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Past and Present Research in the Underwater Archaeology of Saint-Pierre, Martinique, (FWI)

Jean-Sébastien Guibert, Max Guérout, Laurence Serra

This paper presents underwater archaeology research being conducted in Saint-Pierre Martinique (FWI) since the 1970's focusing on port dump and shipwrecks vestiges. Doban port dump site as well as the identified Biscaye and unidentified Guinguette wreck sites are presented. Both the dump and wreck sites demonstrate the importance of maritime activity at the main port of Martinique and of the French West Indies in general, that stopped because of the eruption of Mount Pelée in 1902. Archaeological research has traditionally focused on the wrecks from this tragic event, but there is also real potential for research into more ancient sites.

Introduction

Saint-Pierre is famous worldwide for the 8th of May and the 30th of August 1902 volcanic eruptions and their consequences: a town totally wasted and the death of around 28,000 people. Saint-Pierre is also famous for being one of the main ports and towns of the Lesser Antilles during the French colonial period. The town was the economic hub of the French West Indies during the 17th, 18th, and 19th centuries. Saint-Pierre is located along the North West coast of Martinique on the Caribbean Sea. Its flourishing situation since the colonization in 1635 until the 1902 Mount Pelée eruption gave the town the nickname of Lesser Antilles Little Paris.

Despite this, research into the history, archaeology, nor underwater archaeology is as developed as its great potential warrants. The bay has been frequented since the 17th century by ships coming from all over the Atlantic and the Caribbean. The first publication produced by Veuve in 1999 emphasized the lack of research into both underwater and terrestrial archaeology. Since Veuve's publication, terrestrial archaeology in Saint-Pierre has developed significantly, primarily due to development-led projects, however, the development of underwater archaeology has lagged behind.

This paper focuses on underwater archaeological research conducted in Saint-Pierre since the late 1970's dealing with shipwreck site identification and a study of port dump (Figure 1). It is part of an overview dealing with maritime archaeology in the French West Indies (Guadeloupe and Martinique) that is to be published in a broader article (Guibert et al. [2019]).

Actors

The pioneers who first paid attention to the underwater heritage in Saint-Pierre were divers and fishermen. Among them, Michel Météry first focused on the 1902 shipwrecks in the 1970's (Météry 2002). In the 1990's

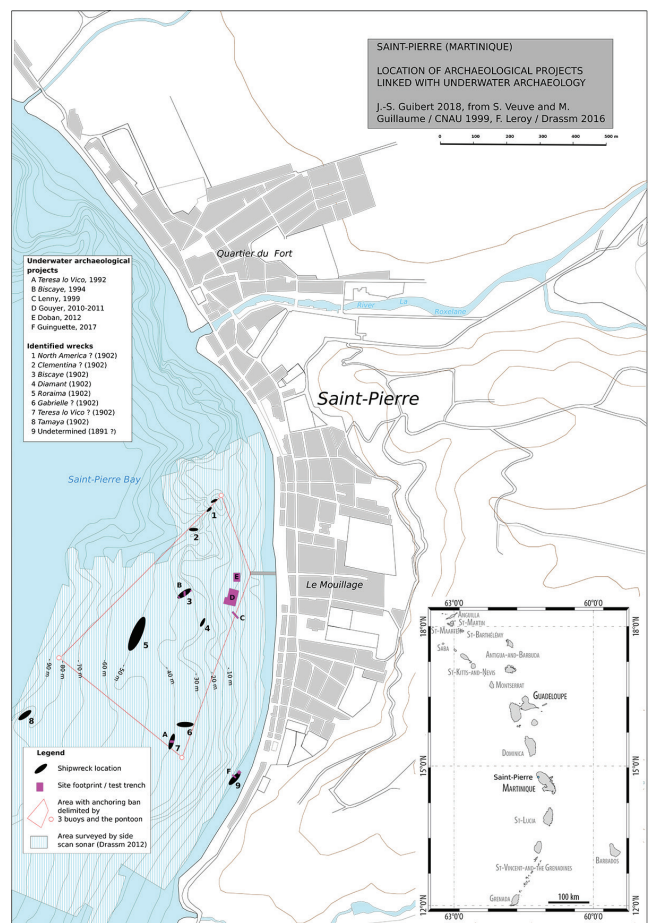


Figure 1: Map showing location of underwater sites and projects in Saint-Pierre (Map by author, 2017.)



