours duquel ce même thème sera abordé.

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ECOLOGICAL ASPECTS OF GREEN TURTLES NESTING AT SCILLY ATOLL IN FRENCH POLYNESIA

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George H. Balazs[1]
Philippe Siu[2]
Jean-Pierre Landret[2]
[1]Southwest Fisheries Science Center Honolulu Laboratory National Marine Fisheries Service, NOAA
2570 Dole Street, Honolulu, Hawaii 96822-2396
[2]Etablissement pour la Valorisation des Activites Aquacoles et Maritimes (EVAAM)
P.O. Box 20, Papeete, Tahiti, French Polynesia USA

INTRODUCTION: The three small neighboring atolls of Scilly (16°30'S, 154°40'W), Motu-one (15°49'S, 154°31'W), and Mopelia (16°49'S, 153°57'W) are located in a remote and seldom-traveled region of the South Pacific at the western limits of French Polynesia. Maupiti and Bora Bora, two high volcanic islands with permanent human habitation, are situated 250-300 km to the east. Tahiti and the capital city of Papeete lie another 300 km to the southeast of Bora Bora. Although green turtles, *Chelonia mydas*, used to nest in great numbers at Scilly, Motu-one, and Mopelia, considerable declines have occurred during recent decades due mainly to commercial exploitation for markets in Tahiti. At present, only Scilly continues to have significant numbers of nesting turtles. Few researchers have visited these three isolated nesting sites to tag turtles and gather relevant ecological information. However, turtles intermittently tagged there in the past by local authorities have shown some amazing long-distance migrations across a broad expanse of the Pacific: from longitudes 155°W to 165°E (Doumenge 1973, Anon. 1979). These movements, ranging up to 4000 km, represent some of the longest migrations ever documented for green turtles worldwide. Except for Scilly, there are no other known nesting sites of any magnitude for sea turtles throughout the 130 islands and atolls comprising French Polynesia.

During October 1991, we visited Scilly and Motu-one via Bora Bora aboard the 20-m research vessel Aorai to conduct biological studies that included tagging nesting turtles. Several hundred eggs and hatchlings also were collected for ongoing captive-rearing experiments in Tahiti. The expedition was undertaken by EVAAM, an agency of the Government of French Polynesia. Additional financial assistance was provided by the Regional Marine Turtle Conservation Programme of the South Pacific Regional Environmental Programme. An overview of the results of the expedition are presented herein, along with some historical aspects of green turtles in the area and preliminary conservation recommendations aimed at preventing the further depletion of this important resource.

HISTORICAL OVERVIEW: As elsewhere in Oceania, green turtles have been and continue to be a prized food to the native people of French Polynesia (Leach et al. 1984). In ancient times, turtles were held "sacred for the gods" and only eaten by kings, priests, and marae (temple) keepers (Henry 1928). Icons of turtles were associated with royalty, the supernatural, and the afterworld. Petroglyphs of turtles as sacred symbols were carved on certain boulders and limestone slabs incorporated into the marae. In the interior of Bora Bora a boulder known as ofai honu (turtle stone), contains numerous turtle petroglyphs. This stone was believed to be the parent of the island and its chiefs.

There is no evidence that permanent human settlements ever existed on Scilly, Motu-one, or Mopelia until recent times, although historically the rugged seafaring people of Maupiti visited these sites to obtain turtles and other resources. Beginning in the late 1800's, longer and more frequent visits occurred to make copra. Mopelia, the closest of the three atolls to Maupiti, appears to have had the most continuous human occupation for copra production. During the 1950's, as many as 200 copra workers occupied Motu-one where a concrete warehouse and other facilities were constructed. However, during the 1960's with the advent of nuclear testing and associated higher paying jobs elsewhere in French Polynesia, Motu-one was virtually abandoned along with

many of the other atolls worked for copra. During our short two-day visit in October 1991, only eight people were living at Motu-one. The relatively small numbers of nesting turtles remaining today at Motu-one and Mopelia are undoubtedly the direct result of persistent exploitation associated with human habitation.

At Scilly, the earliest settlement established to make copra appears to have been about 1952. The elder of the Taputu family (deceased in 1985) arrived in 1952, and his descendants continue to live there. Rene Taputu, who was born at Scilly in 1955, currently oversees 25 residents that include many children. Rene Taputu is also the principal person knowledgeable about the atoll's turtles, since they continue to be a prominent component of the local diet. Up to 50 adult turtles of both sexes are consumed annually under special permission previously granted by government authorities.

The main nesting season extends from October to December, but some turtles sporadically nest throughout the year. Very few immature turtles are encountered, and the green turtle is the only species ever seen. The Taputu family has a history of raising small numbers of hatchlings in captivity for a year or so prior to releasing them as a restocking effort.

According to Rene Taputu, and verified by other sources, between 1952 and 1969 about 1000 adult turtles of both sexes were taken annually for markets in Tahiti, as well as for local consumption that included food for pigs. Eggs are not presently eaten, but it is unclear if they were in the past. During 1967, 100 nesting turtles were captured in a single night on the most southerly islet of Motu Honu. A stone flung by a turtle nesting at this site fatally struck one of the atoll's inhabitants. Pens constructed on the islets of Motu Rahi and Motu Oia along the east side of the atoll made it possible to hold several hundred turtles alive for months until a transport vessel arrived from Tahiti, Maupiti, or Bora Bora.

During September 1970, FAO consultant Harold Hirth visited French Polynesia as part of a broader survey of sea turtles in the South Pacific region (Hirth 1971). The visit included an overflight of Scilly and Mopelia. Partly because of Hirth's conservation recommendations, legislation was enacted in 1971 prohibiting the sale of turtles throughout French Polynesia. Restrictions were also placed on the time of year and minimum size that turtles could be captured. However, enforcement of these laws has been difficult. In separate legislation that same year, Scilly and Motu-one were given "sanctuary" status that provided some additional but limited protection for turtles.

In April 1972, 67 adult females held in pens at Scilly were confiscated, tagged (with Monel alloy tags supplied by Hirth), and released by government officials. Later that year in December, 168 more females and 13 males were tagged and released from the same holding pens. During 1973- 74, an additional 131 adult females were tagged at Scilly. Of these 379 turtles tagged during 1972-74, 12 long-distance recoveries were made, encompassing the islands of Tonga (1 turtle; 2000 km), Fiji (5 turtles; 3000 km), Wallis (1 turtle; 3000 km), New Caledonia (2 turtles; 4000 km), and Vanuatu (3 turtles; 4000 km). All recoveries were made to the west of Scilly, and none occurred within French Polynesia. Two of the recoveries involved males that were recaptured in Kandavu and Druadrua, Fiji. Also, a female, and one of the males, tagged in December 1972 were recaptured nearly 2 years later within 12 days of one another both in Kandavu, Fiji. All of the 12 recoveries were made in coastal waters and presumably involved turtles remigrating to seagrass or algal foraging pastures where they resided before migrating to Scilly to breed. During 1979, 42 females were tagged at Scilly by government officials, and 40 more were tagged in 1983-84 by Lebeau (1985). One turtle from this latter group was recaptured 3 months later in the Cook Islands, 500 km to the southwest of Scilly.

In 1990, several hatchlings were collected at Mopelia by EVAAM and transported to the University of Georgia, via Honolulu, for use in mitochondrial DNA studies of globally distributed green turtle populations. The extensive black pigment seen for a short time in the plastron of post-hatchling green turtles from Hawaii (Balazs 1986) was documented as also occurring in turtles from Mopelia.

FINDINGS AT SCILLY ATOLL: Nesting activity was monitored at Scilly for 10 consecutive nights (14-23 October 1991) on the islets of Motu Honu and the southern portion of Motu Oia. This fairly

comprehensive level of coverage was made possible by the fine cooperation of Rene Taputu and several family members who assisted in walking the beaches throughout the night. The northern segment of Motu Oia, Motu Rahi, and other islets to the north were not surveyed. Eleven nesting turtles were tagged on Motu Honu and 39 were tagged on Motu Oia. Two other adult females were tagged and released from a pen where, along with eight other turtles, they were being held for food. All turtles were triple or quadruple tagged on the flippers (both front and hind) with titanium tags and/or Inconel alloy tags. No previously tagged turtles were encountered, nor were any recently seen by Rene Taputu. Based on limited data, Lebeau (1985) estimated that 300-400 turtles nested annually at Scilly during the 1982 and 1983 seasons. With some speculation, our survey suggests that a similar number of nesting turtles may have been present throughout the atoll during the 1991 season.
The curved carapace lengths of 51 of the 52 tagged turtles that we measured ranged from 95 to 112 cm (mean, 103 cm). Six shells used by Rene Taputu as ornaments at his home on Motu Oia ranged from 94 to 109 cm (mean, 99 cm). Carapace coloration was predominately mottled brown, amber, olive, and black-- similar to green turtles seen nesting at Rose Atoll in American Samoa and Fakaofo Atoll in Tokelau. Plastrons were yellowish-orange; however, three of the turtles examined had distinct black spots ranging 1-5 cm in diameter. One of these turtles had multiple spots scattered throughout the plastron, while the other two only had a couple. Rene Taputu indicated that about 10% of the turtles he eats have these spots which he calls, roughly translated, "chicken fecal-drop turtles." Although externally these turtles appear healthy and fat, when butchered they have a thin fat layer, and excessive water comes from the meat when cooked.

Turtles tagged at Motu Honu were found to nest mainly on the lagoon side of the islet where the beach consists entirely of fine-grained coral sand with no offshore obstructions. This beach is accessible at all tidal stages. In contrast, all nesting turtles encountered at Motu Oia, except one, came ashore on the ocean side of the islet, which is bordered by a very shallow fringing reef that drops abruptly into deep oceanic waters. Access along this coastline is further hampered by rugged, often sharp limestone onshore that a turtle must crawl over once it leaves the water. Expanses of this beach rock extend for 10-50 m above the high-tide mark and must be crossed to reach sand areas suitable for nesting. The lagoon-side beach of Motu Oia is narrow and free of obstruction, but composed of coarse coral sand and rubble. Nevertheless, nesting can successfully occur there, as shown by the turtle encountered and information supplied by Rene Taputu.

