

## The Dipinti Survey of Ambiente dei Sette Sapienti at Ostia Antica (Prompt Report: October 6, 2015)

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### 1 Introduction

Since 2008, Hori and Toyota have focused their surveys on Ostia Antica backed by grants from JSPS KAKENHI and with the permission of Soprintendenza Speciale archeologica di Roma per Ostia Antica. During the survey of summer 2013, Hori and his team conducted 3D laser precision measurement in Ambiente dei Sette Sapienti, one of the rooms in Terme dei Sette Sapienti, the ruin representing Ostia Antica. When Toyota inspected the results of this measurement the following year, he found letter traces starting with “M” on the upper section of the north wall of the Ambiente dei Sette Sapienti and at the same time, assumed the possibility that several other letter traces may exist [1]. In order to resurvey, Toyota obtained the cooperation of Nishiyama who, under Toyota’s instruction, carried out infrared photography from March 14 to March 16, 2015. Okuyama, who also accompanied Toyota and Nishiyama on the survey as an assistant, was in charge of analyzing the letter traces and succeeded in partially reading them [2].

The work procedures were as per below [3].

- (1) Attach an infrared filter (FUJI OPTICAL IR80) to a camera secured on a tripod then attach the same filter to a strobe and photograph the wall paintings and inscriptions.
- (2) Attach an infrared cut filter (Ricoh IR cut filter) to a camera and take a normal photograph in order to record the visual images in the same position.
- (3) Store photographed images in a JPEG format.
- (4) Display the JPEG infrared images on a computer monitor, adjust brightness and contrast to create the optimal image, then read the wall paintings and inscriptions.

### 2 Confirmation of Letter Traces

As a result of analyzing the infrared photographs, new letter traces were confirmed, all of which were located on the upper section of the north wall of the Ambiente dei Sette Sapienti (Fig. 1). Specifically, the following four places;

- (1) The right of the “M” located above the right-hand side amphora (Dressel 2-4?)
- (2) Above the abovementioned (1)
- (3) Above the image of a person on the left-hand side
- (4) Above the amphora (Dressel 20??) in the center

After this survey was conducted, the Soprintendenza Speciale archeologica di Roma per Ostia Antica began restoration work on the entire Ambiente dei Sette Sapienti from July to October which was underway at the time this Prompt Report was prepared. At that time, the additional portion from the restoration of 1963 was also removed therefore presumably enabling studies on a more original level, however we would like to await the results of an additional on-site survey scheduled for Nov-Dec 2015 in order to conduct a comprehensive study.

Fig. 1 Upper section of north wall – Top photo: Condition at the time of this survey (Mar 2015) (Photographed by Nishiyama),  
Bottom photo: Photo during restoration of Oct 2015 (Photographed by Hori)

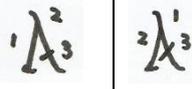
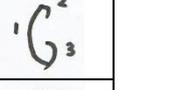
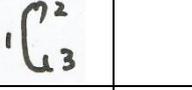
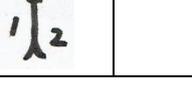


### 3 Method for Reading the Letter Traces

The reading of the confirmed letter traces involved first assessing the characteristics of the other Latin and Greek letters in the Ambiente dei Sette Sapienti (letter form and stroke order), then making comparisons with these. However, here “letter form” refers to the overall shape of the letters, while “stroke order” simply refers to the order of strokes and doctus is not particularly considered an issue. This is because, while it is often possible to determine the stroke order of letters, determining the course of such strokes is difficult.

We will leave the details of Latin and Greek letter characteristics to be explained by a separate paper planned for publication in the near future and only include the respective lists in this report. The addition (Fig. 2) to some of the letters by a conservator during the restoration of 1963 was discovered at the time of the earlier mentioned restoration (however does not impact upon the conclusion of this report). Consequently, we wish to emphasize that the below lists are only results current as of October 2015.

