

# Painters of Ostia: Reconstructing Production Dynamics and Craftsmanship of Ostian Wall Paintings

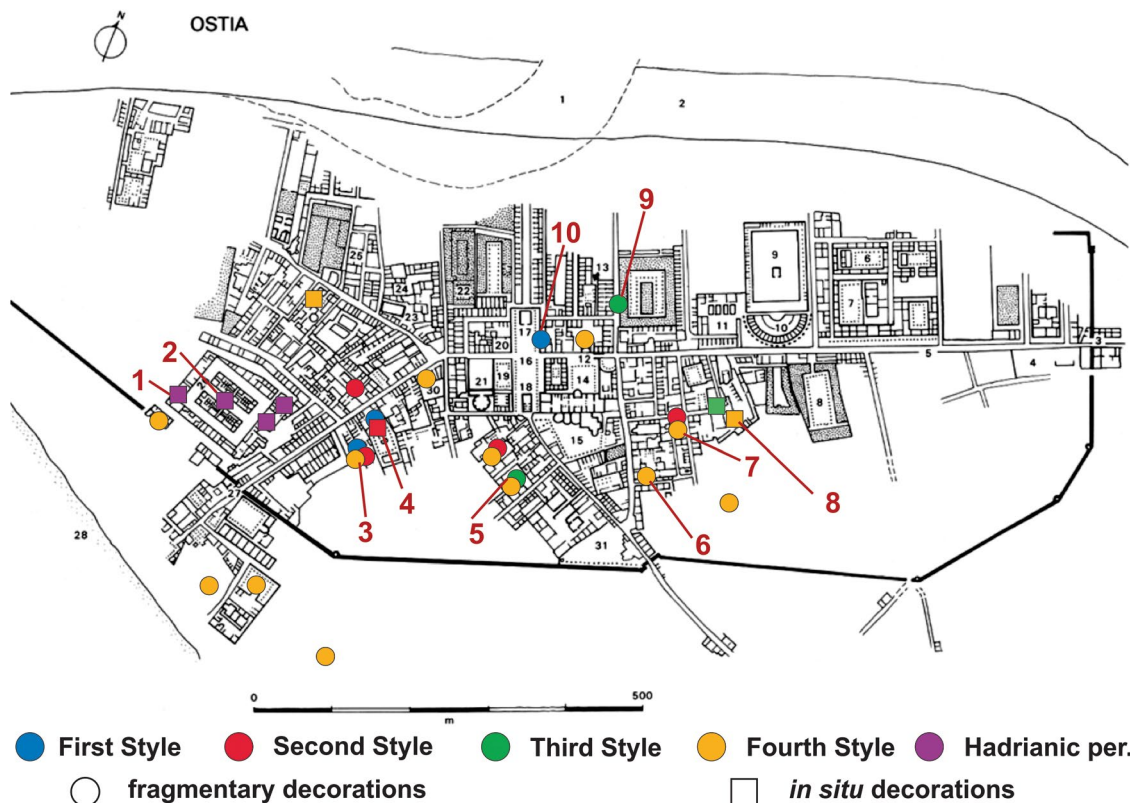
Stella Falzone – Martina Marano – Paolo Tomassini

## Abstract

The painted decorations of Ostia are known by all for their excellent state of preservation and for the importance they represent as one of the only testimonies of ancient wall painting from the 2<sup>nd</sup> to the 5<sup>th</sup> c. AD. However, they have surprisingly never been studied through a technical approach, using them as medium to understand the production dynamics of the workshops. The Hadrianic complex of the *Casa a Giardino* constitutes an excellent case study, where we can follow the work of local ateliers, working together with the builders and replicating the same models in a very short span of time. Recent studies have shown a very different situation for previous periods, in the Republican and Early-Imperial times, where local workshops of a very high level operated in various points of the city, painting decorations worthy of the richest domus in Rome. Between the 1<sup>st</sup> and the 2<sup>nd</sup> c. AD, the status itself of wall painting changed, which was well reflected in Ostia, and which saw a radical change in the technique and the quality of the decorations. This paper will try to understand the reasons for that changing and to propose a first synthesis of the work carried out by the *Centro Studi Pittura Ostiense* in the last years, trying to reconstruct the work of Ostian painters through time.