During one of our nightly surveys, hatchlings were found from a newly emerged nest close to Rene Taputu's home on Motu Oia. The hatchlings were reportedly from oviductal eggs removed from a butchered turtle that were buried as a conservation effort about 2 months earlier. No predation on these hatchlings was observed, nor was the presence of potential terrestrial or marine predators noted in abundance anywhere in or around the atoll. A partially filled stomach from a nesting female butchered a week earlier was salvaged from a garbage pit near Rene Taputu's home. The contents were found to consist of 50% *Microdictyon japonicum*, 25% *Caulerpa serrulata*, and 25% *Turbinaria ornata*. These benthic algae were not seen in abundance in the lagoon or along the fringing reef. However, *Caulerpa racemosa*, an alga sometimes grazed by green turtles elsewhere, commonly occurs in the lagoon at Scilly and is often eaten by human inhabitants.

Mating turtles were seen both in the lagoon and just outside the seaward edge of the fringing reef where courtship and copulation, according to Rene Taputu, most commonly occur. Turtles mating in this latter area are openly susceptible to capture by high-speed 12-m bonito fishing boats visiting waters surrounding the three atolls. A month prior to our arrival, seven turtles and a bonito boat were taken into custody at Maupiti for violating the August through March closed season for taking turtles. Considerable incentive exists for poaching, since an adult turtle can be illegally sold in Tahiti for about US$1000. Turtles inside the lagoons at Scilly, Motu-one, and Mopelia are safe from hunting by bonito boats, because it is impossible for vessels of that size to enter the narrow and extremely hazardous passes. In addition, turtles in the lagoons at Scilly and Motu-one are legally protected under the 1971 sanctuary designation.

A nesting turtle that we tagged on Motu Oia on 18 October 1991 was recaptured 5 months later in a fishing net near Suva, Fiji. A photograph taken shortly after capture showed an otherwise healthy turtle with numerous, partially healed, deep gouges in the plastron. Injuries to this extent were not seen when the turtle was originally

tagged, nor on any of the other turtles examined. Possibly they were caused by the effects of cyclone Wasa that passed by the three atolls on 9-10 December 1991 with winds of 180 km/h.

CONSERVATION RECOMMENDATIONS

- The number of turtles taken for food by the residents should be limited to two per month, and preferably should be male turtles.
- The number of people allowed to live at the atoll should be stabilized at the current level or less.
- Rene Taputu should be designated as the official warden of the atoll under the sanctuary status. He should also be supplied with a portable shortwave radio to allow communications with Tahiti.
- The sanctuary status of Scilly and Motu-one should be redefined to include the surrounding waters within one kilometer of both atolls.
- Turtle poachers should be apprehended, prosecuted, and heavily fined.
- Additional tags, applicators, and data books should be supplied to Rene Taputu so he will continue to be motivated, and have the ability, to tag turtles following the training provided during our visit.
- Satellite telemetry should be conducted with several nesting turtles to determine migratory routes, speed of travel, and ultimate foraging pasture destinations. This work should be in conjunction with additional saturation tagging throughout as much of the nesting season as possible.
- The number of nests (eggs or hatchlings) removed annually for experimental captive rearing and restocking efforts in Tahiti should not exceed 3% of the estimated total available.

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Chelonitoxism: New case reports in French Polynesia and review of the literature

Agnès Fussy[a], Philip Pommier[b], Catherine Lumbroso[c], Luc de Haro[b,*]

[a]Département d'anesthésie réanimation, Hôpital Mamao, BP1640, 98713 Papeete, Tahiti, Polynésie Française
[b]Centre Antipoison, Unité de Toxicovigilance, Hôpital Salvator, 249 boulevard Sainte Marguerite, 13009 Marseille, France
[c]Service de néphrologie, Hôpital Mamao, BP1640, 98713 Papeete, Tahiti, Polynésie Française

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Abstract

Eating the flesh of some marine turtles can cause a type of seafood poisoning called chelonitoxism. The purpose of this article is to report a new case of mass poisoning caused by consumption of sea turtle flesh in French Polynesia. The episode involved 19 members of the same family. Three persons required hospitalization after consuming two consecutive meals including turtle flesh. One 26-year-old woman who was pregnant at 14 weeks of amenorrhea lapsed into a coma and died due to multiorgan failure on the third day after the meal. This case confirms the potential severity of chelonitoxism as reported in several series in the literature showing high mortality rates. The causative toxins are currently unidentified. Further study is needed to better understand chelonitoxism.

Keywords: Chelonitoxism; Marine turtles; Eretmochelys imbricata; French Polynesia; Seafood poisoning

1. Introduction

Chelonitoxism is an uncommon type of food poisoning caused by eating the flesh of marine turtles (Brodin, 1992). In the literature two species have been clearly implicated in sea turtle poisoning, i.e. the Hawksbill Turtle (*Eretmochelys imbricata*) and the Green Sea Turtle (*Chelonia mydas*). However, other species may be toxic including the Leatherback Turtle (*Dermochelys coriacea*) and the Loggerhead Turtle (*Caretta caretta*). Sea turtle poisoning is a severe intoxication with a high mortality rate. It is mainly observed in the Indo-Pacific region but has also been reported in the intertropical zone where the offending species live. The purpose of this report is to describe a new case of mass turtle poisoning episode observed in French Polynesia.

2. Case report

In October 2002, 19 members of a Polynesian family ate turtle flesh during a traditional meal in Rangiroa in the Tuamotu Islands (located 350 km northeast of Tahiti in French Polynesia). The turtle that had been caught the preceding day was identified by several villagers as a young specimen of a species considered as edible by the local

*Corresponding author. Tel.: +33 491 75 25 25; fax: +33 491 74 41 68.
E-mail address: luc.deharo@ap-hm.fr (L. de Haro).

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population, i.e. the Green Sea Turtle (*C. mydas*). In accordance with local customs, the turtle flesh was thoroughly cooked. Within 3 h after the meal, all people that ate the turtle flesh presented digestive symptoms with nausea and vomiting. The next day despite signs, three persons decided to eat the leftover turtle flesh because it was considered as a great delicacy. After consuming even larger quantities than the day before, all three developed severe symptoms and required medical evacuation to the Papeete Hospital in Tahiti.

One patient was a 40-year-old man with a history of gout. He presented vomiting, abdominal pain and polyarthralgia that was attributed to gout. He was admitted to the Rheumatology department and treated with analgesics. His condition improved quickly with disappearance of all clinical signs in less than 12 h.

The second patient was a 64-year-old man with a highly significant medical history including arterial hypertension, hypertrophic heart disease, previous stroke, and non-insulin-dependent diabetes. He was admitted to the critical care unit of the Renal department after exhibiting moderate functional renal failure associated with neurological signs (flaccid tetraparesis and coma) and abnormal laboratory findings (moderate liver cytoloysis, hypoglycemia and pancreatic disturbances). Renal insufficiency and neurological signs resolved spontaneously within a few hours. Following resolution CT-scan was performed revealing the presence of lacunar lesions suggesting previous ischemic infarcts but no evidence of recent lesions was found. Upon awakening the patient reported upper digestive tract pain. Oeso-gastro-duodenal fibroscopy was undertaken on D1 demonstrating involvement of the whole zone with grade III oesophagitis, erosive antral gastritis and ulcerative bulbo-duodenitis that was treated using proton pump inhibitors. Gastrointestinal signs disappeared within 2 days and the patient returned home to the Tuamotu Islands.

The third patient was a 26-year-old woman who was pregnant at 14 weeks amenorrhea but had no medical history. After consuming the turtle flesh for the second time, she quickly developed severe gastrointestinal signs requiring hospitalization in Papeete. Upon admission abdominal ultrasound was carried out to rule out the possibility of extrauterine pregnancy. Upon clinical examination the patient already presented progressing neurological manifestations, i.e. alternating periods of drowsiness interrupted by periods of agitation. The patient soon lapsed into a coma with bilateral constricted pupils reacting to lights and reduced tendon reflexes with no evidence of meningeal involvement. Mild increase in respiratory frequency was also observed. Other clinical findings were normal, i.e. normal cardiopulmonary sounds, soft abdomen, stable hemodynamic status without vasoactive drugs and normal diuresis. Laboratory testing demonstrated extensive abnormalities including severe metabolic acidosis, rhadomyolysis, hyponatremia, low prothrombin rate (68%), hyperammonemia, hypoglycemia that was unaffected by intravenous glucose/electrolyte solution and elevated reactive protein C level. Findings of lumbar puncture, electrocardiography, toxic and renal assessment and thoracic radiography were normal. After the patient went into a coma on D1, her respiratory status deteriorated rapidly requiring intubation for ventilatory assistance and multiorgan failure appeared with liver cytolysis and agranulocytosis. A second ultrasound examination on D2 revealed a dead fetus in the process of expulsion. The patient's renal function deteriorated suddenly on D3 (creatinine clearance, 10 ml/min) and cardiovascular failure occurred requiring infusion of macromolecule solution and treatment with vasoactive drugs. Despite intensive care the patient died of shock associated with uncontrollable lactic acidosis, hypocalcemia and hypoglycemia.

The death of this young patient triggered an investigation by the French police who seized the shell of the sea turtle as evidence. The shell was given to expert zoologists for identification. Findings determined that the villagers had been mistaken and that the specimen was a Hawksbill Turtle (*E. imbricata*).