#### Letter form and stroke order of Latin letters

		Letter form	Stroke order	Remarks
A	(1)			A serif under the left diagonal stroke A hook under the right diagonal stroke The order of the 1 <sup>st</sup> and 2 <sup>nd</sup> stroke differs
	(2)			Serifs under the left and right diagonal strokes Only 1 example overall (from the 1963 restoration)
B				The order of the 2 <sup>nd</sup> and 3 <sup>rd</sup> stroke differs
C				Comprised of 2 strokes The order of the 1 <sup>st</sup> and 2 <sup>nd</sup> stroke differs
D				Comprised of 3 strokes The order of the 2 <sup>nd</sup> and 3 <sup>rd</sup> stroke differs
E				Order of strokes other than the 1 <sup>st</sup> (and 2 <sup>nd</sup> ) stroke is unknown
F				Order of strokes other than the 1 <sup>st</sup> stroke is unknown Only 1 example overall
				Order of strokes other than the 1 <sup>st</sup> stroke is unknown Only 1 example overall (from the 1963 restoration)
G				Comprised of 3 strokes
				
H				Serifs on the top and bottom of the vertical strokes
I	(1)			Serifs on the top and bottom of the vertical stroke
	(2)			Serif on the top of the vertical stroke Only 1 example overall, coexisting with the I-(2) letter

					form
K					No examples
L					Serif on the top of the vertical stroke
M	(1)				Serif on the bottom of the left diagonal stroke Hook on the bottom of the right diagonal stroke The order of the 1 <sup>st</sup> and 2 <sup>nd</sup> stroke differs
	(2)				Serif on the bottom of the right diagonal stroke Only 1 example overall (from the 1963 restoration)
N					The order of the 1 <sup>st</sup> and 2 <sup>nd</sup> stroke differs Serifs on the bottom of the left vertical stroke and on the top of the right vertical stroke
O					
P					Serif on the bottom of the vertical stroke
Q					No examples
R	(1)				Serif on the bottom of the left diagonal stroke Hook on the bottom of the right diagonal stroke
	(2)				Serifs on the bottom of the right and left diagonal strokes Only 1 example overall (from the 1963 restoration)
S					The order of the 1 <sup>st</sup> and 2 <sup>nd</sup> stroke differs
T					The order of the 1 <sup>st</sup> and 2 <sup>nd</sup> stroke differs Serif on the bottom of the vertical stroke
					Only for 2 examples For one of these examples, coexisting with the T letter form directly above Serif on the bottom of the vertical stroke
V					Serif on the top of the right diagonal stroke
X					Serif on the bottom of the left diagonal stroke Hook on the bottom of the right diagonal stroke Serifs on the top of the left and right diagonal strokes
Y					Serif on the bottom of the vertical stroke
Z					No examples

Letter form and stroke order of Greek letters

		Letter form	Stroke order	Remarks
Α	(1)			Coexists with the Α-(2) letter form
	(2)			The order of the 1st and 2nd stroke differs Some cases with serif on bottom of left stroke, some cases without
Β				No examples
Γ				No examples
Δ				Order of strokes other than the 1 <sup>st</sup> stroke is unknown Only 1 example overall
Ε				Some cases with the 4 <sup>th</sup> stroke, some cases without
Ζ				No examples
Η				
Θ				
Ι				
				Only 1 example overall, excessively long at bottom Coexists with Ι directly above
Κ				Only 1 example overall Upper right stroke is excessively long at top
Λ				Serif on the bottom of the left diagonal stroke Hook on the bottom of the right diagonal stroke The order of the 1 <sup>st</sup> and 2 <sup>nd</sup> stroke differs
Μ				Serif on the bottom of the left diagonal stroke Hook on the bottom of the right diagonal stroke The order of the 1 <sup>st</sup> and 2 <sup>nd</sup> stroke differs
Ν				The order of the 1 <sup>st</sup> and 2 <sup>nd</sup> stroke differs
				The order of the 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> stroke differs Only 1 example overall (from the 1963 restoration)
Ξ				No examples
Ο				
Π				Only 1 example overall
Ρ				Only 1 example overall

Σ					The order of the 1 <sup>st</sup> and 2 <sup>nd</sup> stroke differs
T					No examples
Y					Only 1 example overall
					Only 1 example overall (from the 1963 restoration) Discovered from an original analysis to be part of Ω
Φ					No examples
X					Only 1 example overall Excessively long at top
Ψ					No examples
Ω					

Fig. 2 Examples of additions during the 1963 restoration (Right-hand side on the middle section of the west wall) – Top: Condition at the time of this survey, Bottom: Condition prior to 1963 restoration, photographed by Hori)

