

# A database of lapidary artifacts in the Caribbean for the Ceramic Age

Queffelec, Alain\*; Fouéré, Pierrick<sup>†,‡</sup>; Caverne, Jean-Baptiste<sup>§</sup>

10 novembre, 2020

## Abstract

Lapidary artifacts show an impressive abundance and diversity during the Ceramic period in the Caribbean islands, especially at the beginning of this period. Most of the raw materials used in this production do not exist naturally on the islands of the Lesser Antilles, nevertheless, many archaeological sites have yielded such artifacts on these islands. In the framework of a four-years-long project, we created a database by combining first hand observations and analysis, as well as a thorough literature survey. The result is a database including more than 100 sites and 5000 beads, pendants, blanks and raw material fragments.

Keywords: Caribbean; Lapidary artifacts; Ceramic Age, Beads, Pendants, Raw materials

Funding statement: This research was funded by the Direction des Affaires Culturelles de Guadeloupe and the Guadeloupe Regional Council for the period 2016-2019, and by the Direction des Affaires Culturelles de Martinique in 2018.

Statement : **This manuscript is a preprint**

---

\*PACEA UMR5199 CNRS, Univ. Bordeaux, MCC, alain.queffelec@u-bordeaux.fr

<sup>†</sup>INRAP

<sup>‡</sup>TRACES UMR5608 CNRS, Univ. Toulouse, MCC

<sup>§</sup>A.P.R.A.G.E.

# 1 Overview

## 1.1 Context

### 1.1.1 The PAAF Project

This database has been created in the framework of the PAAF Project (**P**arures **A**mérindiennes en matériaux lithiques dans les **A**ntilles **F**rançaises), which were funded from 2016 until 2019 by the French Ministry of Culture and the Guadeloupe Regional Council. This project consisted in three workpackages, including *chaînes opératoires* studies, gemmology, and the creation of a regional database and GIS. More information on the other results obtained during this project can be found in (Queffelec et al. 2018), (Queffelec et al. 2020) and (Queffelec et al., n.d.).

### 1.1.2 Archaeological context

Early ceramic sites in the Antilles, comprising ancient cedrosan Saladoid and huecan Saladoid sites, are well known to deliver remarkable collections of lapidary artwork (e.g. Boomert 1987; Cody 1993; Crock and Bartone 1998; Murphy et al. 2000; Narganes Storde 1995). These first formative occupations of the Antillean archipelago are dated back to the second half of the first millennium BC until the end of the fourth century A.D. Linked to a pioneering agro-ceramic dynamic, these groups are characterized by a pre-determined economic system based on horticulture, fishing, hunting, foraging, and associated to the introduction of animal and vegetal species from the continent (Bérard 2013). They are also distinguished by a ceramic and lapidary production *testimonating* of an exceptional social, technological and symbolic investment, and by the settling of important long distance networks. After this specific period of time when the lapidary craftsmanship seems to be at the center of the symbolic production of the inhabitants of the Antilles, the middle, recent and late Ceramic periods decrease their investment in this type of personal ornaments (e.g. Queffelec et al. 2020; Bérard 2013; Hofman et al. 2007; Knippenberg 2007; Rodriguez 1993).

Quite surprisingly, *few* work has been specifically dedicated to the study of the lapidary personal ornaments in the Antilles, despite the potential information one could extract from it. The most comprehensive study of these artifacts is clearly the one made by Cody (1990, 1993) based on a survey she sent by post to every archaeologist working in the Caribbean area to build a database. This major work enabled her to compare the results she obtained for the site of Pearls, on Grenada (Cody 1991), to the rest of the Antilles by

building a first framework of inter-islands relationship. Since the work done at the beginning of the 1990's, no comprehensive analysis of this part of the material production of the Amerindians has been conducted on a regional scale. Putting together the *ancient* data with the recent one will hopefully allow the research community to better understand the changes in the society of the first phases of the Ceramic age.

## 1.2 Spatial coverage

The geographic distribution of the dataset encompasses the complete archaeological record of the Caribbean islands. However, some islands did not yield any lapidary artifact, or at least none that we could find in the literature. Therefore, the northernmost site in our dataset is Minnis-Ward, the southernmost is Erin Bay, the easternmost is Lovers Retreat (TOB-69) and the westernmost is E2 Fort Charles (Fig. 1, Table 1).

Table 1: spatial coverage of the dataset

Island	Index_Site	Site	Longitude	Latitude	ref_biblio_1
Trinidad	TR-03	Erin Bay	-61.72190	10.08838	Fewkes_1914
Bahamas	BH-01	Minnis-Ward	-74.51969	24.09849	Blick-etal_2010
Jamaica	JA-04	E2 Fort Charles	-77.80000	17.91667	Roobol&Lee_1976
Tobago	TO-01	Lovers Retreat (TOB-69)	-60.77424	11.22533	Harris_1980

