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# THE GRANDE PASSE 1 SHIPWRECK, 2<sup>ND</sup> CENTURY BC, HYÈRES, FRANCE: NEW DATA ON ITS CARGO, NAUTICAL EQUIPMENT AND WOODEN REMAINS

Alex SABASTIA

## Abstract

The Grande Passe 1 shipwreck lies 45 m deep off the coast of Porquerolles Island, Hyères, southern France. Discovered in 1975, new fieldwork campaigns in 2017 and 2018 brought to light a part of the hull (keel, planking, frames), indications of its cargo from the 2<sup>nd</sup> century BC (Graeco-Italic amphorae), and three well preserved iron anchors. This paper provides a first archaeological analysis of the wreck.

## Keywords

Graeco-Italic amphorae, shipwreck, iron anchor

## Résumé

L'épave *Grande Passe 1* se trouve à 45 m de profondeur au large de l'île de Porquerolles, à Hyères (Var), sur la côte méditerranéenne française. Elle a été découverte en 1975 et de nouvelles campagnes de terrain en 2017 et 2018 ont mis au jour une partie de la coque (quille, bordé et membrure) et trois ancres en fer en bon état de conservation. Quelques amphores gréco-italiques, qui faisaient partie de la cargaison, sont datables du 1<sup>er</sup> s. av. J.-C. Cet article propose une première analyse de l'épave.

## Mots clés

Amphores gréco-italiques, épave, ancre en fer

The Grande Passe 1 shipwreck lies 45 m deep off the coast of Porquerolles Island, in the Hyères archipelago, southern France (fig. 1), a region where many ancient wrecks have been discovered (Long 2004). The Grande Passe 1 wreck has been known since 1975, when two local divers reported an area of 100m<sup>2</sup> covered with amphora shards to the French Department of sub-aquatic and submarine archaeological research (DRASSM). Since its discovery, the site has been heavily visited, and some of the looters' equipment can still be seen on the bottom. The site was gradually forgotten by looters and had never been evaluated by archaeologists until its rediscovery in 2016 during a survey conducted by Bernard Pasqualini (Iero Diving Centre, Hyères). Because of its potential, it was decided to conduct a documentation campaign in 2017, and then an excavation in 2018.

The wreck lies on a sandy bottom, seasonally covered by algae. The site measures 10 m long and 5 m wide. This includes the excavated remains of the wreck, the anchors and some cargo fragments (fig. 2).

## 1. THE CARGO

Although the site has been looted, the excavation brought to light a few Graeco-Italic amphorae (one complete, two necks and some shards), dating the wreck to the 2<sup>nd</sup> century BC. We presume these are part of the cargo and not the ship's own equipment, even if we cannot establish the cargo's size. Effectively, the ship can be linked to a great number of wrecks with similar cargo discovered on the maritime route going from the Italian

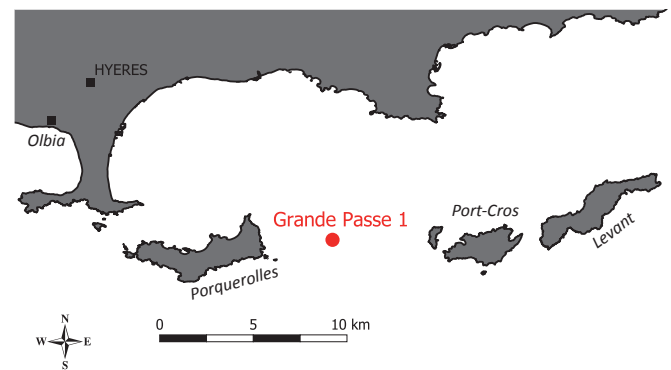


Fig. 1: Geographic location of the wreck (drawing A. Sabastia, AMU/CCJ).

peninsula towards the coast of Gaul off the eastern side of Corsica (Cibecchini 2008, 2015). Most of the ships were around 20 m long, with a maximum cargo of about 30 tons (Cibecchini 2008).