This paper presents the first results of a research still in progress concerning the dynamics of production and craftsmanship in the Wall Paintings of Ostia, conducted by the *Université catholique de Louvain*, the *Ecole française de Rome*, the *Österreichische Akademie der Wissenschaften* and the *Centro Studi Pittura Romana Ostiense*, in collaboration with the *Istituto per la Conservazione e la Valorizzazione dei Beni Culturali* in Florence and the *Parco Archeologico di Ostia Antica*.<sup>1</sup>

The purpose of this project is to reconstruct the historical development of the wall paintings of Ostia through time thanks to a technical, material, and archaeological approach, and to identify the changes in the manner of painting. It aims to trace the evolution of techniques and workshop practices in the city. The richness and the longevity of the testimonies in the harbour of Rome allow for a complete diachronic study, embracing the pictorial production of an entire city from the 2<sup>nd</sup> c. BC to the 5<sup>th</sup> c. AD. In this paper, we will focus on the changes between the Republican period and the 2<sup>nd</sup> c. AD, considering both *in situ* and fragmentary paintings (fig. 1). We have combined three different parameters of analysis: the study of the motifs and schemes; the study of the techniques of production coupled with the identification of the raw materials; and the analysis of the architectural context. A fundamental contribution to this study



1. Insula delle Ierodule ; 2. Case a Giardino ; 3. C. delle Taberne Finestrate ; 4. Domus dei Bucrani ; 5. Terme Bizantine  
6. V, II, 2 ; 7. C. dei Lottatori ; 8. Santuario della Bona Dea ; 9. Portico delle Corporazioni ; 10. Insula di Giove e Ganimede

Fig. 1: Ostia, map of the city with indication of paintings mentioned in the text.

is given by the archaeometrical analyses, which have never been performed on such a large scale in Ostia. The analyses were carried out by Susanna Bracci and Emma Cantisani, from the *Istituto per la Conservazione e la Valorizzazione dei Beni Culturali*, an institution of Florence attached to the *Consiglio Nazionale delle Ricerche*. Several samples from different contexts were analysed with X-Ray Fluorescence (XRF), Fiber-Optic Reflectance Spectrometry (FORS), and Visible Induced Luminescence (VIL). Petrographic analyses in thin section were also carried out in order to identify the components of the pigments and the mortar layers. Within the corpus of the wall paintings of Ostia, the examples dating from the 2<sup>nd</sup> c. AD onwards are the most known and commonly studied.<sup>2</sup> Earlier examples are rarely taken into consideration because they are less preserved, at least in the general opinion. In fact, recent studies of the *Centro Studi Pittura Romana Ostiense* on the fragmentary paintings of the city have identified a series of contexts that allow us to have a clearer view of the Ostian pictorial production before the 2<sup>nd</sup> c. AD. Therefore, this produces a broader and more accurate knowledge.<sup>3</sup>

The earliest paintings found in Ostia date to the end of the 2<sup>nd</sup> c. BC and present very close analogies with First Style decorations in Rome and Campania.<sup>4</sup> In Ostia,