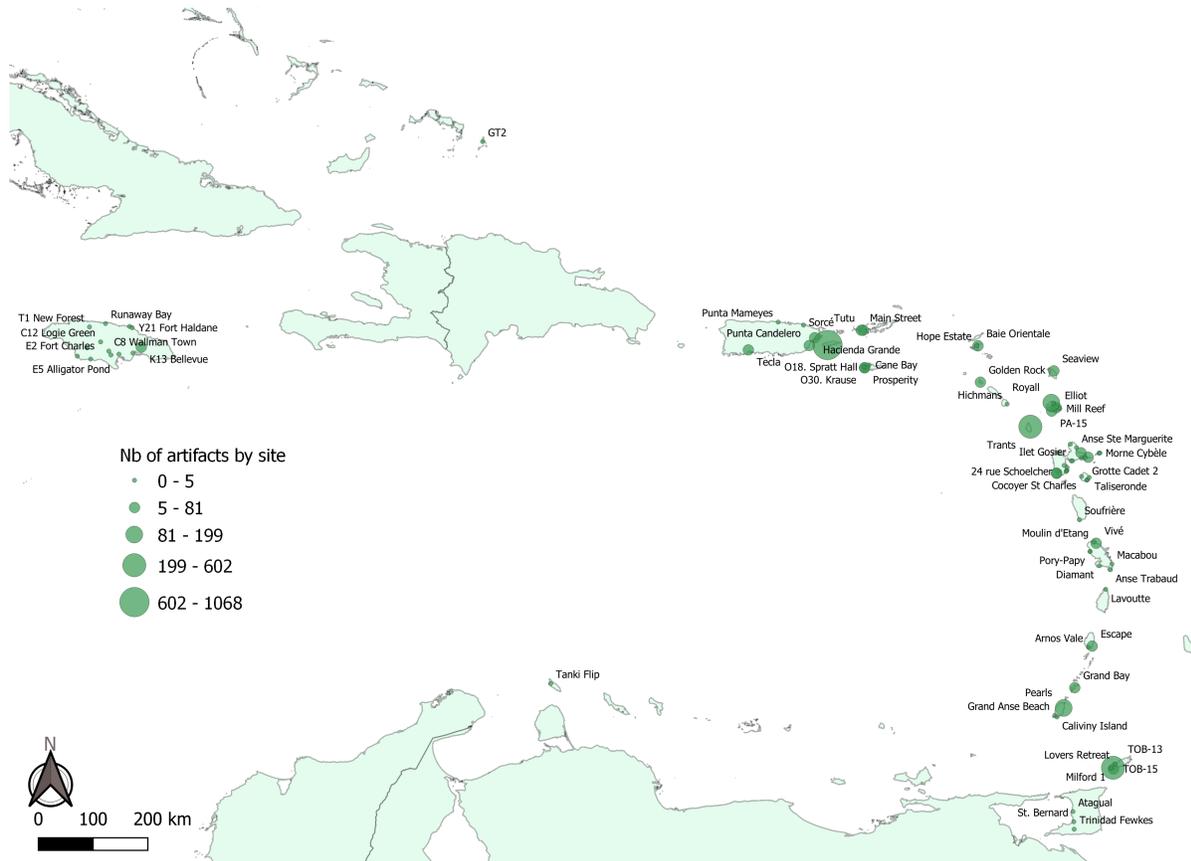


Figure 1: Map of the distribution of the sites registered in the database. The size of the circle is related to the number of lapidary artifacts.

### 1.3 Temporal coverage

The database compiled in this study aims at consolidating and disseminating data about lapidary artifacts in the Caribbean islands recovered from archaeological excavations or surveys for the period before the arrival of the Europeans in the archipelago. Thus, while the end limit is well known around the end of the 15th century (depending on the islands), the start limit may be different for each island based on the current knowledge of the first human occupations in the Antilles (Napolitano et al. 2019). However, the start of Early Ceramic period, supposed to represent the beginning of lapidary production in this region, is generally set to ca. 400 calBC. Most of the archaeological sites registered in the database relates to the Early and Middle Ceramic period (mainly Saladoid culture) and some to the Late/Final Ceramic period (mainly Troumassoid and Barranoid cultures). Only one site from the Contact Period (Cayo culture) is registered. The periodization used in this work is the one proposed by Bérard (2019).

## 2 Methods

### 2.1 Steps

The database compiled in this work has been created based on two different methodologies: piece by piece first-hand analysis, and literature screening. Both methods were used in parallel for the duration of the project. Presently, the dataset of lapidary artifacts contains 0 entries, originating from 87 sites.

Data about lapidary artifacts in the French islands of the Antillean (from south to north: Martinique, Guadeloupe, St. Barthelemy and St. Martin) have been registered thanks to missions in the museums, the storage of the Ministry of Culture, and by extracting some collections to study them in continental France. The detailed methodology is described in the case studies articles (Queffelec et al. 2018, 2020) and includes mainly photography, classic measurements with digital caliper, technological study, and mineralogical determination by eye and systematically confirmed by Raman spectroscopy.

The literature review, which accounts for the most part of the dataset, has been conducted as a long-term job. As for every literature review, it includes the reading of the major works on the subject, the literature cited by these major works. In the case of our specific study, one of the major sources of information has been the proceedings of the twenty-eight International Association for Caribbean Archaeology (IACA) congresses, in which the words *bead*, *pendant*,

*perle*, *pendentif*, *cuenta*, *pendiente*, *perla*, have been systematically searched for. Some unpublished information has also been recovered by directly contacting the archaeologists currently excavating sites, as well as diving in the reports from French commercial archaeology.

### 2.2 Sampling strategy

The artifacts integrated in this database relates to the lapidary production *chaîne opératoire* from the raw material until the finished object. From sites located on French islands, they were exhaustively studied, measured, and analyzed. There was no sampling either as for the findable literature data.