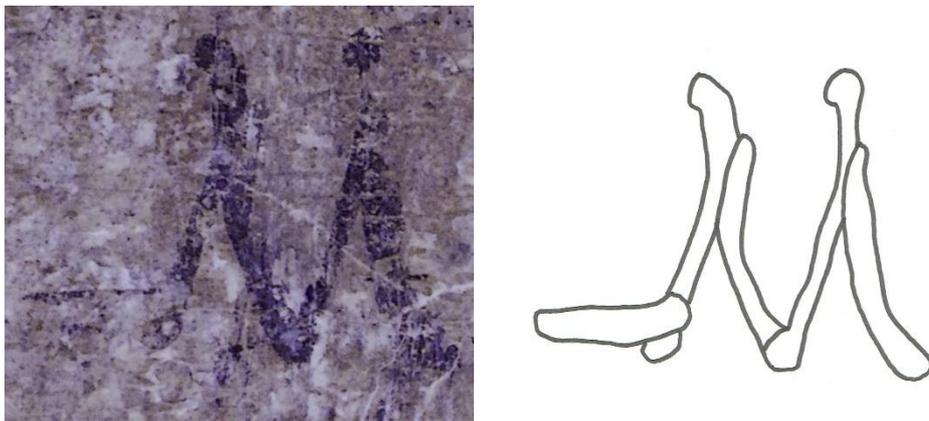


#### 4 Reading of the Letter Traces

(1) Letter traces after the “M” located above the right-hand side amphora on the upper section of the north wall

The letter form of the leading letter “M” (Fig. 3) has a serif on the bottom of the left diagonal stroke and a hook (at least not a serif) on the bottom of the right diagonal stroke. However this form is observed for both Latin and Greek letters, therefore it is not possible to determine with the “M” alone whether it is a Latin or Greek letter. However, the languages used in Ambiente dei Sette Sapienti tend to be categorized by section, therefore this letter trace can be considered as a Latin letter considering that the upper section of the west wall contains Latin letters.

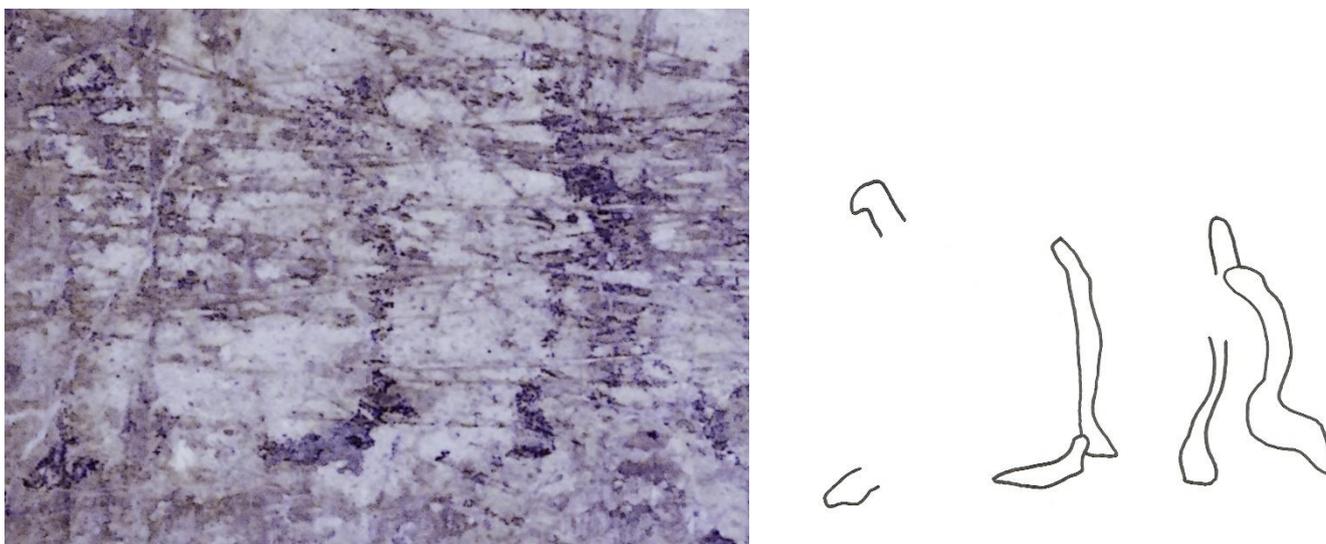
Fig. 3 Leading letter “M” (left: photo, right: drawing)



A trace (  $\curvearrowright$  ) of a left diagonal stroke can be observed in the second letter space following M. There is a possibility that this letter is either an M, N, X or V, however if the trace to the bottom left (  $\curvearrowleft$  ) is also considered it would be  $\curvearrowleft$  and the most suitable letter would be A, considering both letter form and the fact it is more common for a vowel to follow a consonant, as opposed to a consonant following a consonant (Fig. 4).