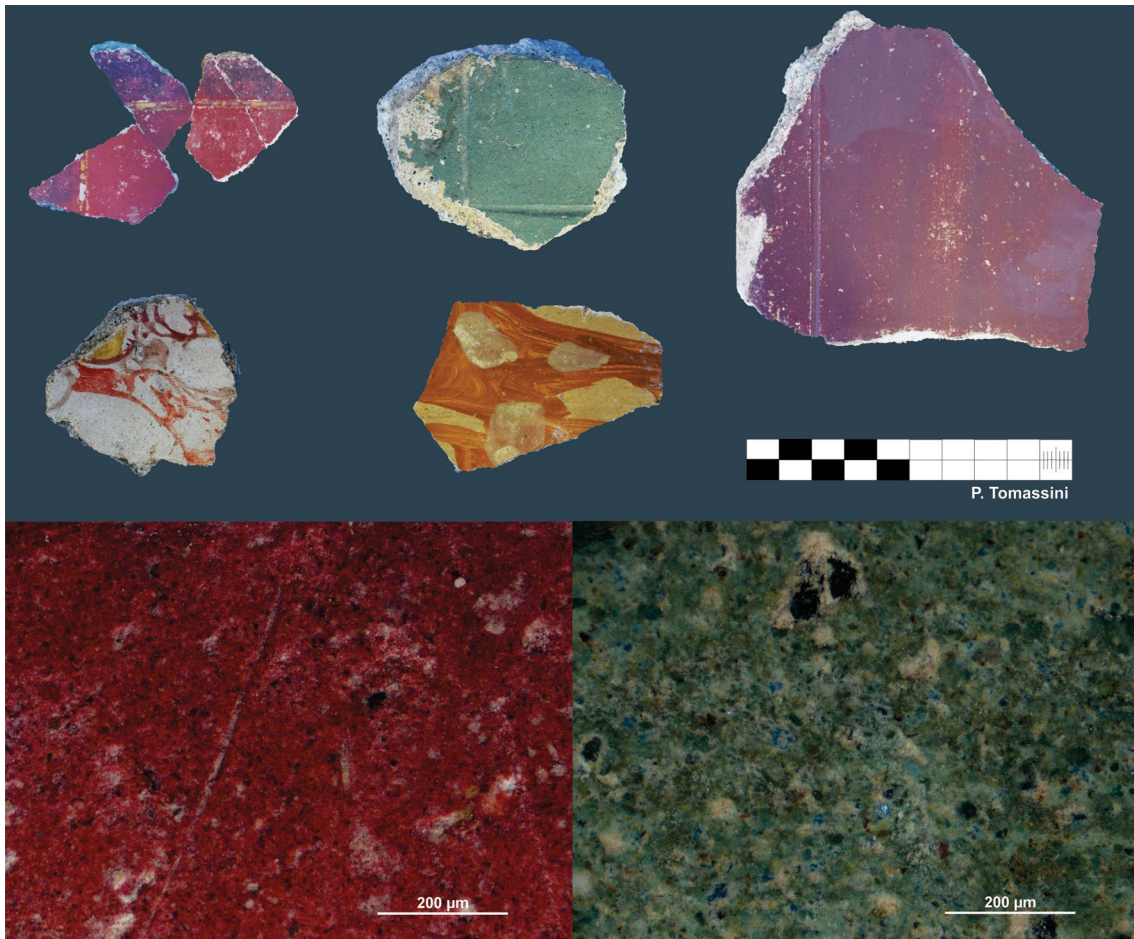


Fig. 2: First Style fragments from the *C. delle Taberne Finestrate*, with detailed views of the green and red partitions.

only a small number of First Style fragments are preserved, and all occur in secondary positions. They come from the excavation of three contexts: the *Insula di Giove e Ganimede*<sup>5</sup> (fig. 1, 10), the *Domus dei Bucrani*<sup>6</sup> (fig. 1, 4), and the *Caseggiato delle Taberne Finestrate*<sup>7</sup> (fig. 1, 3). Only the latter has been studied in this research. The *Caseggiato delle Taberne Finestrate* is a 2<sup>nd</sup> c. AD building constructed on the remains of a previous building.<sup>8</sup> In 1973, excavations of the Superintendency of Ostia brought to light a large number of fragments, very small in surface area but in a relatively good condition and of a very high quality (fig. 2). As in First Style paintings, the decoration is moulded in relief. The only difference here is that the decoration also presents deep incisions, imitating architectural elements and courses of blocks. The quality of the execution is remarkable, with accurate faux-marble and smooth and shiny surfaces, which appear very similar to real marble. The quality of the mortar layers is also very high (fig. 3, a and c), with an *intonachino* layer of ca. 5 mm and at least one layer of intonaco.