### 2.3 Quality control

The data that entered in the database is of heterogeneous quality. It goes from high resolution macro photos to no image at all, from Raman spectroscopy and X-Ray diffraction mineralogical studies to naked-eye *greenstone* determination, from recent excavations with complete sieving to surface collection. The authors made their best to find the best data about each artifact, including dissecting fieldwork reports, but the quality of the literature is very diverse.

Data cleaning and consistency have been realized thanks to the use of standardized thesaurus with dropdown menus to avoid typos. Graphics based on the measurements were explored in order to spot any outlier and check on its values. The mapping of the sites helped in checking the geographical coordinates values, since any typo would have probably set the archaeological site in the sea.

### 2.4 Constraints

Most of the constraints relate to the literature-based part of the database, since the French artifacts have all been photographed, measured, analyzed, during the project. The quality of the information in the literature is very heterogeneous, because of the seniority and/or the lack of exhaustiveness of the publications. The quality of information has been problematic for several topic of the database, including:

- the mineralogical determination of the raw material used by the Amerindians, mostly done by naked eye by untrained archaeologists
- the quality of the reproduction of ancient photographs in the numeric documents now accessible for this literature
- the lack of complete description of lapidary assemblages in most of the sites. The table or text

of the articles may list tens of artifacts, while the figures only depict 5 of them.

- the difficulty of assessing the origin of the artifacts in multicomponents archaeological sites
- the difficulty of cultural attribution for ancient excavations

Beyond these constraints related to the existing artifacts' collections, the major issue related to the completeness of the archaeological record is of course very significant. An important part of the artifacts registered in this database come from ancient excavations or surface collections by amateur archaeologists or collectors. Therefore, even if the quality of the archaeological literature would be excellent, and we could have a perfect recording in the database of the artifacts recovered since the beginning of the 20th century, it would still lack [many](#) information for technological studies of the *chaînes opératoires* due to the lack of sieving, the picking of nice and complete artifacts by collectors etc. It is also necessary to underline the differences in comprehension of the archaeological stratigraphy between ancient and modern excavations, with or without radiocarbon dating [etc.](#)

### 3 Dataset description

The database created in this project is made of four related tables (fig. 2), in which the Source table is still a work in progress. We will thus describe only the English tables Islands, Sites and Beads. Each table also exists in French.

#### 3.0.1 Islands table (ISLANDS and ILES)

*Island* is the name of the island.

*Country* is the country from which the island is part of.

*Region* is the large area in which the island is located (Lesser Antilles, Greater Antilles, Central America, South America, North America). It includes the continent surroundings the Caribbean because this table is also used for the database of potential sources of raw materials, which is a work in progress. *Index\_Island* is a combination of two letters used as short notation.

*ID\_Island* is an unique integer for each Island of the Caribbean, taken from the **Global Administrative database (GADM)** which gives a unique integer for each administrative subdivision in the world.

#### 3.0.2 Sites table (SITES\_EN and SITES\_FR)

This table is related to the Islands table by the *ID\_Island* field. It therefore automatically integrates the *Island* parameter from this table.

*Index\_Site* is the unique chain of characters identifying the site. It is composed of the *Index\_Island*, a dash, and two digits for the number of the site on this island. For example, GD-01 is the first recorded site for Guadeloupe.

*Site* is the name of the archaeological site.

*ID\_Island* is an unique integer for each Island of the Caribbean, taken from the **Global Administrative database (GADM)** which gives a unique integer for each administrative subdivision in the world.

*City* is the name of the city in which the archaeological site is situated.

*Longitude* and *Latitude* are the geographic coordinates of the site. They are expressed in WGS84 decimal degrees. *Precision* explains the origin of the geographic coordinates, whether from a GPS tracker, the reported data from a map or from an address given in a publication, the centroid of the city or of the island.

*Dist\_coast* is the shortest calculated distance from the geographic coordinates to the coast.

*Altitude* is the altitude of the geographical coordinates taken from the SRTM Digital Elevation Model.

*Type\_site* is the type of archaeological site, whether a cave, a village, a funerary site etc.

*Nb\_beads* is the calculated number of artifacts related to this site in the BEADS table.

*Period* and *Culture* are the chronological and cultural attributions of the main occupation of the site that yielded the lapidary artifacts. They are based on the work by Bérard (2019).

*ref\_biblio\_1, 2, 3, 4* are the short citations of the references related to the archaeological site.

#### 3.0.3 Beads table (BEADS and PERLES)

This table is related to the Sites table using the *Site* field. Some fields are thus used directly in the BEADS table thanks to the relation between both tables, so that the final user does not have to relate both tables himself. This is the case for *Island*, *Longitude*, *Latitude*, *Period*, and *Culture*.

*Index\_B* is the unique character chain composed of the *Index\_Site*, a dash, and the number of the artifact in the site.

*Site* is the name of the archaeological site.

*Object* is the kind of object that the artifact is, for example bead, pendant, raw material.