On the 3<sup>rd</sup> letter space, there is a trace (  $\curvearrowright$  ) consisting of a vertical stroke which curves slightly to the left at the top and a horizontal stroke extending to the left from the bottom of the said vertical stroke. This trace suits the letters B, D, M, O and, in particular, S. However, if the left diagonal stroke immediately following, which is hard to determine in isolation, and the trace of a right diagonal stroke which begins from its center (  $\curvearrowleft$  ) are also taken into consideration, this letter may be an M, which has a serif (horizontal stroke) below the left diagonal stroke (  $\curvearrowleft$  ). Then, if we consider that the leading letter M has a long serif at the bottom of its left diagonal stroke and a 4<sup>th</sup> stroke beginning from around the middle of the right diagonal stroke (  $\curvearrowleft$  ) then the most suitable letter is M (Fig. 4).

Fig. 4 2<sup>nd</sup> and 3<sup>rd</sup> letters (left: photo, right: drawing)



There are no letter traces for the 4<sup>th</sup> letter, therefore it remains unknown.

The 5<sup>th</sup> letter space has a letter trace consisting of a vertical stroke with a serif and a curved line with a right diagonal line extending from its top (  $\curvearrowleft$  ). This is indeed the letter R. The letter traces of a left diagonal stroke with a serif at its bottom and right diagonal stroke with a hook at its bottom, the characteristics of the letter R, also support this judgment (Fig. 5).

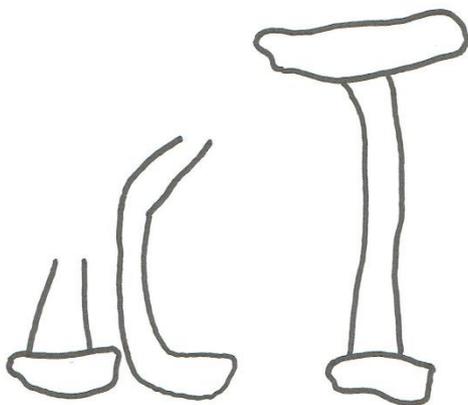
The 6<sup>th</sup> letter space has a letter trace comprising of a horizontal stroke and a vertical stroke with a serif at its bottom (  $\bar{I}$  ). This

could only be a T (Fig. 5).

Even after the 6<sup>th</sup> letter, there are traces for around 2 letters, and in particular the 7<sup>th</sup> letter space has a trace which could be the letter A, however there are lines through it and we have as yet been unable to identify it.

If we summarize the above work, the word becomes MAM[\*]RT[\*\*?]. This immediately suggests “MAMERTIVM” (Mamertino wine from the outskirts of Messana, Sicily). There is a high possibility that this is what is written considering there is also the name of a wine (“FALERNVM”: Falernian wine) on the upper section of the west wall and the fact that it is written immediately above an amphora. However further study is required to identify the 7<sup>th</sup> letter onwards and whether or not an E would fit into the space for the 4<sup>th</sup> letter (Fig. 5).