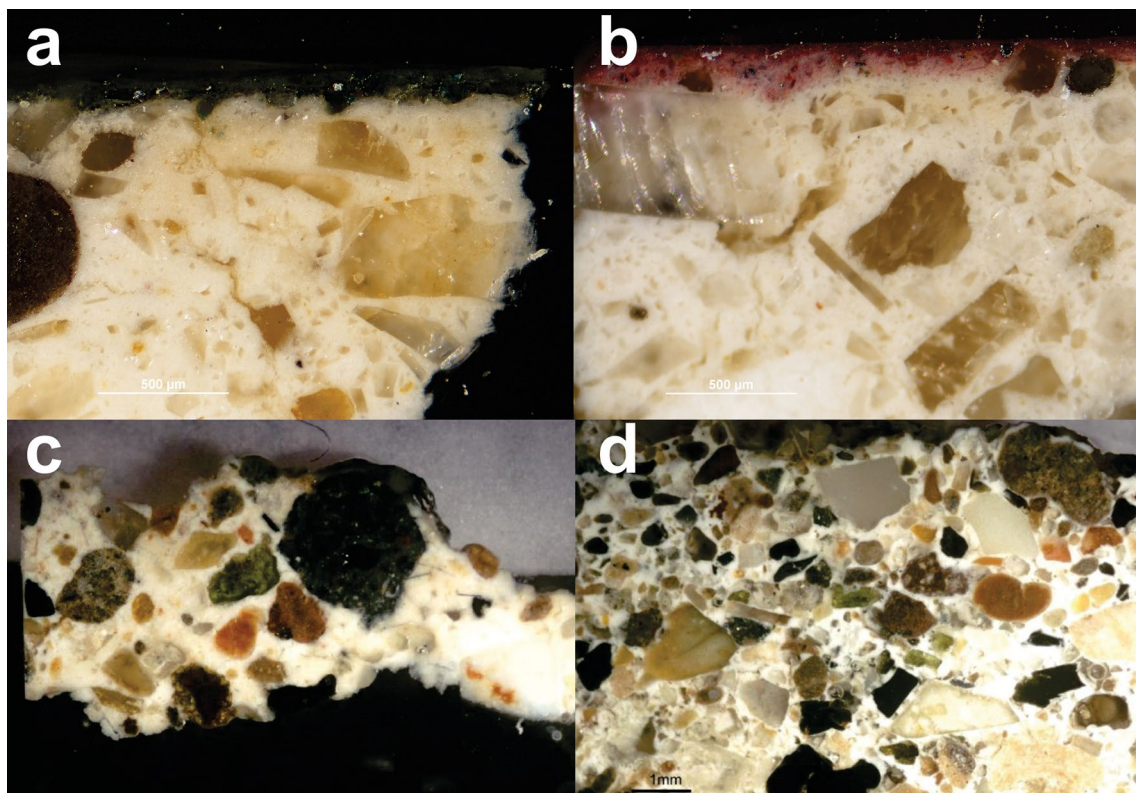


Fig. 3: Thin section of plaster layers from the *C. delle Taberne Finestrate*; a) First Style *intonachino*; b) Second Style *intonachino*; c) First Style *intonaco*; d) Second Style *intonaco*.

Archaeometrical analyses have revealed that the *intonachino* is a *marmorino* made of aerial lime with a high number of spathic calcite aggregate, which was obtained by powdering white marbles or calcite veins. The *intonaco* layer is made of aerial lime, but in this case the aggregate is composed by pyroxenes, volcanic and carbonate rocks. Thanks to the archaeometrical analysis, it was also possible to identify the pigments. A frequent use of red and yellow ochre is attested, but the most interesting results come from the green colour, identified as a green earth composed of calcium, iron, copper and very rich in potassium.<sup>9</sup> VIL analyses have demonstrated that the green earth is homogeneously mixed with Egyptian blue, even for the background colours.