*Type* and *Subtype* specifies the shape of the object, for example a pendant can be from type zoomorphic

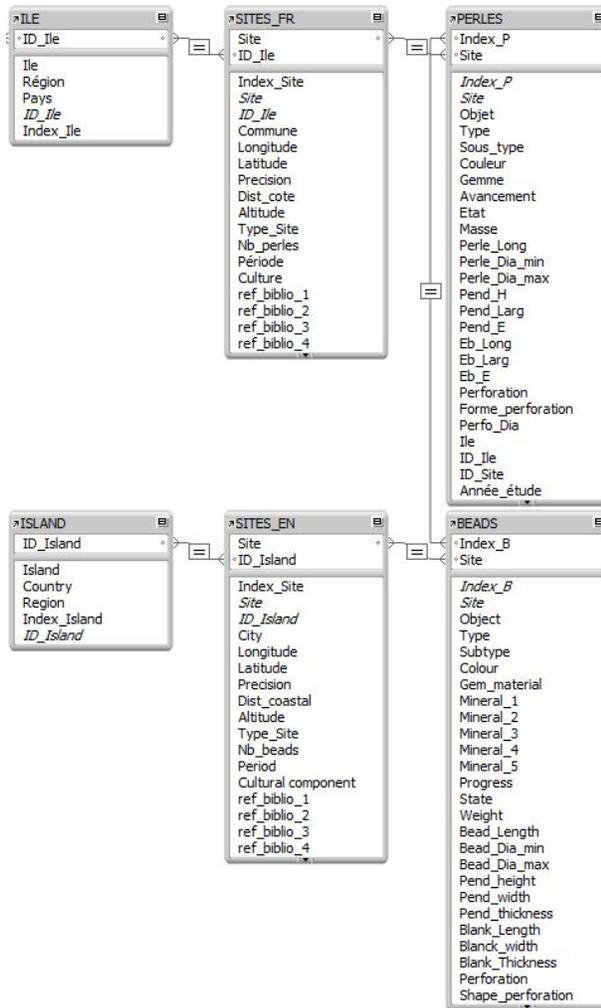


Figure 2: Relational map of the database.

and from subtype frog.

*Colour* relates to the visible main color of the artifact. *Gem\_material* is the gem material used to produce the artifact, it is based on the *Mineral\_1, 2, 3, 4, 5* and uses a list of values coming from the gemological vocabulary.

*Progress* states the advancement in the production of the artifact, it can be a finished object or a blank for example.

*State* specifies if the object is complete or broken.

*Weight, Bead\_length, Bead\_dia\_min, Bead\_dia\_max, Pend\_Height, Pend\_width, Pend\_thickness, Blank\_length, Blank\_width, Blank\_thickness* are the measurement of the artifacts, expressed in millimeters, of beads, pendant and blanks respectively.

*Perforation* is the number of perforation.

*Shape\_perforation* and *Perfo\_Dia* specifies the shape and diameter of the perforation, respectively. The diameter is the smallest diameter usable to hang the artifact.

*Structure* is the type of archaeological structure in which the artifact was unearthed, for example, a midden, a pot-hole, a burial etc.

*US* is the stratigraphical unit which the artifact comes from.

*Square* is the location of the excavation, based on the excavators' system.

*Level* is the level of excavation which the artifact comes from.

*Z* is the altitude of the artifact in the excavators' reference system.

*Date\_BP* is the radiocarbon age that can be attributed to the level from which comes the artifact from.

*Date\_calibrated* is the calibrated age calculated from the *Date\_BP*.

*Year\_excavation* is the year of excavation of the site when this artifact was discovered.

*Excavator* contains the name of the archaeologist responsible for the excavation at the time of the discovery of this artifact.

*Ref\_storage* and *Inv\_site* are the references of the artifact in the curating location and the excavators' system respectively.

*Storage\_Island, Storage\_City, and Storage\_Location* resume the actual curating location of the artifact.

*Year\_study* is the year of study for the artifacts that have been investigated by the PAAF project.

*Method\_carac* is the analytical method used to determine the composition of the artifact.

*RawMat\_estim* is the raw material estimated in the literature, or before the use of analytical techniques.

*Notes* contains remarks about the artifact that was noted during the literature screening.

*Ref\_biblio\_1, 2, 3, 4, 5, 6* specifies the publications where the artifact has been described.

Some general information are summarized in the Table 2.