A few other artefacts could be linked to crew equipment: a lid, pieces of cooking ware (*lopas*), Campanian A ware of the type Lamboglia 36/Morel 1310 (Morel 1981, pl. 11-13) and a *catillus* of a manual millstone in basalt. A few pieces of *imbrices* and *tegulae* might belong to the hearth.

## 2. ANCHORS

The wreck revealed two types of anchor: iron anchors in a good state of preservation, and a wooden anchor with lead stock.

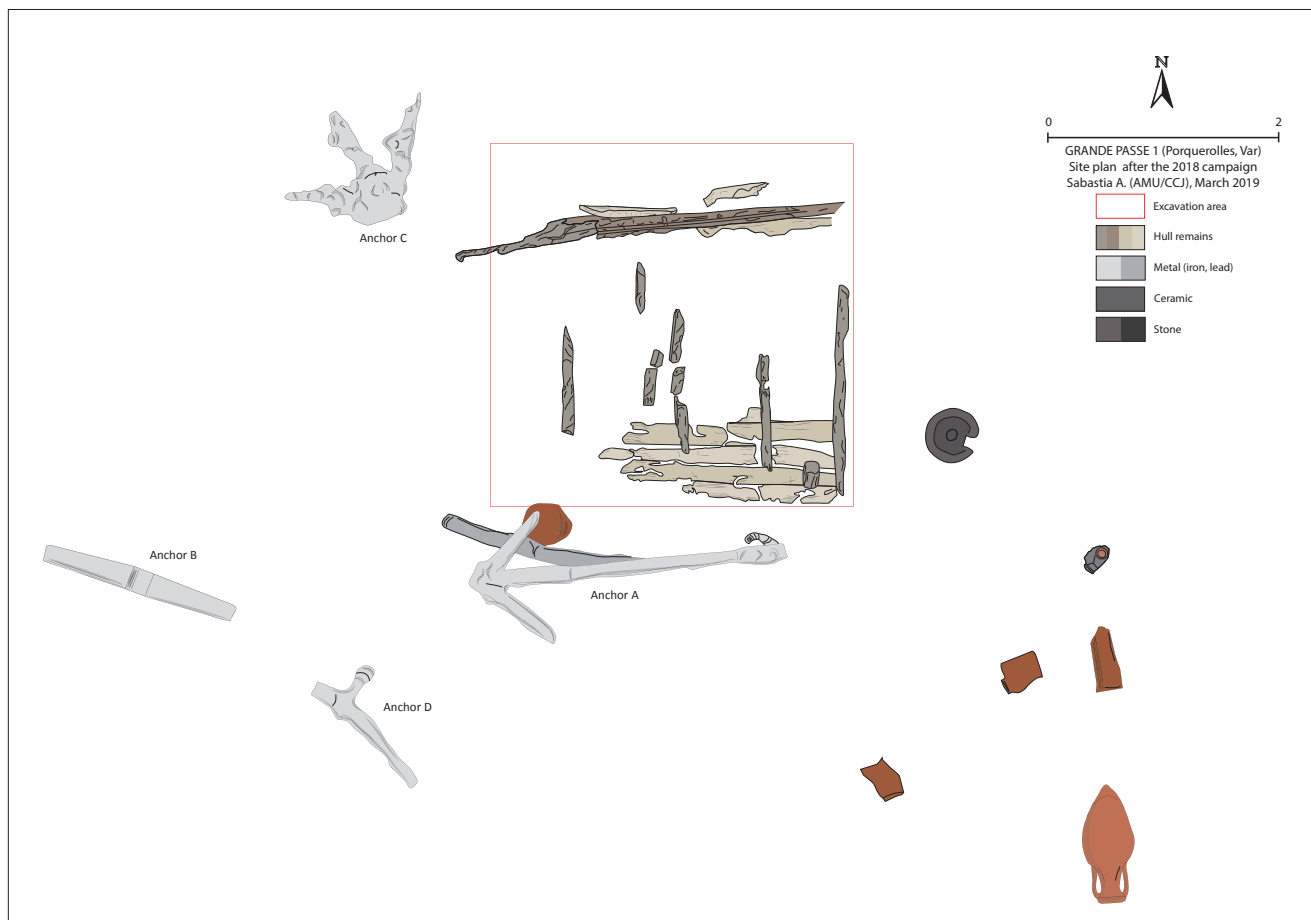


Fig. 2: Plan of the site (drawing A. Sabastia, AMU/CCJ).