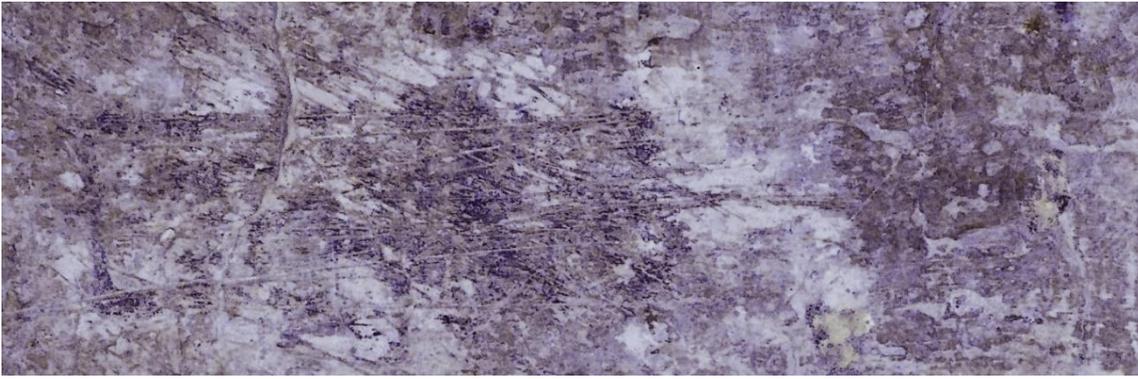
Fig. 5 5<sup>th</sup> letter onwards (top: photo, bottom: drawing of 5<sup>th</sup> and 6<sup>th</sup> letters)



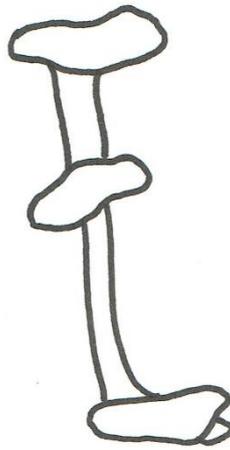
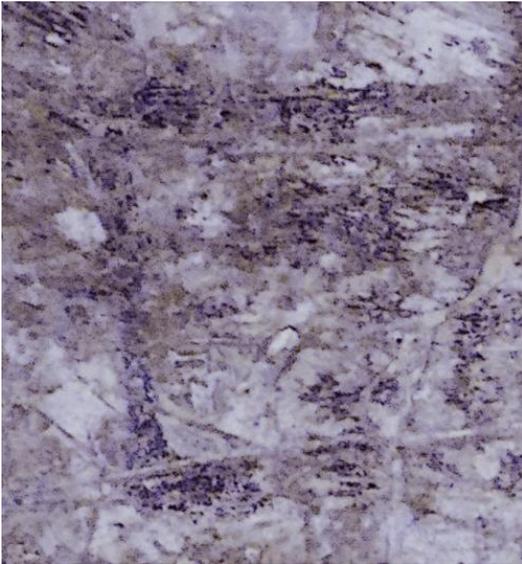
(2) Letter traces above the abovementioned (1) (Fig. 6)

Letter traces were also found immediately above the “M” above the amphora on the right-hand side of the upper section of the north wall. The leading letter is relatively clear and appears to consist of a vertical stroke and 3 short horizontal strokes (Ε). The Greek letter E has a round profile therefore this trace can be identified as the Latin letter E. The 2<sup>nd</sup> letter has the trace of a left diagonal stroke with a serif (⋈) however the letter is difficult to identify and identification becomes extremely difficult from the 3<sup>rd</sup> letter onwards. Moreover, there are no wall paintings close by, therefore we cannot form a conjecture based on the wall paintings. Perhaps we may need to consider the relationship with the abovementioned (1).

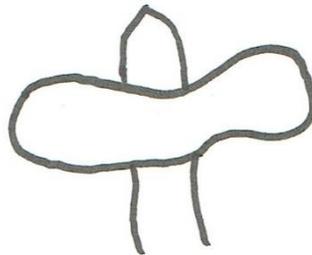
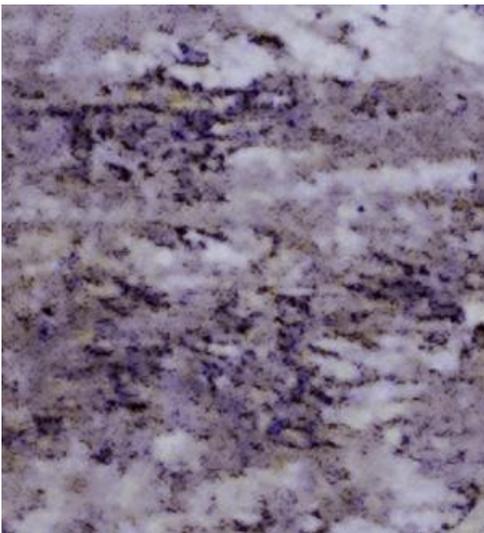
Fig. 6 Letter traces above the abovementioned (1)



Enlarged view of the leading letter (left: photo, right: drawing)