The same chemical and mineralogical composition can be found in the later production of the 1<sup>st</sup> century BC, which corresponds to the Second Style decorations. Second Style paintings are well attested in Ostia, with both *in situ*<sup>10</sup> and fragmentary paintings in secondary position.<sup>11</sup> Archaeometrical studies on four samples collected from the *Casoggiato delle Taberne Finestrate* have revealed that the painting technique and the materials have not changed with respect to the previous production. This can be clearly seen in fig. 3, which shows a comparison between the thin sections of the plaster layers used for the First and Second Style paintings. Both the *intonachino* and the *intonaco*

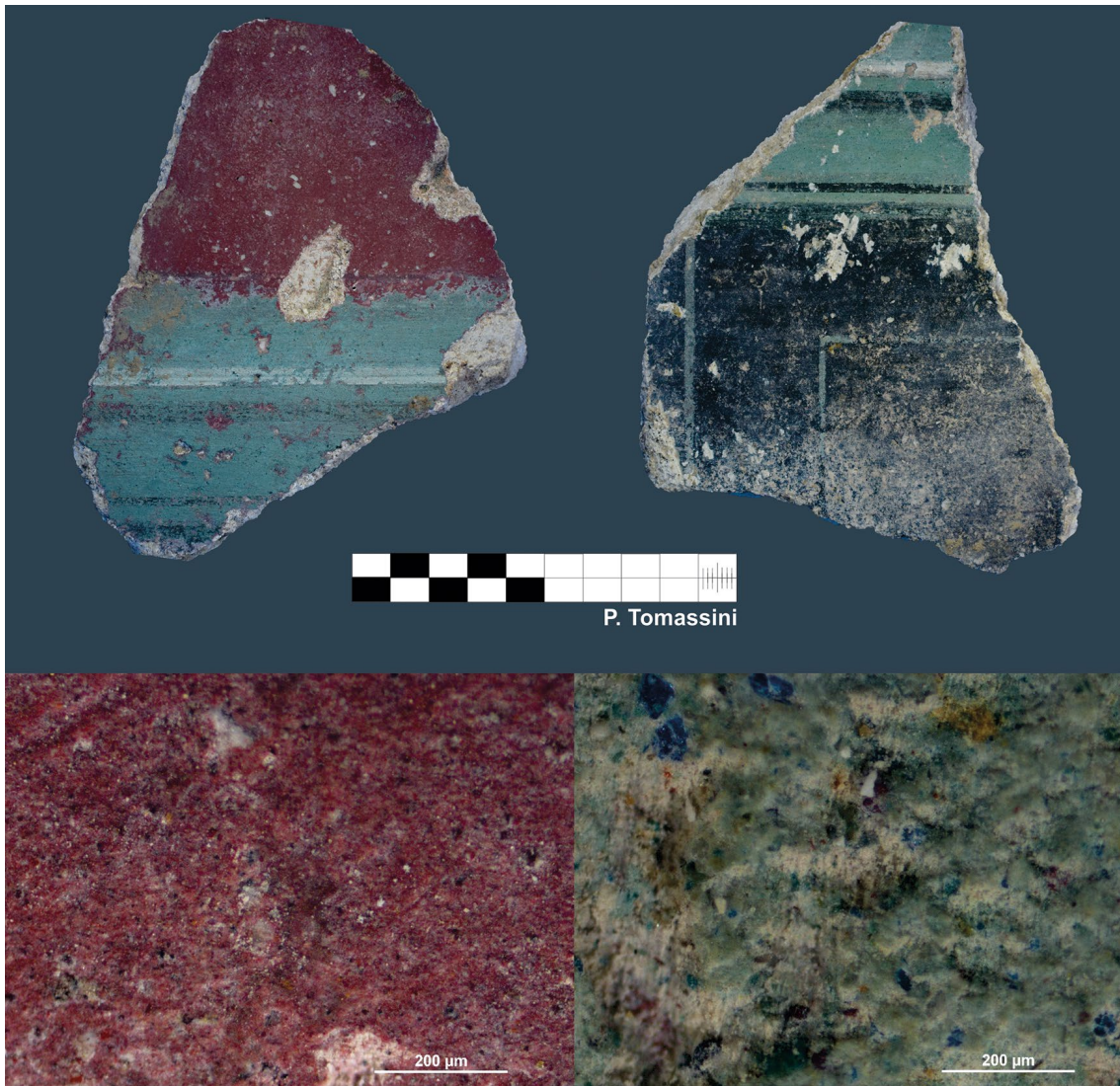


Fig. 4: Second Style fragments from the *C. delle Taberne Finestrate*, with detailed views of the green and red partitions.