3. Discussion

Chelonitoxism is rare in comparison with other types of seafood poisonings such as ciguatera or scombrotoxism that have been more extensively described (Brodin, 1992; Isbister and Kiernan, 2005). The low frequency of chelonitoxism is probably related to the fact that sea turtles are an endangered species protected by international regulations and subject to a number of religious restrictions (taboo species for many ethnic groups) (Champetier de Ribes et al., 1998). Nevertheless episodes of turtle poisoning have been reported among low-income coastal populations for whom a captured sea turtle can represent a non-negligible

source of sustenance. Under these circumstances it is not unusual to observe mass poisonings since the flesh of the captured reptile is often shared by a whole family or even village (festive occasion).

Chelonitoxism has long been recognized with case reported by Europeans dating back to the 17th century (Table 1) (Chevallier and Duchesne, 1851). However, detailed clinical descriptions have been rare and most information is anecdotal, i.e., testimonials (sometimes contradictory) based on the stories told by local fishermen (Brodin, 1992). Another reason for the paucity of reliable data on sea turtle poisoning is that victims often live in remote geographical locations with no access to health care facilities (Pillai et al., 1962; Ranaivoson et al., 1994; Champetier de Ribes et al., 1997; Robinson et al., 1999). It should also be noted that consumption of sea turtles is illegal and the fear of sanctions may keep some victims from seeking medical attention.

The clinical signs of chelonitoxism are clearly distinguishable from other types of seafood poisonings (Brodin, 1992; Isbister and Kiernan, 2005) and are relatively stereotyped (see table of gradation in

Table 1
Chelonitoxism in the literature

Year	Localisation	Turtle species	Patients	Death	References
1697	West Indies	*Eretmochelys imbricata*	2	0	Chevallier and Duchesne (1851)
1840	Panadura (Sri Lanka)	*Chelonia mydas*	28	18	Tennent (1861)
1888	Karuppankudiyirupu (Sri Lanka)	*E. imbricata*	12	12	Deraniyagala (1939)
1912	Queesland (Australia)	*E. imbricata*	1	0	Banfield (1913)
1917	Cebu (Philippines)	*C. mydas* or *Dermochelys coriacea*	33	14	Taylor (1921)
1921	Mandaitivu (Sri Lanka)	*E. imbricata*	24	7	Loveridge (1945)
1927	Vaddukodai (Sri Lanka)	*E. imbricata*	?	4	Deraniyagala (1939)
1935	Batavia, Java (Indonesia)	*C. mydas* or *Caretta caretta*	4	1	Siegenbeek van Heukelom (1936)
1935	Wooi (Papua New Guinea)	*E. imbricata*	52	9	Bierdrager (1936)
1949	Ararae (Kiribati)	*E. imbricata*	?	5	Cooper (1964)
1950	Befandefa (Madagascar)	*D. coriacea*	6	0	Robinson et al. (1999)
1950	Yaeyama, Ryukyu (Japan)	*E. imbricata*	80	6	Hashimoto et al. (1969)
1954	Kaipuri (Papua New Guinea)	*E. imbricata*	6	2	Romeyn and Haneveld (1956), Campbell (1960)
1954	Mindanao (Philippines)	*E. imbricata*	14	11	Ronquillo and Caces Borja (1968)
1961	Quilon, Kerala (India)	*E. imbricata*	130	18	Pillai et al. (1962)
1964	Ambatomilo (Madagascar)	*E. imbricata*	25	0	Robinson et al. (1999)
1965	Namatanai (Papua New Guinea)	*E. imbricata*	17	5	Dewdney (1967)
1967	Raiatea (French Polynesia)	*E. imbricata*	12	1	Bagnis and Bourligueux (1972)
1974	Panapai (Papua New Guinea)	*E. imbricata*	6	3	Likeman (1975)
1978	Andrevo (Madagascar)	*E. imbricata*	?	4	Robinson et al. (1999)
1982	Ambohimailaka (Madagascar)	*E. imbricata*	?	5	Robinson et al. (1999)
1982	Rangiroa (French Polynesia)	*E. imbricata*	6	0	Brodin (1992)
1985	Talpe (Sri Lanka)	*E. imbricata*	15	2	Ariyananda and Fernando (1987) Chandrasiri et al. (1988)
1985	Anakao Bas (Madagascar)	*C. mydas*	15	0	Robinson et al. (1999)
1987	Bora Bora (French Polynesia)	*E. imbricata*	1	1	Brodin (1992)
1989	Tahaa (French Polynesia)	*E. imbricata*	1	0	Brodin (1992)
1990	Huahine (French Polynesia)	*E. imbricata*	9	0	Brodin (1992)
1993	Tulear (Madagascar)	*E. imbricata*	200	15	Champetier de Ribes et al. (1997)

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Table 1 (*continued*)

Year	Localisation	Turtle species	Patients	Death	References
1993–1998	Toliara and Antalaha (Madagascar)	*E.* and *Chelonia mydas*	422	29	Champetier de Ribes et al. (1998)
1994	Antalaha (Madagascar)	*E. imbricata*	32	5	Ranaivoson et al. (1994)
1995	Ankiembe (Madagascar)	*C. mydas*	40	0	Robinson et al. (1999)
1995	Antalaha (Madagascar)	*C. mydas*	95	9	Champetier de Ribes (1997)
1995	Tsimenatse (Madagascar)	*C. mydas*	21	0	Robinson et al. (1999)
1996 and 1997	Four provinces in Madagascar (20 collective poisonings)	*E. imbricata* and *C.helonia mydas*	571	81	Champetier de Ribes et al. (1999)

Table 2
Gradation of chelonitoxism

Grade	Onset delay	Clinical signs	Biological disturbances	Evolution
Grade 1	Few hours to 4 days after the meal	Gastrointestinal signs ± dizziness, sweating, throat and mouth pain	No	If no aggravation, recovery over a week
Grade 2	1–2 days after the onset period	Glossitis, dysphagia, ulcerative oeso-gastro-duodenal lesions, drowsiness, mild renal failure	Hyponatremia, hypocalcemia, hypoglycemia, hyperuricemia	If no aggravation, recovery over 3 weeks
Grade 3	1–3 days after the onset period	Coma, multiorgan failure (tubular nephropathy, liver cytolysis, respiratory distress)	Neutropenia, thrombopenia, pancytopenia, uncontrolled acidosis, hypocalcemia and hypoglycemia	High percentage of death (65–100% of the grade 3 in recent series in Madagascar—see references in Table 1). Survivors with frequent neurological sequels

Table 2). Onset occurs from few hours to 4 days after consumption. The *onset period* is characterized by the appearance of gastrointestinal signs (nausea, vomiting, epigastric pain and, occasionally, diarrhea). Other symptoms possibly present at onset include dizziness, malaise, sweating, sore throat and chest pain. Most patients do not develop any further effects and recover over a week (Bagnis and Bourligueux, 1972). The real percentage of patients who will have more severe grade is not precisely known as in almost all published case series the grade 1 patients are not included in the statistical analysis. The *typical moderate poisoning* is characterized by pathognomonic oral and pharyngeal involvement with a burning mouth and throat sensation and dysphagia with hypersialorrhea followed by glossitis (25–75% of patients depending on series). Ulcerative oeso-gastro-duodenal lesions have also been reported. At this stage neurological manifestations, best indicators of severity, may appear with alternating periods of drowsiness and full consciousness (or psychomotor agitation). Most patients with moderate forms (grade 2) recover fully within about 3 weeks. However some patients may lapse into coma as an initial phase of a more *severe grade* characterized by multiorgan involvement (tubular nephropathy, liver cytolysis, hypotonic coma, respiratory distress). The most frequent abnormal laboratory test findings are metabolic acidosis, hyperuricemia, hyponatremia, hypocalcemia, hypoglycemia, neutropenia and thrombopenia (Brodin, 1992). Mortality is high among patients with severe forms especially in children. Upon emerging from coma, survivors often present complex central and/or peripheral neurological sequels (e.g., hemiplegia, tetraplegia, dementia, sensorymotor deficit, cerebellar syndrome). There is no antidote for sea turtle poisoning and treatment is strictly supportive and symptomatic with intensive care if necessary.

The sea turtle species most commonly cited in the literature and apparently responsible of the highest mortality is *E. imbricata* (Table 1). Most authors stress that all organs of this chelonian are potentially toxic regardless of preparation (thermoresistant toxin ?) (Pillai et al., 1962; Ariyananda and Fernando, 1987; Champetier de Ribes et al., 1999). It has also been noted that toxic effects are dose dependent since symptoms are most severe in victims that eat the most flesh. Another feature of chelonitoxism described in the literature is passage of toxins into breast milk with several reported cases of poisoning in breast-fed children that did not consume the turtle flesh itself (Dewdney, 1967; Ariyananda and Fernando, 1987; Ranaivoson et al., 1994). Transplacental contamination may have occurred in our case since the fetus died at the beginning of the severe phase (night between D1 and D2) when the metabolic status of the mother was still under control.

The causative toxins for sea turtle poisoning have not been identified. However several investigators have suggested that contamination of turtle flesh is due to the accumulation of toxic compounds from the food chain with no effect on the health of the sea turtle itself. Investigators in Japan identified lyngbyatoxins (toxins in *Lyngbya* sp. seaweed) in the flesh of the herbivorous species *C. mydas*, the second taxon implicated in chelonitoxism (Yasumoto, 1998; Ito et al., 2002). However, it seems unlikely that phycotoxins are involved in poisoning by *E. imbricata* since they are strictly carnivorous species mainly eating sponges. There are no external signs that the turtle is poisonous and almost all sayings and customs are unreliable. Prophylaxis depends on enforcement of regulations to protect endangered species and controlling the sale of sea turtle flesh.

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JULY 2019

L'image du jour

Ai'a sur le *marae* Arahurahu

7-15-2019

La deuxième représentation d'*Ai'a,* le spectacle de la troupe Ori i Tahiti, sur le *marae* Arahurahu, samedi dernier, à Paea, a une nouvelle fois été ovationnée par le public, qui avait pris d'assaut les deux tribunes de l'espace pour admirer les 80 artistes de la troupe lauréate du Heiva 2018.