The lead stock (Anchor B), belonging to a wooden anchor, which has not been preserved, measures 134 cm in length with a 7 x 24 cm cross section. The box for the shank is rectangular with rounded edges, 21 cm long and 17 cm wide. We can estimate its weight to be around 150 kg.

The three iron anchors each had a removable stock (Kapitan 1984, p. 34). The best preserved (Anchor A) measures 231 cm from crown to its extremity (fig. 3). The arms are 68 cm long and at their furthest are separated from each other by 88 cm, forming a clear V shape. Iron concretions obscure the crown, which does not seem to have a tripping ring. The arm tips are not visible. The shank section is rectangular at its lower extremity (10 cm wide, 17 cm thick), becomes rounded for most of its 117 cm length, and then becomes rectangular again at its upper extremity. The ring is partly preserved, with the remaining part measuring 28 cm in length. The 110 cm-long arched stock is preserved under the shank.

Two other anchor pieces are visible on the site. The lower part of an iron anchor (Anchor C) is preserved. The distance between the arm tips is 115 cm, and the arms are 80 cm long, longer than Anchor A. The shank section is rectangular, measuring 8 cm wide and 7 cm thick.

The third example (Anchor D) is the upper part of an anchor with the head, the ring (6-7 cm diameter), and the stock. The stock is lightly arched and measures 123 cm in length. Its rectangular section is 12 cm wide and 8 cm thick.

V-shaped anchors are characteristic of the Republican period, as shown by Kapitän (1984, p. 42-43), but only a few

comparisons are possible especially in this good state of preservation. From the Cannonier-du-Sud shipwreck (2<sup>nd</sup> century BC), only the mould of the lower part of an iron anchor has been preserved: it is exhibited in the Musée des docks romains in Marseilles (Benoit 1958, p. 25). That anchor's shank is slightly different, with two different sections and two protrusions on its sides, maybe to improve strength. These can also be seen on the Pompeii anchor (Ucelli 1950, p. 239), but not on anchors discovered in a maritime context, mainly because of oxidation.

### 3. THE HULL

A part of the hull was excavated and studied in 2018. The trench, located near Anchor A, brought to light a part of the hull in a fair state of preservation. Much of the structure has disappeared, but a part of the keel and its post, nine planks and seven pieces of frame could be studied (fig. 2). Each piece was measured *in situ*, the documentation being completed by photography and sampling (wood, pitch). Each piece has been sampled but the wood identification has not yet been conducted.

#### 3.1. KEEL AND TRANSITIONAL TIMBER

A 2.8 m-long part of the longitudinal axis of the ship was excavated. The keel and a transitional timber are partly preserved.

The pieces are assembled together by a hook scarf (25 cm in length), locked by a wooden key that is not preserved (fig. 4). The transitional timber is broken on its western part, arched and measures 97 cm in length. Its section is 13 cm wide and 15 cm high.

The keel is also 13 cm wide and 15 cm high in section. The top face is rabbeted (4.5 cm wide and high) in order for the garboard to be assembled onto the keel. The two rabbets are only 3.5 cm distant from each other. The profile of the keel gives the bottom of the hull a clear wineglass shape.

### 3.2. PLANKING

Nine pieces of planking are preserved. Planks P1 to P5 are preserved to the south of the remains, while P6 to P9 are pieces of garboard still connected to the keel. The planks are 12 to 16 cm in width and 3.5 cm thick. The garboards are thicker and, judging by plank P7, narrower (10 cm). The carved garboards give the hull a wineglass section.

Planks are assembled to each other by pegged tenon-and-mortise joints. The pegs are 1.1 cm in diameter (internal face). On the keel, tenons are 4 cm wide and spaced on average at 18 cm. Copper nails are driven from outside the hull into the keel to reinforce the assemblages.

### 3.3. FRAMES

Six frames are preserved in place, and a seventh (F102) has been moved. None of them are preserved on the top of the keel, thus it is impossible to determine if there were floor timbers.