Table 2: Summary of the Site dataset

Island	Site	Nb_beads	Period	Culture	ref_biblio_1
Antigua	Elliot's (PH-03)	64	(Middle?) Ceramic	Middle Cedrosan Saladoid	Murphy-etal_2000
Antigua	Mill Reef (PH-01)	2	Late Ceramic	Marmoran Troumassoid (Mill Reef)	Hoffman_1970
Antigua	Royall's (JO-11)	199	(Middle?) Ceramic	Middle Cedrosan Saladoid	Murphy-etal_2000
Antigua	Doig's (PA-15)	43	Early/Middle Ceramic	Early/Middle Cedrosan Saladoid	Gent&deMille_2003
Antigua	Winthorpe Bay	1	(Middle?) Ceramic	Middle/Late Cedrosan Saladoid	deMille-etal_1999
Aruba	Tanki Flip	2	Late Ceramic	Dabajuroid	Rostain_1995
Barbuda	Seaview	18	Early/Middle Ceramic	Early/Middle Cedrosan Saladoid	Kendall-etal_2011
Bahamas	Minnis-Ward	1	Late/Final Ceramic	Lucayan	Blick-etal_2010
Bonaire	Wanapa	3	Ceramic	NA	Haviser_1990
Carriacou	Grand Bay	17	(Middle?) Ceramic	Late Cedrosan Saladoid	Sutty_1990
Curacao	De Savaan	4	Ceramic	NA	Haviser_1990
Dominica	Soufrière	1	Early Ceramic	Early Cedrosan Saladoid	Bérard_2009
Guadeloupe	Gare maritime	59	Early Ceramic	Huecan Saladoid	Romon-etal_2013
Guadeloupe	Morel	61	Early/Middle Ceramic	Cedrosan Saladoid/huecan	Delpuech-etal_1996
Guadeloupe	Anse à la Gourde	28	Late Ceramic	Troumassoid	Delpuech-etal_1997
Guadeloupe	24 rue Schoelcher	1	Early Ceramic	Early Cedrosan Saladoid	Etrich_2003a
Guadeloupe	Allée Dumanoir	2	Early/Middle Ceramic	Early/Middle Cedrosan Saladoid	Etrich_2003b
Guadeloupe	Anse à la Barque	1	Indéterminé	Undertermined	Turpin_2015
Guadeloupe	Anse Bertrand	2	Indéterminé	Undertermined	Turpin_2015
Guadeloupe	Anse Ste Marguerite	4	NA	NA	Delpuech_2007
Guadeloupe	Cathédrale	6	Early/Middle Ceramic	Saladoid	Bonnissent&Romon_2004
Guadeloupe	Butel	1	Indéterminé	Undertermined	NA
Guadeloupe	Grand Carbet	1	Early Ceramic	Early Cedrosan Saladoid	ToledoIMur_2003
Guadeloupe	Ilet Gosier	1	Late/Final Ceramic	Troumassoid	Romon-etal_2003
Guadeloupe	Les Mineurs	3	Indéterminé	Undertermined	NA
Guadeloupe	Plage de Roseau	1	Contact	Cayo	LeLay_2013
Guadeloupe	Anse Vinaigri	3	Indéterminé	Undertermined	NA
Guadeloupe	La Ramée	3	Early/Middle Ceramic	Saladoid	Casagrande_2013
Grenada	Pearls	1412	Early/Middle Ceramic	Saladoid	Murphy-etal_2000
Grenada	Grand Anse Beach	3	Early/Middle Ceramic	Saladoid	Cody_1993
Grenada	Caliviny Island	3	Early/Middle Ceramic	Undertermined	Bullen&Bullen_1968
Grand Turk	Governor's Beach (GT2)	5	Final Ceramic	Ostionoid meillacan	Carlson_1995
Jamaica	C12 Logie Green	1	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976
Jamaica	C7 Harmony Hall	3	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976
Jamaica	C8 Wallman Town	1	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976

Jamaica	E2 Fort Charles	1	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976
Jamaica	E5 Alligator Pond	1	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976
Jamaica	K13 Bellevue	6	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976
Jamaica	Y19 Pepper	1	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976
Jamaica	Runaway Bay	1	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976
Jamaica	S12 Naggo Head	2	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976
Jamaica	S8 Marlie Mount	1	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976
Jamaica	T1 New Forest	1	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976
Jamaica	Y19 Coleraine	1	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976
Jamaica	Y21 Fort Haldane	1	Early/Middle Ceramic	Saladoid	Roobol&Lee_1976
La Désirade	Morne Cybèle 1	1	Final Ceramic	Suazan Troumassoid	Hofman_1995
La Désirade	Petite Rivière	4	Late/Final Ceramic	Troumassoid	deWaal_2006
Martinique	Anse Trabaud	2	Late/Final Ceramic	Troumassoid	Mattioni_1983
Martinique	Vivé	40	Early Ceramic	Early Cedrosan Saladoid	Mattioni_1979
Martinique	Moulin l'Etang	1	Early Ceramic	Early Cedrosan Saladoid	Bérard_2004
Martinique	Macabou	1	Final Ceramic	Suazan Troumassoid	Allaire_1977
Martinique	Diamant	1	(Middle?) Ceramic	Middle Cedrosan Saladoid	Vidal_1995
Martinique	Pory-Papy	3	(Middle?) Ceramic/final	Cedrosan Saladoid - Troumassoid	NA
Martinique	Perrinon-Doume	1	(Middle?) Ceramic/final	Cedrosan Saladoid - Troumassoid	NA
Marie Galante	Cocoyer St Charles	1	Early Ceramic	Early Cedrosan Saladoid	Stouvenot_1999
Marie Galante	Grotte Cadet 2	1	Late/Final Ceramic	Troumassoid	Courtaud-etal_2005
Marie Galante	Stade J. Bade	4	Late Ceramic	Troumassoid	Serrand-etal_2016
Marie Galante	Taliseronde	1	Early/Middle Ceramic	Early/Middle Cedrosan Saladoid	Durand&Petitjean-Roget_1991
Montserrat	Trants	602	Early/Middle Ceramic	Saladoid	Crock&Bartone_1998
Nevis	Hichmans	1	Ceramic	Saladoid - Post-Saladoid	Wilson_1989
Puerto Rico	Hacienda Grande	16	Early Ceramic	Huecan Saladoid	Crock&Bartone_1998
Puerto Rico	Tecla	72	Early Ceramic	Huecan Saladoid	NarganesStorde_1995
Puerto Rico	Punta Candeleró	592	Early Ceramic	Huecan Saladoid	Rodriguez_1991
Puerto Rico	Punta Mameyes	4	Early Ceramic/récent	Cedrosan Saladoid - Ostionoid elenan	Ortiz-Montanez-etal_2019
Sainte Croix	Prosperity	26	Early/Middle Ceramic	Cedrosan Saladoid	Hardy_2009
Sainte Croix	Cane Bay	2	Late Ceramic	Ostionoid	Hardy_2008
Sainte Croix	Jolly Hill	2	Late Ceramic	Early Ostionoid	Hardy_2008
Sainte Croix	O30. Krause	9	Early Ceramic	Cedrosan Saladoid/huécan	Toftgaard_2019
Sainte Croix	O18. Spratt Hall	2	Early Ceramic	Cedrosan Saladoid/huécan	Toftgaard_2019
Sint Eustatius	Golden Rock	81	Early/Middle Ceramic	Saladoid	Versteeg_1999
Saint Lucia	Lavoutte	1	Final Ceramic	Suazan Troumassoid	Hofman_2012
Saint Martin	Baie Orientale 2	17	Late/Final Ceramic	Troumassoid marmoran (Mill Reef)	Bonnissent_2008
Saint Martin	Hope Estate	115	Early Ceramic	Cedrosan Saladoid/huecan	Bonnissent_2008
Saint Martin	Grand Case BK77	0	Late/Final Ceramic	Troumassoid marmoran (Marmora Bay)	Sellier-etal_2020