Enlarged view of the 2<sup>nd</sup> letter (left: photo, right: drawing)

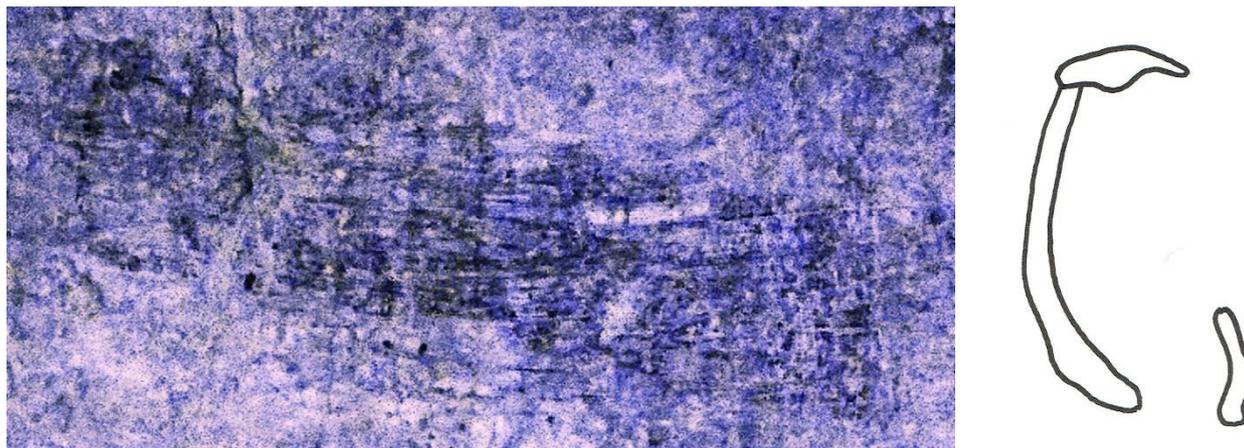


(3) Letter traces above the image of a person on the left-hand side of the upper section of the north wall (Fig. 7)

Letter traces were also found above the image of a person on the left-hand side of the upper section of the north wall. The leading letter consists of a horizontal stroke and a curved line  $\zeta$ , or including the trace slightly to the right of this to form  $\zeta$ . In the case of the latter, it would be comprised of three parts, hence form the Latin letter G, however if the former, it could

be either the Latin letter (C), or Greek letter (C ( $\Sigma$ )), which both are comprised of two parts. Considering this section of the wall features Latin letters, we would surmise these letters to also be Latin, however if we assume this is the name of the person depicted, it would not be unfeasible that these are Greek letters representing one of the names of the sages in the middle section. Moreover, wall paintings of people often come with written information (names) to identify the people depicted, therefore there is a high possibility that the letter traces do form a name. The question is whether the leading letter is a G or a C, a Latin letter or a Greek letter. Identifying the 2<sup>nd</sup> letter onwards is the key to solving this question, however unfortunately this is an extremely difficult task.

Fig. 7 Letter traces above the image of a person on the left-hand side of the upper section of the north wall (left: photo, right: drawing of the surrounding part of the leading letter)



(4) Letter traces above the amphora in the center of the upper section of the north wall (Fig. 8)

Letter traces were also found above the small, stocky-looking amphora drawn in the center of the upper section of the north wall. However, these are limited to the bottom end of letters, therefore insufficient information to allow a study of letter identification. Toyota also pointed out the possibility of letter traces in the neck of the amphora itself [4] however they were not recognized as written information (Fig. 9).

Fig. 8 Letter traces above the amphora in the center of the upper section of the north wall