Cet hommage à la Terre-Mère sera donné une troisième fois, samedi 20 juillet, à 15 h 45. À n'en pas douter, un moment fort des fêtes du Heiva 2019.

July 2019

PAEA - Samedi sur le stade Manu Ura

Plus d'un millie au Hivavae

Les associations culturelles et sportives de la commune de Paea ont défilé samedi, de la salle omnisports Tenania Bessert, à Tiapa, au stade Manu Ura situé derrière la mairie pour célébrer la fête de l'autonomie. Une célébration organisée pour la deuxième année consécutive. Le maire Jacquie Graffe l'a précisé dans son discours : c'est compliqué d'acheminer plus d'un millier de personnes à Papeete pour le defilé programmé par le gouvernement, d'où ce Hivavevae à domicile. *"On est capable d'organiser de grandes manifestations à Paea sans pour autant faire polémique avec le gouvernement"*, a t-il précisé.

Après une heure de marche, les associations sont arrivées vers 9 heures au stade

7-1-2019

Photo : Charles Taataroa

L'offrande au maire de Paea qui repartira avec deux Toheviri et un cochon.

(165)

JULY 2019

r de personnes vae i Paea

Manu Ura arborant chacune leurs banderoles respectives.

Dans la joie et la convivialité

La majorité des associations sportives avaient répondu à l'invitation : football, va'a, Aikido, boxe anglaise, taekwondo, Jiu Jitsu ou rugby.

Après un tour de terrain en musique, un orchestre a interprété l'hymne de Paea. Les associations de quartiers étaient également présentes.

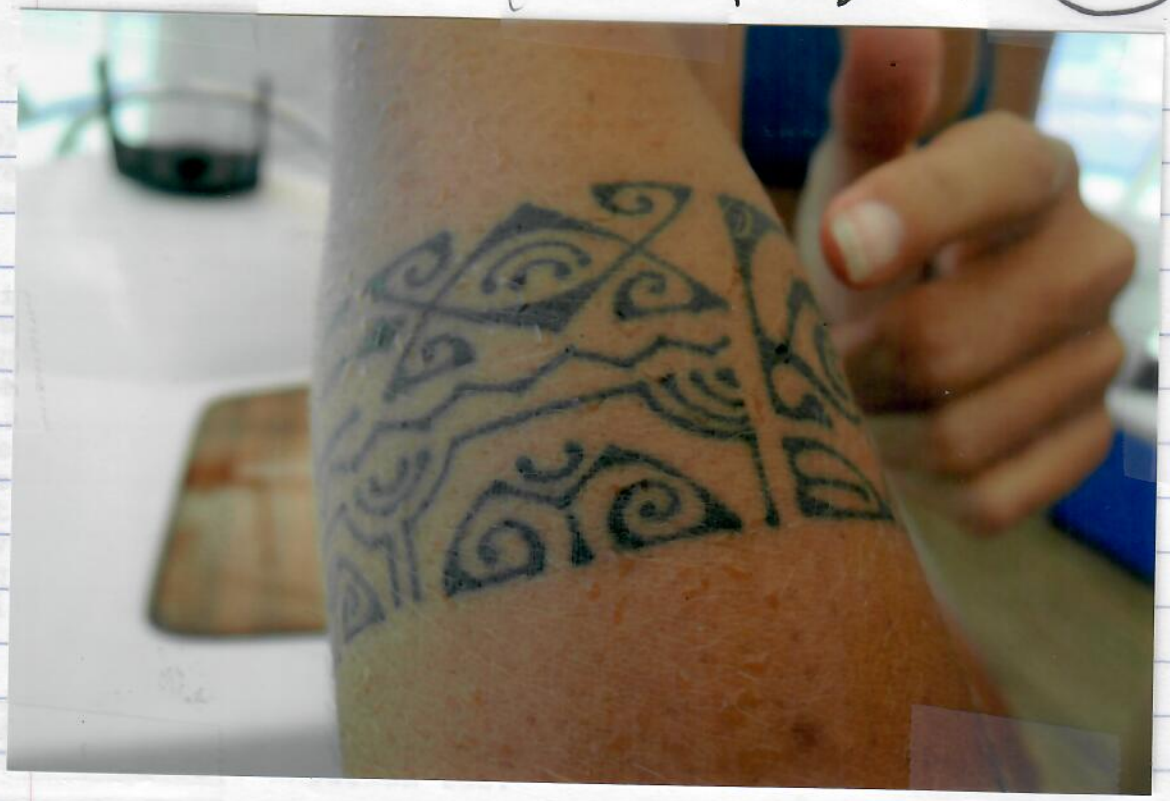
La fête s'est poursuivie jusqu'à midi avec des animations gratuites, des chants et danses, un spectacle avec les Pukan's Prada, mettant en scène des artistes de Paea. ■

C.T.

Photo : Charles Taatarae

De la danse traditionnelle avec le groupe Huriama de Claude Renvoyé.

TETIAROA 4/2016 TUMI BRANDO (167)



August 18, 1989

Dear George:

I apologize for taking so long to send you these photos. I have been incredibly busy with all of this absurd TEDs litigation. The Secretary has stated publicly that he has no legal option but to require TEDs and then turned around two days later and said that he is suspending the regulations. In the interim, we have imposed a 105 minute tow time restriction (see enclosed) on shrimp trawls. Meanwhile the Kemp's continues to decline. Its government at its worst. They should be ashamed of themselves.

I hope you can use these photos. Some are obviously better than others. We visited three sites. The first site was either Vai-ati (number 2a. on Emory's map) or near there. I don't believe it is Vai-ati though because the drawings of the petroglyphs (Fig. 131, p. 175 in Emory) do not match what we saw, especially what appears to be a canoe on the boulders we saw. I refer to this as Vai-ati II. Coincidentally, the guy that took us to this site grew up in a house on the grounds of the Marae Vaiotaha (Site 221, Fig. 116, p. 162 Emory)! It was his granfather's place (now his mother's) that Emory spoke of. Photos of that site included too.

Ellacott thought Vai-ati II was a new site too. There was another site nearby but it was on private property and we didn't have permission to see it. That is the site, I believe, desribed on p. 175 of Emory. Ellacott told us that no white man had been to the site we went to in at least 50 years, if ever! The first few photos give you an idea of the jungle terrain. The boulders site on the edge of a pool in a ravine at the edge of a plot of farmed land. Nearby, there appear to be remains of a marae as well.

The second site is Marae Vaiotaha, referred to above, on Ellacott's Place. All that remains there is some rubble (including an old stone anchor) and two upright stones delineating the court.

The third, and final site that I have photos of, is at Faanui. It was the best preserved of all the sites we saw. The petroglyphs were better at Vai-ati II, however. This site was right beside the road and easily accesible. There was another site on the "back" side of the island right beside the road but I didn't take photos of that one (it wasn't in great shape). There are apparently sites all over Borabora but they are difficult to find unless you know where to look, and even then its no piece of

1989

cake! Our Ellacott friend introduced us to a guy who had been up near the base of Otemanu the day before and literally stumbled onto an arch-like structure made of two huge white uprights with a slab across the top. He thought there was a tomb nearby and was frightened away.

This is great stuff! I'm into it! I really appreciate your turning me on to this. Now I'm hooked! Let me know when you're plannning any expeditions - I would love to go with you. Keep me posted on all of your adventures. I'll live it vicariously. I would also be interested in any books on the subject or related subjects that you could refer me to.

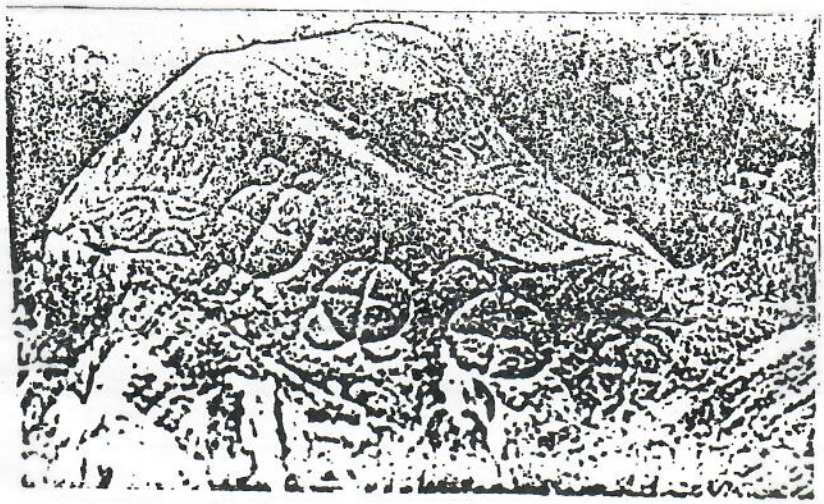
Thank you very much for all of the information you sent me. I certainly enjoy talking to you. I look forward to meeting you some day. I'm sure because of my abiding interest in turtles that will someday happen. Thanks again.