Figure 2: Glass artifacts found in the Doban site (Photos by Philippe Groscaux, 2012.)

a non-profit organization called Groupe de Recherche en Archéologie Navale (GRAN) led by Marc Guillaume and Max Guérout set up several projects in Martinique, particularly in Saint-Pierre. Since this period collaborative projects between non-profit organizations and Universities have included a partnership between Aix-en-Provence University and Arkaeos in 2010-2012, and the French West Indies University and L'Asso-Mer in 2017. In 2012 a side scan sonar survey was undertaken by Department des recherches archéologiques subaquatiques et sous-marines (DRASSM) a division of the French Ministry of Culture.

Port Dump Sites

Research focused on port dump sites first occurred in 1999 after hurricane Lenny permitted the discovery of a site originally thought to be shipwreck due to a large amount of ceramics from the late 19th century. The site was reinvestigated in the 2010's (Serra et al. 2010, 2012). At this time, two distinct dumping areas were identified: Gouyer and Doban sites. It was determined that there was not a shipwreck, but instead a large dump site associated with part of a Saint-Pierre's anchorage for merchant ships.

The Doban Site

Five test pits were excavated to a depth of 1.80 m, which was the maximum depth divers could safely trench. They revealed the existence of coherent stratigraphic units sealed by several ballast layers. The first layer contained material that could belong to a ship cargo; mainly bricks, ceramics, and glass coming from the same production centers as well as organic material. Recovered artifacts date this layer between 1840 and 1870. The second layer was composed of stone ballast and sand. Although few artifacts were recovered, this strata was dated from 1820 to 1830 because of glass sherds found within this layer. The third layer dates to the end of the 18th century and is well preserved containing a diverse range of material culture resulting from transatlantic trade (Figure 2) (Serra et al. 2012).

The Erosion Phenomenon in Saint-Pierre Bay through the Doban Site

One of the other topics that interests the archaeologists is the complex site formation processes within the Bay. Deposits are 1.80 meters thick, accumulated in less than 150 years. Due to the bay topography and lack of coral reef, the team hypothesized that the dominant site formation processes were underwater erosion due to swell and cyclonic waves (Serra et al. 2012). Layers of successive ballast discharge and artifact loss are both the result of more than 120 years of human activity in this area as well as natural erosion.

Material Culture from Port Dump Doban Site

A large quantity of objects dating mainly from the 19th century but also from the 18th century (mainly ceramics and glass) were linked to the economic exchanges and daily life of Saint-Pierre. Raw materials are bricks and tiles. Ceramics used as pots and pans come from Vallauris and Aubagne-Saint-Zacharie in the South

of France. Glass was used as wine and beer bottles, oil, liqueurs, and perfumes (Figure 2). Other products such as cod have been found in large quantities. Some of these artifacts can be dated accurately, due to the presence of in situ diagnostics such as Customs seals or coins (Serra et al. 2012). This study of material culture reveals a concentration of artifacts related to a merchant ship anchorage as well as Place Bertin, heart of Saint-Pierre's economic activities, and more generally to the consumption of one of the main ports and cities of Martinique.

Archaeology of Shipwrecks in Saint-Pierre Bay

The interest in underwater archaeological research in Saint-Pierre began in the 1970's with diving development in Martinique. The first interest in shipwrecks in Saint-Pierre was associated with the 1902 wrecks that sunk during the Mount Pelée eruption. The discovery of wrecks and the involvement of pioneers such as Michel Météry, attracted archaeologist to Saint-Pierre Bay in the 1990's. Max Guérout and Marc Guillaume conducted magnetometer surveys and dived on the resulting anomalies in order to precisely locate the 1902 wrecks and delineate other sites. Archaeological research has been undertaken in 1992 and 1993 in order to protect the shipwreck sites (Guillaume et al. 1994). Those researches focused first on site identification followed by field investigations and archival research in order to document the 1902 shipwrecks. One can see that research has been motivated by sites identification and preservation.