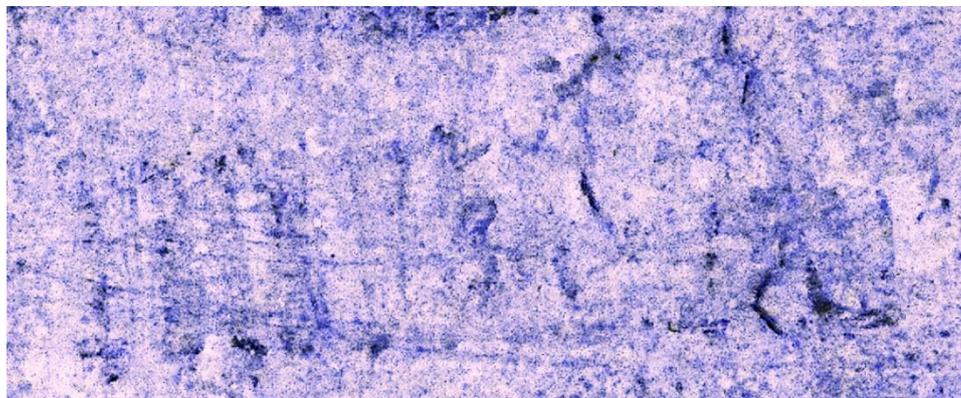
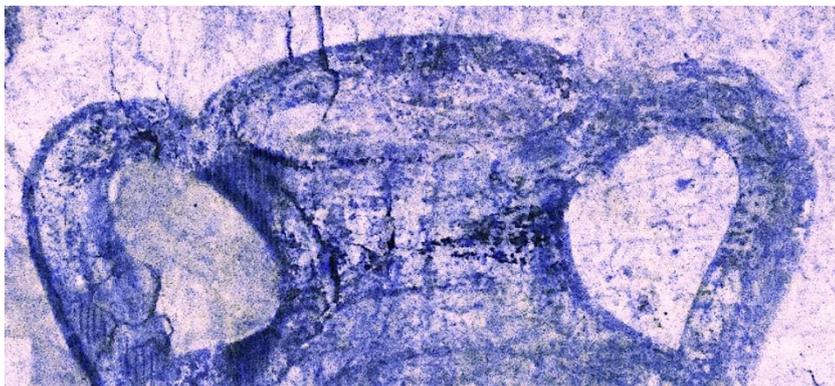


Fig. 9 Neck of the amphora in the center of the upper section of the north wall



## Conclusions

The conclusions of this report regarding letter reading are as follows:

(1) Letter traces after the “M” located above the right-hand side amphora on the upper part of the north wall

MAM[E]RT[IVM] = Mamertino wine from the outskirts of Messina (present day Messina), Sicily

(2) Letter traces above the abovementioned (1)

E[----]

(3) Letter traces above the image of a person on the left-hand side of the upper section of the north wall

C(G?)[----]

(4) We were unable to read the letter trace above the amphora in the center of the upper section of the north wall, moreover, the portion which appeared to be a trace in the neck of the amphora was not recognized as written information.

## Notes

[1] Please refer to the below materials related to our survey so far.

[http://pweb.sophia.ac.jp/k-toyota/monbukaken2010-2012/pdf/Koji-TOYOTA\\_Ambiente-dei-Sette.pdf](http://pweb.sophia.ac.jp/k-toyota/monbukaken2010-2012/pdf/Koji-TOYOTA_Ambiente-dei-Sette.pdf): Toyota (2014).

Toyota surmised several words following the “M” on philological grounds from Pliny the Elder and others (cf., p.39:

Mamertium, Massicum, Methymna). Moreover, the following literature has already presented theories regarding the trace of the letter “M”, Mols, S.T.A.M., I <Sette Sapienti> ad Ostia antica, in: a cura di Daniela Scagliarini Corlàita, *I temi figurativi nella pittura parietale antica (IV sec.a.C-IVsec d.C.)*, Atti del VI Convegno Internazionale sulla Pittura Parietale Antica (Bologna, 20-23 settembre 1995), Bologna, p.90.

[2] We wish to extend our sincere gratitude to Dott.ssa Paola Germoni, Responsabile della Soprintendenza Speciale archeologica di Roma per Ostia Antica, and Dott. Marco Sangiorio, Direttore del tecnico delle medesima Area, for their undivided support and guidance throughout this survey.

[3] Equipment used for infrared photography were a camera: PENTAX 645D IR (special-purpose digital camera for infrared photography), lens: PENTAX—FA 645 MICRO 120mm, infrared filter: FUJI OPTICAL IR80 (only filters infrared and is attached to a camera when taking infrared photos), infrared-cut filter: RICOH IR Cut Filter 67mm (cuts infrared and is attached to a camera when taking normal color photos), strobe: PENTAX Auto Strobe AF540FGZ, infrared filter for the strobe: FUJI OPTICAL IR80 (only filters infrared and is attached to a camera when taking infrared photos) and a tripod.

[4] cf., Toyota (2014), p.36.