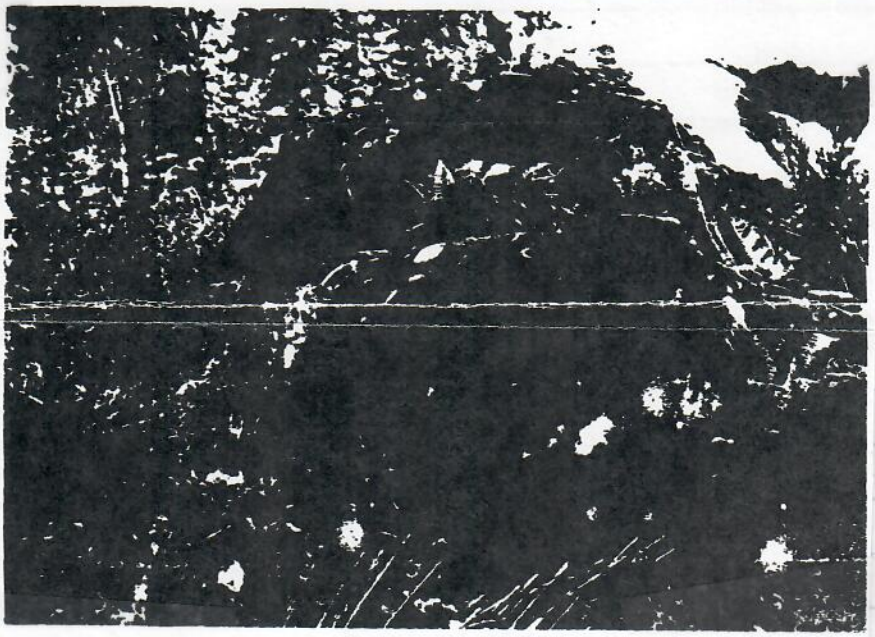
Kind regards,

Hal

Hal Creel

3104 19th Street, NW
Washington, DC
zip 20001





JULY 2019

Cette borne en face du Yacht-club de Tahiti a été remplacée tout récemment, au profit de la forme arrondie et non plus rectangulaire.

7-10-2019

Photo : Jean-Pierre Marquant

Les points kilométriques sont majoritairement très dégradés.

4/2016

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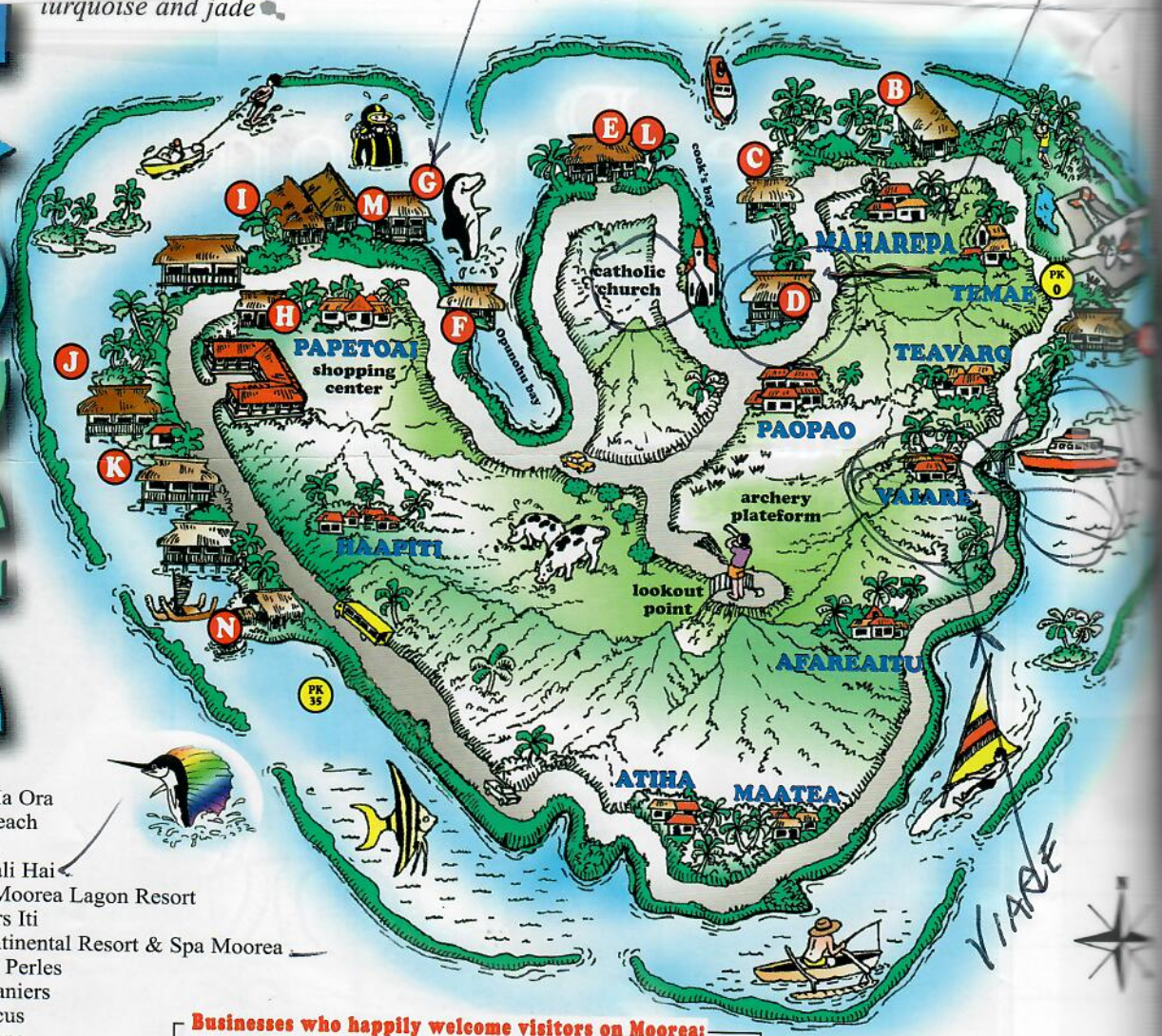
VAIURÚA VALLEY

DISCOVE

turquoise and jade



- **A** Sofitel Ia Ora
- **B** Pearl Beach
- **C** Kaveka
- **D** Club Bali Hai
- **E** Hilton Moorea Lagon Resort
- **F** Tipaniers Iti
- **G** Intercontinental Resort & Spa Moorea
- **H** Herman Perles
- **I** Les Tipaniers
- **J** L'Hibiscus
- **K** Vai Moana
- **L** Restaurant Aito
- **M** Te Fare Mataioa Hotel
- **N** Tiki Village

Businesses who happily welcome visitors on Moorea:

- Restaurant Les Tipaniers
- Restaurant Aito
- Restaurant Le Papayer
- Herman Perles, pearl producer
- Pure Passion, jewelry

MOOREA

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4/2016
TETIAROA

TUMI'

DISCOVER

- A Airport
- B Intercontinental Resort Tahiti
- C Sofitel Tahiti Resort
- D Museum of Tahiti & Her Islands
- E Meridien hotel
- F Lookout point
- G King Pomare V grave
- H Hilton hotel Tahiti
- I Olivier Bréaud Golf course
- J Gauguin Museum
- K Radisson Hotel
- L Musée James Norman Hall

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- (B) Beach Burger

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ARRETE n° 757 PECHE du 2 mars 1973 *autorisant la pêche des tortues marines dans les îles de Scilly, Bellinghausen, Mopelia, Maupiti, Puka Puka, Mataiva et Raivavae.*

Le Gouverneur de la Polynésie française, chef du territoire,

Vu le décret du 28 décembre 1885 concernant le gouvernement des Etablissements français de l'Océanie et les actes modificatifs subséquents ;

Vu le décret n° 57-812 du 22 juillet 1957 portant institution d'un conseil de gouvernement et extension des attributions de l'assemblée territoriale dans la Polynésie française ;

Vu l'ordonnance n° 58-1337 du 23 décembre 1958 relative au conseil de gouvernement et à l'assemblée territoriale de la Polynésie française ;

Vu l'arrêté n° 196 AA du 25 janvier 1972 rendant exécutoire la délibération n° 71-209 du 23 décembre 1971 de l'assemblée territoriale de la Polynésie française ;

Le conseil de gouvernement en ayant délibéré dans sa séance du 20 février 1973,

Arrête :

Article 1er.— La pêche des tortues marines adultes (Chelonia mydas) destinées à la consommation est autorisée chaque année à Scilly, Bellinghausen, Mopelia, Maupiti, Mataiva, Puka Puka et Raivavae, à compter du 19 février 1973 conformément à la délibération n° 71-209 du 23 décembre 1971, suivant les quotas fixés comme suit :

Scilly	:	50 tortues
Bellinghausen	:	25 tortues
Mopelia	:	25 tortues
Maupiti	:	20 tortues
Mataiva	:	25 tortues
Puka Puka	:	25 tortues
Raivavae	:	5 tortues

Art. 2.— Les chefs de subdivisions des îles-sous-le-Vent, Tuamotu-Gambier et des Australes, le chef du service judiciaire, le chef du service de la pêche sont chargés chacun en ce qui le concerne de l'exécution du présent arrêté qui sera enregistré, communiqué et publié partout où besoin sera.

Papeete, le 2 mars 1973.

Pierre ANGELI.

Institut	Thématique	Site web et coordonnées
Ministère de l'environnement	Environnement	www.environnement.gov.pf andre.tahimanarii@environnement.min.gov (689) 47 83 30
Direction de l'environnement	Environnement	www.environnement.pf directionenv@environnement.gov.pf (689) 47 66 66
Ministère du tourisme	Tourisme	www.tourisme.gov.pf raihei.hunter@tourisme.min.gov.pf (689) 80 30 00
Service du tourisme	Tourisme	www.servicedutourisme.gov.pf sdt@tourisme.gov.pf (689) 47 62 00
Service de la pêche	Pêche et aires marines protégées	www.peche.pf spe@peche.gov.pf 50 25 50
Ministère des ressources de la mer	Pêche et aires marines protégées	www.mer.gov.pf secretariat@mer.min.gov.pf 54 95 75
GIE Tahiti Tourisme	Tourisme	www.tahiti-tourisme.pf info@tahiti-tourisme.pf (689) 50.57.00
GIE Plongée de Tahiti et ses îles	Plongée sous-marine	www.diving-tahiti.com
Société Environnement Polynésie	Gestion des déchets	www.sep.pf sep@mail.pf (689) 54 34 50
ADEME Polynésie	Maitrise de l'énergie et développement durable	www.ademe.fr ademe.polynesie@mail.pf 689 468 455
Association Te mana o te moana	Protection du milieu marin	www.temanaotemoana.org temanaotemoana@mail.pf (689) 71 53 44
Association 2D Attitude	Développement durable	www.2dattitude.org contact@2dattitude.org (689) 76 78 78
Association Ecogestes	Développement durable en mer	www.ecogestes.com
Association Longitude 181 Nature	Plongée sous-marine responsable	www.longitude181.fr contact@longitude181.com (33) 04 75 55 43 77
Association Echo-mer	Développement durable en mer	www.echo-mer.com (33) 05 46 41 04 81
CRIOBE	Biologie marine	www.criobe.pf criobe@mail.pf (689) 56 13 45

Quotas greeted coolly - Les Nouvelles de Tahiti Pag

Penalties:

- Any breach will result in immediate cessation of fishing allowed under quotas set.
- Except for authorized fishing quotas, regulations remain unchanged. The fight against poaching continues. "

LAST PAGE

TUPAI

1997?