The State of Research on 1902 Shipwrecks

A publication was produced in 1999 detailing the result of a decade of research on Saint-Pierre's shipwrecks (Guillaume 1999). Wrecks identified from this work include: the *Biscaye*, a three-masted, 159 ton vessel built in the Basque region of Spain in 1878; the *Diamant*, a local steamer linking Saint-Pierre and Fort-de-France; the *Roraima*, a 2,700 ton, 110 m long propeller ship with a 6 m draft built by Aitken & Maud shipyard of Glasgow for the Quebec Steamship Company in 1883; and the *Tamaya*, a 495 ton Cape Horner, built in 1862 and identified thanks to the recovery of the bell in 1985. Four other wooden built sailing ships are referenced that have not been conclusively identified: *Teresa Lo Vico*, *North America*, *Clementina*, and *Gabrielle* (Guillaume 1999). St. Pierre Bay is a unique ship cemetery in the West Indies containing a concentration of ships built from the 1860's to 1880's representing maritime activity

at the end of the 19th century during the second period of globalization.

The Biscaye Site

Additional research was initiated on *Biscaye* in 1994. The wreck is 29 m deep at bow, 39 m at stern and measures 31 meters long. Three trench tests have been undertaken: the central trench test gave good results, several barrels have been excavated filled with cod fishes. Naval construction was also studied. Three elements contributed to the identification of the site as *Biscaye*: the size of the ship; the sheathing type; and the cod fish cargo. All those elements corresponded to the archival data (Guillaume et al. 1994). The ship was built in Bilbao, Spain in 1878 and francized in 1895 by a merchant from Bayonne. He left France in 1902 to Saint-Pierre and Miquelon to load cod fish in order to bring it to Martinique where the ship was finally lost in Mount Pelée's eruption.

The 2013 DRASSM Survey

In 2013, a new archaeological survey was undertaken by DRASSM of the French Ministry of Culture in order to pinpoint the sites of shipwrecks and analyze anomalies in the bay (Leroy 2016). The team used a side scan sonar and was able to check much of the area. The survey was concentrated in water depths from four to 30 m, but other deeper areas were investigated in the vicinity of the deepest known site: the *Tamaya* at 85 meters. The result is a main document mapping most of the bay and showing the main anomalies and targets. The wrecks of 1902 are precisely located and can be visualized (orientation of the ships, shape of the wrecks, and dispersion of the remains). The survey provided more than 50 targets to be tested by diving. These are assumed to be anchors, other structures, or unknown wrecks. As a result of the broader attention payed to underwater heritage in 2012, the main concentration of ship remains was protected from ship moorings and anchors by buoys indicating the wreckages area (Mornet et al. 2012).

The Guinguette Wreck Site

Another recent line of research has been undertaken in Saint-Pierre in order to work on earlier shipwreck sites. A project took place on a shipwreck in the area of the beach called the Guinguette (Guibert et al. 2018). The site was discovered in 2009 in a sublittoral location and could not be reached by side scan sonar (Figure 3). The portion closest to shore, in 4 to 5 meters of water, was investigated by archaeological diving methods. Two

trench tests have been conducted. The first was at what is supposed to be the stern, the second at the central part of the ship. A third test was supposed to be conducted at the bow of the ship, but this has been delayed due to hurricane Maria.

The potential at this site is great in spite of the limited field work. Material culture and hull structures are quiet well preserved in 4 to 5 meters of water. In trench Test 1 a number of artifacts are linked to personal items (thimble, buttons, a locker, syringe element, beads) and in the trench Test 2 we discovered what can be interpreted as collapsed upper deck structure (Figure 4). In between the upper and lower deck planking, several areas contained artifacts in very good state of preservation including, rope, pulley and dead eyes (Figure 4). These objects look like they were stored in an upper deck and stuck during its collapse as a result of post-depositional site formation process. The artifacts are dated from the end of the 19th century but many of the ceramics and glass sampled within the ballast were worn out. In spite of their French origin these artifacts may not be relevant to identifying

the ship's origin. One of the brass gudgeon in trench Test 2 has a mark "Birmingham" suggesting an English construction. Analysis of fauna and dendrochronology are underway to provide additional data.