Saint Martin	Grand Case BK78	3	Late/Final Ceramic	Troumassoid	Baillif-Ducros-etal_2019
Saint Thomas	Tutu	6	Early/Middle Ceramic	Saladoid	Righter_2003
Saint Thomas	Main Street	15	Early/Middle Ceramic	Saladoid	Carlson_2019
Saint Vincent	Arnos Vale	1	(Middle?) Ceramic	Middle Cedrosan Saladoid	Cody_1993
Saint Vincent	Escape	5	Ceramic (moyen?)	Saladoid (late?)	Moravetz&Callaghan_2011
Tobago	Lovers Retreat (TOB-69)	4	Late Ceramic	Troumassoid	Harris_1980
Tobago	Milford 1 (TOB-03)	1	Indéterminé	Undertermined	Mones_2007
Tobago	Golden Grove (TOB-13)	271	Late Ceramic	NA	Mones_2007
Tobago	Friendship (TOB-15)	7	Early/Middle Ceramic	Barrancoïde	Mones_2007
Trinidad	Atagual	1	Early/Middle Ceramic	Cedrosan Saladoid	Boomert_1987
Trinidad	St. Bernard	1	Indéterminé	Undertermined	Boomert_1987
Trinidad	Erin Bay	1	Indéterminé	Undertermined	Fewkes_1914
Vieques	Sorcé	1068	Early Ceramic	Cedrosan Saladoid	Narganes Storde_1995

### 3.1 Data type

The **database** contains mainly text and numerical information, being the description of the artifacts, their context, and their measurements. The database available via the Filemaker application also contains pictures and drawings of the artifacts.

### 3.2 Format names and version

### 3.3 Creation dates

The database have been created during the PAAF Project, funded from 2016 until 2019. Minor additions have been made until the publication of this article and will continue. Updated versions of this database will be uploaded, thanks to the DOI versioning support in online archives.

### 3.4 Dataset creator

The database has been created in the framework of the PAAF project, lead by Alain Queffelec and Pierrick Fouéré, with the technical assistance of Jean-Baptiste Caverne. The information about lapidary artifacts from French islands are the result of analysis done by Alain Queffelec, Pierrick Fouéré and Ludovic Bellot-Gurlet. The literature based records are the result of the work done by Alain Queffelec with the help of Jean-Baptiste Caverne.

### 3.5 Language

The database is proposed both in French and English, in the repository and in the web application. As for the GIS online application, it is proposed in French, English, Spanish and German.

### 3.6 License

License CC-BY 4.0

### 3.7 Repository location

The Rmarkdown file and all files necessary to reproduce this manuscript are accessible in the folder Rmarkdown from the OSF project <https://osf.io/9r8zv/>.

#### 3.7.1 Download

The full dataset is available in the Data folder at <https://osf.io/9r8zv/>. It contains the ISLANDS, SITES\_EN, BEADS, ILES, SITES\_FR and PERLES tables as csv files, and a bibtex file containing the references cited in the dataset.

#### 3.7.2 Filemaker server

The database, including photos and drawings, is accessible as a Filemaker server application managed by the Huma-Num service, an institutionnal repository of the Centre National de la Recherche Scientifique (CNRS) (Fig. 3). Users can use the database in reading mode only or, if interested in participating in improving the quality of the database, can have more advanced rights by directly asking the authors. The database is located here: [https://fm02.db.huma-num.fr/fmi/webd/PACEA\\_PAAF](https://fm02.db.huma-num.fr/fmi/webd/PACEA_PAAF) (click on “*se connecter en tant qu’invité*” if you just want to be in reading mode). Database is available in French and English, by changing the model (arrow in the top left corner).