October 27 2010

Quotas greeted coolly

Tahitian - Company

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2010

TURTLES. The official announcement of the imminent opening of fishing quotas in the turtle was made yesterday at the symposium on Moorea. The reception was at least skeptical.

THE BASICS

- **The management of the environment, municipalities may permit next year quotas for fishing for turtles**
- **Symposium participants called for more resources in return for control poaching and fund research**
- **Another concern for the time being unanswered: what criteria serontils quotas set?**

The turtle fishing will be partially reopened. This is only a matter of weeks, according Miri Tatarata in charge of marine biodiversity for the management of the environment: "We started interviewing anglers and people Tuamotu islands and Sous le Vent . President Pays sought the council of ministers gave a favorable opinion. The new regulations should be ready for 2011. "It should change the code of the environment to make it possible for municipalities to grant fishing quotas (see box). Yesterday afternoon, at the international symposium on sea turtles at the InterContinental Hotel in Moorea, this measure has been officially announced pending an impressive gathering of environmentalists and fishermen. We can not say that the government's proposal has aroused the enthusiasm.

After the presentation, a key figure on the subject speaks: Rene Taputu, a resident of the Isle of Scilly, where thousands of turtles breed every year. In Tahitian language, he lets his anger explode, the translation into French by giving a participant in a nutshell: "You still deploy laws, but this is just blah-blah. Me turtle protection is not on the tip of my lips, she is in my life. Give me a camera and I provide Customs with all the

him, Leo Morou activist association of Taha'a, accused of having Miri Tatarata "no plan to fight against fish traps, which are responsible for 70% of catches of turtles" and had "never been able to convince the politicians."

"At Moorea, there is more green turtles. There are only hawksbill turtles, which are inedible. What mettrezvous quota? "Asked another auditor. "How will you do in Tahiti and Moorea, where people will want them also consume turtle meat, when we know that the meat comes from other islands?" Said Matthew Small, a biologist at the association Te Mana o te Moana. "We have not yet started work for the Windward Islands. But anyway, it's not me who will decide the quota, it will be you, "they replied Miri Tatarata.

But she has not finished. Gaugne Sophie, president of the association Te Honu Tea, which tries to protect Tikehau Testudines: Turtles in Tikehau, there is virtually over. Proof, in 2009 - 2010 one turtle came to lay everything on the atoll. How does one place a quota when there was only one female? "Matthew Petit summarizes the concern of scientists:" I am satisfied that the government do something, but at the same time reserved on quotas. I am still waiting for real numbers. And countervailing measures as a means of monitoring and funding research projects. The quotas themselves will not solve the problem. "

Finally, there is perhaps Arakino Michel, a resident of eastern Tuamotu, who departed yesterday with a smile. He had spent the morning defending the consumption of turtle meat, "I always eaten turtle but I am considered a thief of this food I always ate. Today, scientists-you have your view. We. We must stop argue and denounce. Find a solution that everyone can join. It's nice to have a clinic and a research center. But let us live our lives, our custom. Because it must not become our custom in history. "

Benedict Buquet

Zoom

A new charge for municipalities

Miri Tatarata presented yesterday the outline of the project management environment to open quotas for fishing for turtles. Here's his presentation in full:

"Proposed solutions:

- Establish quotas for each island, in partnership between the municipalities, people, associations and Wales, for consumption by the public free of charge and community.
- The municipalities will be responsible for opening and closing of fishing, the choice of fishermen and surveillance operations.
- The fishing period and consumption will be limited in time.

Contresparties expected of Commons:

- Compliance with quotas.
- Slaughter before butchering: sanitary conditions.
- Sharing Community turtles caught under quota. No piece of turtle meat should not leave the island when it was caught.
- Sale prohibited.
- Quota control by municipalities.
- Public participation in conservation programs, marking, identification and monitoring of nesting sites.

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POLYNÉSIE FRANÇAISE

VICE-PRÉSIDENCE,
EN CHARGE DU DÉVELOPPEMENT
DES COLLECTIVITÉS ET DU TRANSFERT
DES COMPÉTENCES, DE LA COORDINATION
DES ACTIONS RELATIVES
À LA RECONVERSION DES SITES MILITAIRES,
DE LA COMMUNICATION,
ET DES RELATIONS AVEC LES INSTITUTIONS
DE LA POLYNÉSIE FRANÇAISE,
PORTE-PAROLE DU GOUVERNEMENT

Papeete, le vendredi 5 novembre 2010

La communication

Chasse à la tortue

Aucun projet de libéralisation

Suite à certaines déclarations de la part de la direction de l'environnement lors du 1er Symposium sur les tortues marines en Polynésie Française qui a eu lieu à Moorea les 26 et 27 octobre, le Président de la Polynésie Française et l'ensemble de son gouvernement souhaitent couper court à toute polémique locale, et désormais internationale, en affirmant qu'aucun projet visant la libéralisation de la chasse et la consommation de la tortue en Polynésie Française n'a été étudié, ni validé par le gouvernement.

Conscient du rôle fondamental de cette espèce pour l'équilibre de notre écosystème, mais également pour la bonne santé de notre industrie touristique, le conseil des ministres s'inscrit au contraire dans une forte volonté de protéger cette espèce en voie de disparition, telle qu'en témoigne la réglementation actuelle en la matière.

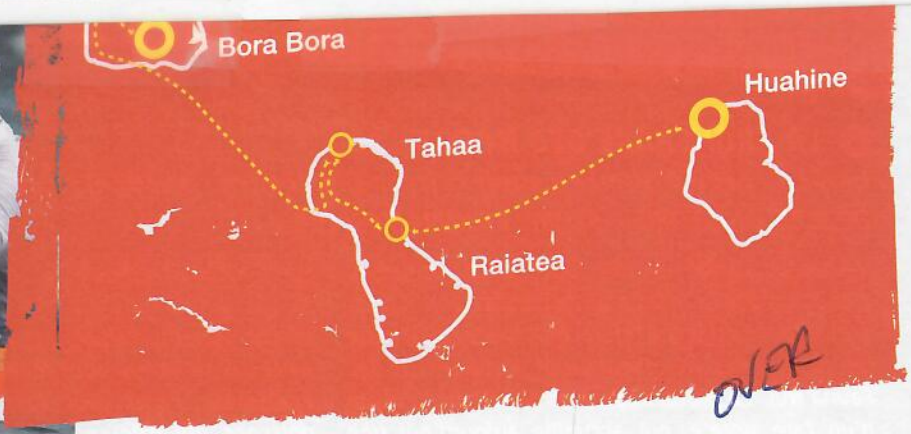
Cependant, le gouvernement reconnaît également que la politique protectionniste menée jusqu'à aujourd'hui n'a pas su porter ses fruits. Il souhaite ainsi engager le dialogue avec les spécialistes scientifiques, les usagers de la mer et les défenseurs de la tortue marine, pour identifier ensemble le meilleur moyen de protéger la tortue et de favoriser l'accroissement de sa population dans nos eaux.

En attendant une éventuelle évolution de la législation en la matière, la réglementation actuelle reste en vigueur, exposant tout contrevenant aux sanctions prévues par la loi.

B.P. 2551, 98713 Papeete – TAHITI, Polynésie française – 24 avenue Dupetit-Thouars, face parking Tarahoi
Tél. : (689) 47 25 00 - Fax. : (689) 41 02 70 - Email : jerome.jannot@vp.gov.pf

HAWAIKI NUI VA'A

PAR MONTS ET PAR VAGUES



OVER

LA HAWAIKI NUI VA'A EN BREF... / DU 10 AU 12 NOVEMBRE 2010

LE CIRCUIT : HUAHINE, RAIATEA, TAHAA ET BORA BORA

LES PARTICIPANTS : PRÈS DE 150 ÉQUIPES INSCRITES, COMPOSÉES D'UN OU PLUSIEURS ÉQUIPAGES DE SIX RAMEURS.

LES COURSES : COURSE DE 130 KM EN TROIS ÉTAPES POUR LES SENIORS (HUAHINE-RAIATEA, RAIATEA-TAHAA ET TAHAA-BORA BORA) ; COURSE DE 26 KM À RAIATEA POUR LES *TAURE'A* (ÉQUIPES JUNIORS) ET LES *VA'AHINE* (ÉQUIPES FÉMININES).