Fig. 3: Anchor A, the best preserved on the site (photograph T. Seguin).



Fig. 4: The scarf between the keel (left) and the post (right): the garboard in the foreground (photograph L. Damelet, CNRS/CCJ).

The frames are 5.5 to 9 cm wide and 4 to 9 cm high. They are attached to the planking by treenails, sometimes reinforced by copper nails. F104 is attached to the planking by only one treenail. Nails are driven from outside the hull, and clenched on the top of the frames. Unlike the Kyrenia shipwreck (4<sup>th</sup> century BC, Steffy 1985, p. 84), they are clenched only once, not twice. A few nails were discovered around the ship remains. The best preserved is 11 cm long and its head is 1.5 cm in diameter.

## 4. DISCUSSION

Grande Passe 1 was carrying Graeco-Italic amphorae from the Italian peninsula to a northwestern Mediterranean harbour (*Massalia* ?). After passing the eastern coast of Corsica, it sank in the Hyères archipelago. This route is well known from a large number of shipwrecks, some found at great depths (Cibecchini 2008; Cibecchini, Capelli 2013).

The latest campaigns brought to light elements from the crew's equipment. The Campanian ware, the millstone and the cookware show that the galley was in this part of the ship. The *tegulae* and *imbrices* might belong to the hearth.

The hull remains are from one extremity of the ship, perhaps the prow, as shown by the anchors and the hearth<sup>1</sup>. The hull probably had a wineglass section, a typical shape for a hull bottom in the Hellenistic and Romano-Republican periods (Pomey 2004). The carved garboards and the frame size help to visualise the conception and construction of this shell-first vessel (Pomey, Rieth 2005, p. 29-31).

The gear of the Grande Passe 1 ship includes anchors of different types and sizes. This was also the case on the Dramont D (1<sup>st</sup> century BC, Joncheray 1975, p. 13-16) where three iron anchors and a lead stock were found, as well on the Grand Rouveau shipwreck (1<sup>st</sup> century BC, Corsi-Sciallano, Liou 1985, p. 65) where one iron anchor and two lead stocks were found.

1. As a comparison, the hearth is located in the forepart of the ship in the Caska 2 shipwreck (Boetto 2016, p. 1409; Boetto, Radić Rossi 2017, p. 285). The shipwreck of Pakoštane (Croatia, 4<sup>th</sup>-5<sup>th</sup> century AD) also shows this type of galley remains (Boetto *et al.* 2012, p. 111-112). For others examples, see Beltrame 2002, p. 60-65.

It was quite usual for ships to carry several anchors (Gianfrotta, Pomey 1981, p. 297-309). The heavier were used for mooring and, in case of loss, could be replaced by the others. In case of bad weather, several anchors could be useful to secure the ship. The small anchors could also be used for manoeuvres in an area where using the sail could be risky (harbours, small bays etc.).

The Grande Passe 1 anchors might indicate the size of the ship. By analogy with the Cap de l'Estrel shipwreck (2<sup>nd</sup>-1<sup>st</sup> century BC, Pomey, Guibal 2001), where iron anchors and a 140 cm lead stock were excavated, we can estimate that the Grande Passe 1 ship might be at least 15 m long<sup>2</sup>.

## 5. CONCLUSION

Despite the poor condition of the archaeological material, especially the hull, the Grande Passe 1 shipwreck displays an interesting set of anchors. Anchor A, one of the best-preserved

2. Among other details, the size of the anchors provides an indication regarding the size of the ship, even if we cannot be as precise in our estimate as other scholars might claim (Tour Fondue, 3<sup>rd</sup> century BC, Dangréaux *et al.* 2012, p. 21).

examples of its kind for this period, has only a few parallels. The anchors, their number and dimensions, as well as the dimension of the architectural pieces excavated are consistent with a 15 m-long vessel, but the data is not sufficiently complete to define precisely the original dimensions of the ship.

Future campaigns will focus on the keel and its original length, as well as on the general characteristics of the architecture (planking, frames, and assemblages). New elements from the stern area or the crew kitchen could help to define the date of the sinking as well as the maritime route and the origin of the ship.

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