#### 3.7.3 GIS Availability (ArkeoGIS)

An online, free and multilingual GIS application allows to visualize the database with a cartographic projection (Fig. 4). A simplified version of the dataset is indeed accessible via the ArkeoGIS platform (<https://arkeogis.org/en/>). Users must register first to ~~the~~ access ~~to~~ this geographical application, since it is controlled in order to prevent archaeological looting.

61 Total 5009 Recherche rapide

**Site** Morel **Ile** Guadeloupe **Long** -61,331654 **Date\_BP**   
**Context\_chrono** Précolombien (huecoide) **Lat** 16,332459 **Date\_calibrée**   
**Type\_site** découverte fortuite **Ref\_biblio\_1** Durand&Petitjean-Roget\_1991,   
**Structure** Sépulture féminine **Ref\_biblio\_2** Turpin\_2015

Général **Avancé** Iles/Site

**INDEX** **GD-02-001**

**Object** Pendentif **Sous\_type** Grenouille   
**Type** Zoomorphe   
**Progress** Achevé   
**State** Cassé   
**Weight** 79,4   
**Bead\_Length** 0   
**Bead\_Dia\_max** 0   
**Bead\_Dia\_min** 0   
**Pend\_Height** 49,2   
**Pend\_width** 41,6   
**Pend\_Thickness** 28,1   
**Blank\_Length** 0   
**Blank\_width** 0   
**Blank\_Thickness** 0   
**Perforation** deux trans sous   
**Shape\_perforation** tronconiques   
**Perfo\_Dia** 2,5

**STRATI**   
**US** hs   
**Square** collier   
**Level** plage   
**Z** -

**Gem** Paragonite   
**Colour** vert   
**Mineral\_1**   
**Mineral\_2**   
**Mineral\_3**   
**Other\_RawMat**   
**Method\_carac** Raman   
**Provenance\_proposed**

**RawMat\_estim** paragonite

Quatre perforations dans la partie supérieur. (Soit deux perforations longitudinales)

Figure 3: Screenshot of the online application.

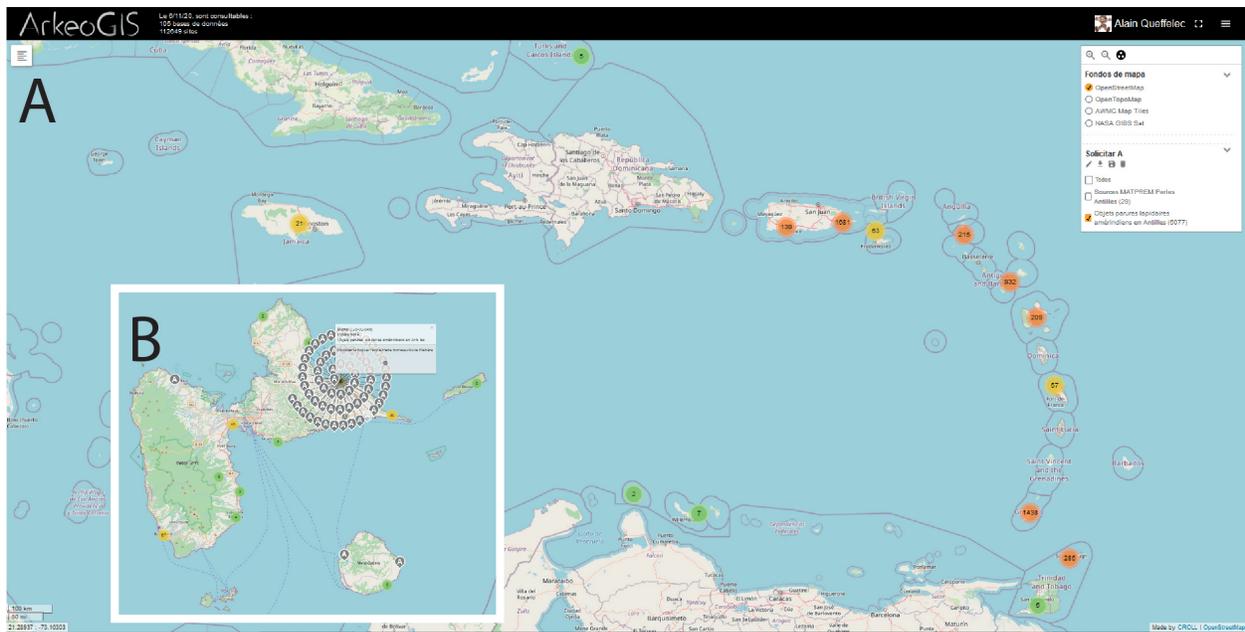


Figure 4: A. Screenshot of the ArkeoGIS application, a simplified GIS online system. B. Zoom on Guadeloupe, showing the potential of the ArkeoGIS visualization tool.

### 3.8 Publication date

This version of the manuscript has been compiled on the 10 novembre, 2020.

### 3.9 Reuse potential

This database will be very helpful for spatial and temporal analysis research in the Caribbean, including GIS and social networks studies. It provides information on the evolution and distribution of the raw materials, types of personal ornaments, stylistic evolution and distribution, for one of the major kind of personal ornaments for this region of the world.