Tahiti TOURISME

DEPUIS SA PREMIÈRE ÉDITION EN 1992, LA HAWAIKI NUI VA'A A SU DEVENIR L'UN DES ÉVÈNEMENTS SPORTIFS LES PLUS ATTENDUS DU CALENDRIER POLYNÉSIEN. CETTE ANNÉE, PRÈS DE 150 CLUBS PARTICIPERONT À LA CÉLÈBRE COURSE DE PIROGUES QUI SE DÉROULERA DU 10 AU 12 NOVEMBRE 2010 DANS LES EAUX DES ÎLES SOUS-LE-VENT. UNE COURSE D'ENVERGURE QUI CONFIRME UNE FOIS ENCORE SA NOTORIÉTÉ INTERNATIONALE, PUISQU'ELLE ACCUEILLERA PLUSIEURS ÉQUIPES DE RAMEURS ÉTRANGERS ET SERA RELAYÉE PAR UNE QUINZAINE DE MÉDIAS INTERNATIONAUX. COMME À SON HABITUDE, LA HAWAIKI NUI VA'A PROMET ÉGALEMENT D'ATTIRER PLUSIEURS MILLIERS DE VISITEURS, VENANT D'ICI ET D'AILLEURS POUR ASSISTER À L'ÉVÈNEMENT. CHACUN D'ENTRE EUX POURRA À LOISIR COMPOSER SON CIRCUIT D'AVENTURES À TRAVERS L'ARCHIPEL DES ÎLES SOUS-LE-VENT, ENTRE JOURNÉES SPORTIVES, SOIRÉES FESTIVES, ET DÉCOUVERTE DES ESCALES DE LA COURSE. CE MOIS-CI, LE TOURISME MAGAZINE VOUS INVITE À SUIVRE LE SILLAGE DE LA HAWAIKI NUI VA'A, DEPUIS LE CREUX DES VAGUES JUSQU' AUX CRÊTES DES MONTAGNES...

OVER

ÉTAPE À... RAIATEA

CARNET DE COURSE

› COURSES VA'AHINE ET TAURE'A
MERCREDI 10 NOVEMBRE – 13H00 – UTUROA
› DÉPART DE LA DEUXIÈME ÉTAPE :
JEUDI 11 NOVEMBRE – 9H00 – UTUROA

OVER

1 'UTUROA

La première étape de la course conduit les participants jusqu'au port de 'Uturoa, la ville principale de Raiatea. Son front de mer, qui a déjà des allures de croisette le reste de l'année, se métamorphose pendant la Hawaiki Nui Va'a en un immense village nautique, où se retrouvent les rameurs seniors, les jeunes prêts à en découdre sur le circuit *Taure'a* et les femmes qui s'affronteront sur le circuit *Va'ahine*. Ces deux épreuves de 24 km, qui se déroulent juste après l'arrivée des seniors à 'Uturoa, animent le lagon de Raiatea toute l'après-midi. Sur terre, les rues et les quais palpitent au rythme des allées et venues du public. Pour ceux qui le souhaitent, une petite promenade jusqu'au mont Tapioi permet d'admirer toute la scène de la course, à plus de 290 mètres d'altitude. Les bons marcheurs peuvent également diriger leurs pas vers le plateau mythique Te-mehani-rahi, où une randonnée hors du commun les y attend...

ARRIVÉE À

CARNET DE COURSE

› ARRIVÉE DE LA COURSE : VENDREDI 12 NOVEMBRE – VERS 12H30 – PLACE DE MATIRA.
› BAL DE CLÔTURE ET REMISE DES TROPHÉES : VENDREDI 12 NOVEMBRE – 19H00 PLACE DE VAITAPE.

©Federation Hawaiki Nui Va'a

NIVEAU : DIFFICILE. DURÉE : ENTRE 3 ET 6 HEURES SELON LE CIRCUIT. CENTRE D'INTÉRÊTS : FLORE ET GÉOLOGIE. PANORAMA : OUI.

Les plateaux Te-mehani-'ute'ute et Te-mehani-rahi, célèbres pour leur végétation et leur biodiversité exceptionnelle, s'étendent sur près de 300 hectares au nord de Raiatea. Si le premier plateau, classé en aire protégée, n'est accessible qu'aux personnes munies d'une autorisation, le second offre un très beau sentier de randonnée aux adeptes de la marche à pied. Le départ s'effectue à partir d'une route de terre située au pk 2,3 au sud de 'Uturoa. Cette piste grimpe à travers une grande forêt de pinus, avant de déboucher sur un chemin de crête émaillé de falcatas. Là, une sente s'engage sur le plateau proprement dit, dans un décor de rochers plats, de pandanus, de fougères et d'orchidées sauvages. Tout autour, le regard peut facilement embrasser le panorama grandiose : des reliefs froissés de Raiatea aux formes échancrées de Tahaa, la contemplation fait rapidement oublier les efforts déployés pour arriver sur les lieux. Les bons marcheurs peuvent continuer leur promenade en empruntant l'étroit sentier qui mène au "Bain de la Reine" et au gouffre béant du Te-po, entrée du monde des origines, avant de redescendre vers leur point de départ.

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course sur un moment magique et festif à souhait. Une fête qui se poursuit le soir venu sur la place de Vaitape, où se déroule chaque année le grand bal de clôture de la Hawaiki Nui Va'a !

ARRIVÉE À...
BORA BORA

CARNET DE COURSE

› ARRIVÉE DE LA COURSE : VENDREDI 12 NOVEMBRE – VERS 12H30 – PLAGE DE MATIRA.
› BAL DE CLÔTURE ET REMISE DES TROPHÉES : VENDREDI 12 NOVEMBRE – 19H00 PLACE DE VAITAPE.

©Federation Hawaiki Nui Va'a

1 PLAGE DE MATIRA

Pour rejoindre les eaux cristallines du lagon de Bora Bora, les va'a et leurs équipages doivent faire machine arrière et redescendre depuis Patio jusqu'à la passe Pa'ipa'i, au sud ouest de Tahaa. Commence alors la dernière traversée inter-île de la Hawaiki Nui Va'a, longue ligne pas toujours droite qui remonte jusqu'à la passe Teavanui, à Bora Bora. Après un ultime sprint des équipes de tête sur le lagon turquoise, le périple s'achève, en apothéose, le long de la plage de Matira. Les spectateurs, qui n'hésitent pas à se jeter à l'eau pour s'approcher de la ligne d'arrivée, forment une immense haie d'honneur encadrant les rameurs. En toile de fond, le sable de la plage (blanc comme neige quand il n'est pas noir de monde) ajoute une touche paradisiaque à ce tableau vivant. Aux dires de tous ceux qui l'ont vécue un jour, la fin de la course est un moment magique et festif à souhait. Une fête qui se poursuit le soir venu sur la place de Vaitape, où se déroule chaque année le grand bal de clôture de la Hawaiki Nui Va'a !

DÉDALES DE CORAIL

NIVEAU : VARIABLE. DURÉE : DEMI-JOURNÉE. CENTRE D'INTÉRÊTS : FAUNE ET FLORE SOUS-MARINE. PANORAMA : AQUATIQUE.

Sortie culturelle à Huahine, escapade naturelle à Raiatea, pause gourmande à Tahaa... Notre périple touristique s'achève, à l'instar de la Hawaiki Nui Va'a, dans les eaux de cristal de Bora Bora. Comme l'île possède un nombre astronomique de sites de plongée et de "snorkelling", les amateurs de sensations aquatiques peuvent choisir le lieu de leur sortie en fonction de leur niveau. Les plongeurs débutants s'orientent généralement vers l'Aquarium (2), au sud-ouest du lagon, pour y faire leur baptême ou observer en apnée l'abondante faune qui peuple les lieux. Les habitués de la plongée préfèrent généralement s'orienter vers les tombants, à l'extérieur du récif. Le spot de Tapu (3), peuplé de coraux multicolores et de requins citrons, est par exemple l'un des endroits les plus prisés des plongeurs confirmés. Côté lagon, c'est le site de 'Anau (4) qui ne faut pas manquer de découvrir : les majestueuses raies Manta y ont élu domicile et offrent aux passionnés du monde marin un spectacle qu'ils ne pourront jamais oublier...

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"TURTLE FESTIVAL" Agenda NOV 2010

> ÉVÈNEMENTS

HAWAIKI NUI 19ème édition
Du 10 au 12 nov. / Îles sous le vent.
Grande course de pirogue à balancier qui s'achève sur la plage de la pointe Matira après avoir relié les îles de Huahine, Raiatea et Tahaa. Infos : 45 05 44

"MAHANA PAE"
Les 12 et 26 novembre à Papeete.
Rendez-vous festif dans la ville de Papeete à Tahiti, sur le thème "'Mataari'i i ni'a" ou le « Temps de l'abondance »
- le 12 au Fare Manihini et place Vaiete : Spectacle de danse du groupe Ahotoru Nui à 19h. Infos : 50 57 12
- le 26, place Vaiete : Spectacle de danse du groupe Tahiti Ora à 19h. Infos : 71 94 60 - 41 58 94

FESTIVITÉS DES PLEIADES "MATARI'I I NI'A"
Les 19 nov. / Pointe Tata'a / Fa'a'a et 20 nov. / Muriavai - Papeno'o.
Fête du retour de l'abondance placée sous le signe de la constellation des Pléïades.
Fête des produits de la terre, de la mer et des activités des hommes et des femmes. Infos : 70 57 02 (Fa'a'a) - 78 89 13 (Papeno'o)

TAHITI NUI SEVEN'S 4ème édition
Les 26 et 27 nov. / Bora Bora.
Tournoi de rugby à 7 inscrivant la Polynésie française comme une étape internationale et incontournable pour l'essor de cette discipline en Océanie, avec notamment, la participation de l'équipe de France ainsi que de nombreuses nations du Pacifique. Infos : 76 12 66

> SPECTACLES

CINEMATAMUA : « BERNARD VILLARET, LA POLYNÉSIE » (1959).
Le 17 nov. / Maison de la culture. Papeete. Infos : 54 45 44

SPECTACLE MUSICAL : « MARAMA LA FLAMME »
De Maire Tavaearii, le 13 nov. Maison de la culture / Papeete. À 19h30. Infos : 54 45 44

HURA TAPAIRU 6ème ÉDITION
Le 30 nov. / Maison de la culture Papeete.
Finale du concours de danses traditionnelles. Infos : 54 45 44

> EXPOSITIONS & SALONS

HOMMAGE À HENRI HIRO « HAERE MAI RA »
Du 1er au 30 nov. / Musée de Tahiti et des îles / Punaauia.
Exposition dédiée à la vie de l'artiste, son œuvre culturelle et artistique. Infos : 54 84 35