In order to identify additional candidates for the Guinguette beach wreck, archival research was conducted around four hurricanes that occurred at the end of the 19th century. Archives indicate five ships that were lost in the area of the south anchorage as a result of a hurricane on the 9th of September, 1883. In French ships anchorage they are listed as: *P.-A.-J.* French three-masts, captain Metaireau loaded for Bordeaux ; *Tapageur*, Captain Gombeaud coming from Bordeaux loaded ; *Bayardère*, Captain Letestu being loaded for Le Havre; *Mysore*, Captain Mahé loaded for Le Havre; *Lemnos*, Captain Lampoignard loaded for Bordeaux ; *Misti*, Captain Landgrain coming from Guadeloupe loaded with rice (Journal officiel de la Martinique 7/9/1883). Seven ships were lost in the Saint-Pierre area due to the hurricane on the 18th of August, 1891. These reportedly include at Grosse Roche: French ship *Perséverant*, French schooner

Guinguette's Shipwreck (Saint-Pierre) 2017



Figure 3: Map of Guinguette site (Map by Émilie Lagahé, 2017.)

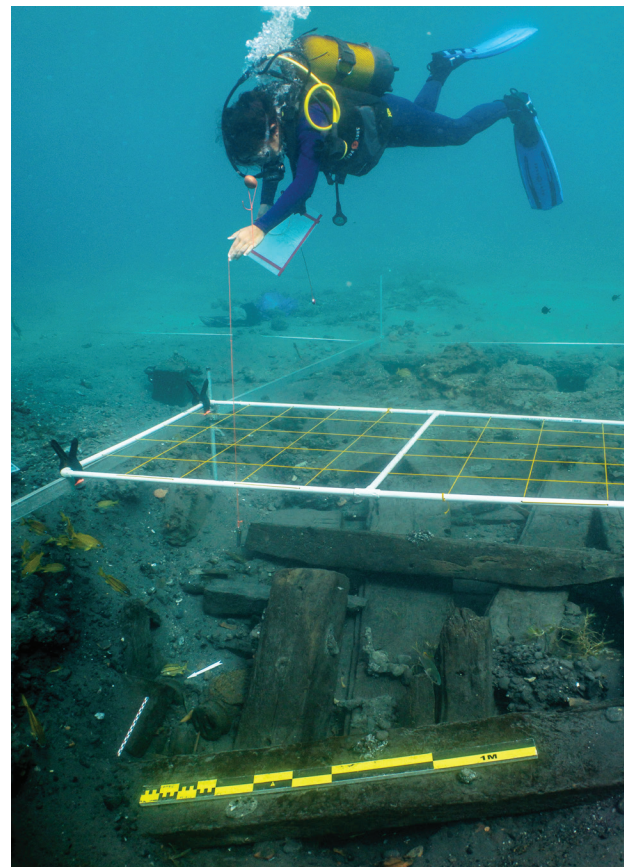


Figure 4: Diver recording structures in Trench test 2, highlighting rigging, pulley, dead eyes, and paunch matting (Photo by Claude Michaud, 2017.)

Mouette; at anchorage: French ship *H.-L.*, French ship *Alphonsine-Zélie*, Italian ship *Rosanna*, French schooner *Émilie-L.*, and English boat *Golimangne* (*Journal officiel de la Martinique* 22/8/1891). One of those could be the remains of the Guinguette beach wreck. Initial results indicate that the Guinguette beach wreck was a large wooden vessel, possibly three-masted and at least 40 meters in length. It may have wrecked as a result of the 1883 or 1891 hurricanes which had a large impact in Martinique.

Conclusion

The site of Saint-Pierre's bay is an interesting site in order to develop underwater archaeology programs and heritage management in the Lesser Antilles. Areas of potential future research include: systematic coring to study the distribution and chronology of port deposits and possibly to find other wrecks; surveys with specialized equipment to search for older wrecks; site identification with test trenches; and 3D modelling of the 1902 wrecks utilizing photogrammetry methods.

To date, archaeological projects in the region have mainly dealt with the end of the 19th century or the 1902 sites. In spite of this, there is the potential for more ancient sites due to the history of the city and the climatic hazards that occurred in Saint-Pierre since the period of colonization. Archival research indicates that hurricanes and flooding impacted Saint-Pierre and its port during the 18th and 19th centuries. For example, the great hurricane of 1766 and hurricane of 1822 both caused substantial damages and resulted in a number of shipwrecks. It remains to be seen whether these events left wrecks in Saint-Pierre's harbor and what the dynamics of the formation of these sites were.

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