### 3.10 Acknowledgements

The authors want to thank the funders of the PAAF project: the Regional Service of Archaeology of Guadeloupe, the Regional Council of Guadeloupe and the Regional Service of Martinique. We are also in debt with everyone that helped us accessing the artifacts: the Regional Services of Guadeloupe and Martinique, the Edgar Clerc Museum in Guadeloupe, the Musée d'Archéologie et de Préhistoire de Martinique, the society EVEHA for very recent excavations. Some of the entries of the database have been filled thanks to the information kindly provided by Catarina Guzzo Falci in the framework of the project NEXUS1492 ((FP7/2007-2013)/ERC Grant agreement n°319209), and by Quetta Kaye, Scott Fitzpatrick and Michiel Kappers for data on Carriacou. The filmmaker application for the database is hosted by the CNRS HumNum service. We thank Loup Bernard for allowing our dataset to be hosted in the ArkeoGIS application and supporting our integration into this platform.

### 3.11 Competing interests

Alain Queffelec is one of the co-founders of PCI Archaeology.

### 3.12 References

Bérard, Benoît. 2013. "The Saladoid." In *The Oxford Handbook of Caribbean Archaeology*, Oxford University Press, 184–97. W. Keegan, C. Hofman & R. Rodriguez Ramos.

———. 2019. "About Boxes and Labels: A Periodization of the Amerindian Occupation of the West Indies." *Journal of Caribbean Archaeology* 19: 17.

Boomert, Arie. 1987. "Gifts of the Amazons: Green Stone Pendants and Beads as Items of Ceremo-

nial Exchange in Amazonia and the Caribbean." *Antropologica*, no. 67: 33–54.

- Cody, Annie. 1991. "From the Site of Pearls, Grenada : Exotic Lithics and Radiocarbon Dates." In *Proceedings of the 13th International Congress for Caribbean Archaeology*, 589–604. Curaçao: E.N. Ayubi; Jay B. Haviser.
- . 1993. "Distribution of Exotic Stone Artifacts Through the Lesser Antilles : Their Implications for Prehistoric Interaction and Exchange." In *Proceedings of the 14th International Congress for Caribbean Archaeology*, 204–26. Barbados: A. Cummins; P. King.
- Cody, Ann K. 1990. "Prehistoric Patterns of Exchange in the Lesser Antilles: Materials, Models, and Preliminary Observations." PhD thesis, Sand Diego State University.
- Crock, John G., and Robert N. Bartone. 1998. "Archaeology of Trants, Montserrat. Part 4. Flaked Stone and Stone Bead Industries." *Annals of Carnegie Museum PITTSBURGH* 67 (3): 197–224.
- Hofman, Corinne L., Alistair J. Bright, Arie Boomert, and Sebastiaan Knippenberg. 2007. "Island Rhythms: The Web of Social Relationships and Interaction Networks in the Lesser Antillean Archipelago Between 400 B.c. And A.d. 1492." *Latin American Antiquity* 18 (3): 243. <https://doi.org/10.2307/25478180>.
- Knippenberg, Sebastiaan. 2007. *Stone Artefact Production and Exchange Among the Lesser Antilles*. Vol. 13. Amsterdam University Press.
- Murphy, A. Reg, David J. Hozjan, Christy N. de Mille, and Alfred A. Levinson. 2000. "Pre-Columbian Gems and Ornamental Materials from Antigua, West Indies." *Gems and Gemology* 36 (2): 234–45. <https://doi.org/10.5741/GEMS.36.3.234>.
- Napolitano, Matthew F., Robert J. DiNapoli, Jessica H. Stone, Maureece J. Levin, Nicholas P. Jew, Brian G. Lane, John T. O'Connor, and Scott M. Fitzpatrick. 2019. "Reevaluating Human Colonization of the Caribbean Using Chronometric Hygiene and Bayesian Modeling." *Science Advances* 5 (12): eaar7806. <https://doi.org/10.1126/sciadv.aar7806>.
- Narganes Storde, Yvonne M. 1995. "La Lapidaria de Sorce, Vieques Y Tecla, Guayanilla, Puerto Rico." In *Proceedings of the 16th International Congress for Caribbean Archaeology*, 17–26. Basse-Terre:

Richard.

Queffelec, Alain, Ludovic Bellot-Gurlet, Eddy Foy, Yannick Lefrais, and Emmanuel Fritsch. n.d. “A New Gemstone for the Production of Prehistoric Beads and Pendants in the Caribbean: Sudoite, a Mineral from the Chlorite Group.” *Gems & Gemmology*.

Queffelec, Alain, Pierrick Fouéré, Ludovic Bellot-Gurlet, and Benoît Bérard. 2020. “Stone Ornaments from Guadeloupe and Martinique Early Ceramic Period Sites (200 BC – AD 400), Detailed Analysis and Comparison with a Late Ceramic Period Site (AD 750 – 1000).” *Journal of Caribbean Archaeology* 20.

Queffelec, Alain, Pierrick Fouéré, Céline Paris, Christian Stouvenot, and Ludovic Bellot-Gurlet. 2018. “Local Production and Long-Distance Procurement of Beads and Pendants with High Mineralogical Diversity in an Early Saladoid Settlement of Guadeloupe (French West Indies).” *Journal of Archaeological Science: Reports* 21: 275–88. <https://doi.org/10.1016/j.jasrep.2018.07.011>.

Rodriguez, Miguel. 1993. “Early Trade Networks in the Caribbean.” In *Proceedings of the 14th International Congress for Caribbean Archaeology*, 306–14. Barbados: A. Cummins; P. King.