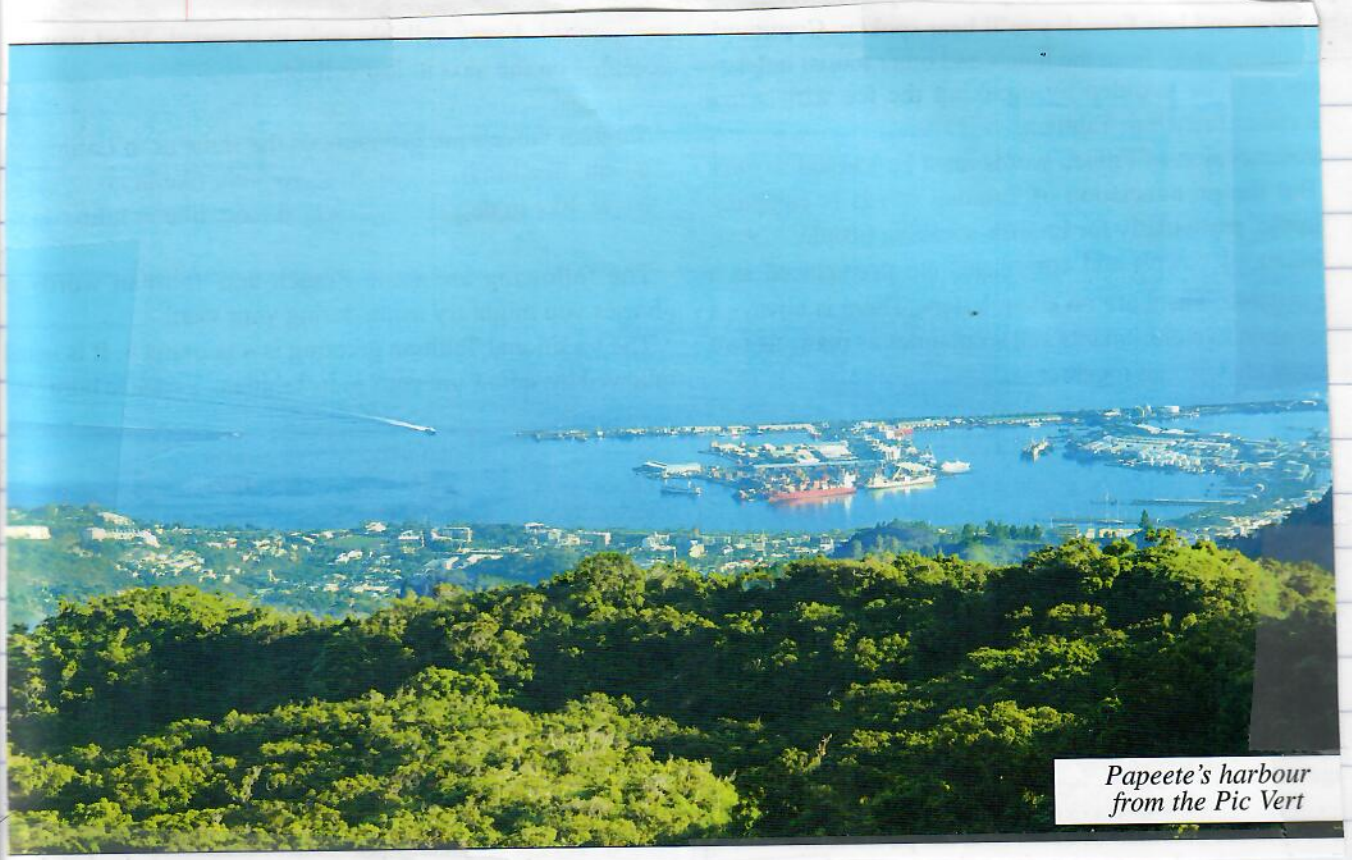
SALON QUINQUENNAL DES ARTISANS DE RAROMATA'I 1ère ÉDITION
Du 15 au 21 nov. / Papeete.
Dans le hall de l'Assemblée de la Polynésie française à Taraho'i.
Infos : 54 54 00

SALON DES MARQUISES 32ème ÉDITION
Du 13 au 28 nov. / Pirae, Aorai Tini Hau.
Exposition vente des produits artisanaux des îles Marquises.
Infos : 54 54 00


TAHITI
de POLYNESIE
BORA BORA
RAIATEA
HUAHINE
A ORANA MAEVA
MOOREA
TAHITI
e MOOREA
A ORANA MAEVA
BORA BORA
RAIATEA
HUAHINE
Souvenir
de POLYNESIE
TAHITI
MAEVA

2010

(19)



Papeete's harbour from the Pic Vert

2010


PRÉSIDENCE
MAHINATEA
CENTRE VAIMA
TARA EDEN
GANESHA
NAHEITAUARII SHOP
ASSEMBLÉE TERRITORIALE
OCÉANIE
LA ROMANA
POSTE
FARE TONY
Cathédrale Notre Dame de Papeete
LE PALAIS DES GLACES
TAHITI ART
TIARE TAHITI
TAHITI PEARL MARKET
VAIMITI PERLES
L'ESCAPADE VOILE ET LAGON
MARCHÉ
AIR TAHITI NUI
TAHITI IN STYLE
AVIS
OFFICE DU TOURISME
CIAO TAHITI 4X4
TAHITI DISCOVERY
IAORANA TOUR
TAHITI SAFARI EXPEDITION
TEVAI CREATIONS
PEARLY SHELL
POEAKI ART
MIHIARII PERLES
MAIRIE
VAIMITI PERLES
LE MANDARIN
HOTEL TAHITI NUI
LE VELVET
PACIFIC PROMOTION
PLACE VAIETE
QUARTIER DU COMMERCE
TEVAI CREATIONS
COMPTOIR D'ITALIE
Avenue Prince Hinoï
TAHIA PEARLS
RENAULT RENT
GARE MARITIME
Av du Chef Vairaatoa
Avenue Pomare V
SARAH NUI
RENAULT RENT
MOTU UTA
ARANUI
VAEANU
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ARCHIPELS DE POLYNESIE

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UA HUKA
FATU HUKU
UA POU
HIVA OA
TAHUATA
MOTANE
FATU HIVA

ARCHIPEL DES TUAMOTU

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PUKAPUKA
MANIHI
AHE
TAKAROA
TAKAPOTO
MATAIVA
TIKEHAU
ARUTUA
APATAKI
ARATIKA
RANGIROA
MAKATEA
KAUKURA
TOAU
KAUEHI
TAKUME
FANGATAU
FAKAHINA
RARAKA
TAENGA
RAIROA
NIAU
KATIU
FAKARAVA
TUANAKE
MAKEMO
FAAITE
HITI
NIHIRU
REKAREKA
TEPOTO (SUD)
MARUTEA (NORD)
TEANEA
TEKOKOTA
TAKAPOTO
ANAA
MOTUTUNGA
TAUERE
HARAIKI
HIKUERU
REITORU
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AKIAKI
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PARAOA
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HEREHERETUE
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NUKUTEPITI
VANAVANA
TUREIA
VAHANGA
TENARARO
TENARUNGA
MARUTEA
MATUREIVAVOA
TEMATANGI
MORUROA
MARIA (EST)
FANGATAUFA
MANGAREVA
MORANE
TARAVAI
AUKENA
AKAMARU
TENARO

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MOTU ONE
TUPAI
TAHAA
MAUPITI
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TETIAROA
MOOREA
TAHITI
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MEHETIA

ILES SOUS LE VENTS

ILES DU VENTS

MARIA

RURUTU
RIMATARA
TUBUAI
RAIVAVAE

ARCHIPEL DES AUSTRALES

RAPA
MAROTIRI

ARCHIPEL DES GAM

Tahiti - Bora Bora : 268 km
Bora Bora - Maupiti : 50 km
Tahiti - Huahine : 175 km
Tahiti - Raiatea : 195 km
Tahiti - Tahaa : 200 km
Tahiti - Moorea : 15 km

USEFUL INFORMATION

CONVERSION TABLE

METERS	YARDS	INCHES
1.000	1.093	39.37
0.914	1.000	36.00

CENTIMETERS
1.00
2.54
30.48

KILOMETERS
1.00
1.60

GRAMS
1.00
28.35
453.59
1,000.00

KILOGRAMS
1.000
0.028
0.454

LITERS
1.000
0.473
0.946
3.785

Table of Time Measure

60 seconds	= 1 minute
60 minutes	= 1 hour
24 hours	= 1 day
7 days	= 1 week
30 days	= 1 calendar month
12 months	= 1 year
365 days	= 1 common year
366 days	= 1 leap year
100 years	= 1 century

Table of Cubic Measure

1728 cubic inches	= 1 cubic foot
27 cubic feet	= 1 cubic yard
128 cubic feet	= 1 cord of wood
24-3/4 cubic feet	= 1 perch of stone

Note: A cord of wood is a pile 8 feet long, 4 feet wide, and 4 feet high. A perch of stone or brick is 16-1/2 feet long, 1-1/2 feet wide, and 1

LENGTH

1 meter (m)	=	
1 millimeter	=	
1 centimeter	=	
1 decimeter	=	
1 decameter	=	
1 hectometer	=	
1 kilometer	=	

CAPACITY

1 liter (l) = 100 cl	=	1,000 ml
1 milliliter (ml)	=	0.001 l
1 centiliter (cl)	=	0.01 l
1 deciliter (dl)	=	0.1 l
1 decaliter (dkl)	=	10 l
1 hectoliter (hl)	=	100 l
1 kiloliter (kl)	=	1,000 l

WEIGHT

1 gram (g) = 100 cg	=	1,000 mg
1 milligram (mg)	=	0.001 g
1 centigram (cg)	=	0.01 g
1 decigram (dg)	=	0.1 g
1 decagram (dkg)	=	10 g
1 hectogram (hg)	=	100 g
1 kilogram (kg)	=	1,000 g

MULTIPLICATION TABLE

	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144


Service de Protection Animale de Polynesie
Tel 704 124
S.P.A.P.