present the same petrographic composition, and the granulometry of the aggregate is exactly the same. Concerning the pigments, red ochre was largely employed in order to obtain the purple backgrounds and the veins of some faux-marble incrustations (fig. 4). It is extremely interesting to note that the same green earth with calcium, iron, copper and a high amount of potassium was also used in the Second Style Ostian wall paintings, once again mixed with Egyptian blue. According to the chemists, the use of the same green earth is probably due to the exploitation of a common source during the 2<sup>nd</sup> and 1<sup>st</sup> c. BC. More generally, these technical similarities between First and Second Style paintings in Ostia suggest that the painters of the end of the Republic referred to

previous traditions and did not change their way of working. The innovation resides therefore in the decoration itself, in conformity with what happens elsewhere in this period. Indeed, the Second Style decorations from Ostia show orthostates, columns, as well as strips and courses of blocks painted in different colours on flat plaster surfaces in order to suggest the illusion of three-dimensional architectural elements. Comparison between the paintings of the *Caseggiato delle Taberne Finestrate* and the wall paintings from the *Domus dei Bucrani*<sup>12</sup> show great compositional and stylistic homogeneity, which could indicate that both were the work of the same atelier or a same *modus operandi*.

Around the middle of the 1<sup>st</sup> c. AD, the pictorial production of Ostia underwent significant changes, both in style and technique. The number of paintings increased, which is probably to be linked to the construction of the harbour basin by the emperors Claudius and Nero.<sup>13</sup> This brought a phase of prosperity to the city, leading to the construction and re-decoration of several buildings, but also to a democratization of the pictorial production. It corresponds to the Fourth Style in the Vesuvian Towns.<sup>14</sup> Fourth Style paintings are well attested in Ostia by both *in situ* and fragmentary wall decorations, most of them recently studied by the researchers of the *Centro Studi Pittura Romana Ostiense*. Twenty-three samples were collected from the *Caseggiato delle Taberne Finestrate*, the *Caseggiato dei Lottatori*, an unnamed building in the Fifth Region of the city, and from a group of fragments of unknown origin. The archaeometrical analyses revealed that the mortar layers and the pigments used in Fourth Style paintings are extremely similar in composition and disposition (fig. 5). The study of the thin sections observed under optical microscope shows the presence of generally three mortar layers. The *intonachino* (4–8 mm thick) is systematically composed by two layers: the outermost layer is made of an aggregate of aerial lime and carbonate rocks; the second layer is made of simple lime without any aggregate and is characterized by many cracks. In some cases, we can find only one layer of *intonachino*, but the composition remains the same: an aggregate of aerial lime with carbonate rocks. On the other hand, the *intonaco* is made of an aggregate of aerial lime with carbonate and volcanic rocks along with pyroxenes. Very few traces of the *arriccio* layer are preserved, indicating a clay-based mortar composition. Concerning the pigments, the frequent use of red and yellow ochres is attested for both the backgrounds and the decorative elements like borders, garlands, and architectural features. The palette of the painters becomes much more varied, with a large number of nuances, from dark yellow to light red, or from greyish white to violet (fig. 5; fig. 6, b/c). Green earth is largely used, especially for vegetal and architectural decorations such as garlands, columns and structures (fig. 6, d/e). As in the past, it is very often mixed with Egyptian blue. The only difference is that the green earth mixed with Egyptian Blue is only used for minute decorative details and no longer for large partitions, as in First and Second Style paintings (fig. 6, f/g/h). Moreover, a new type of green earth appears: in addition to the green earth with potassium traces, a new one very rich in chrome becomes the most used green pigment. This could indicate a new supply source that was not used before. However, Egyptian blue is not only



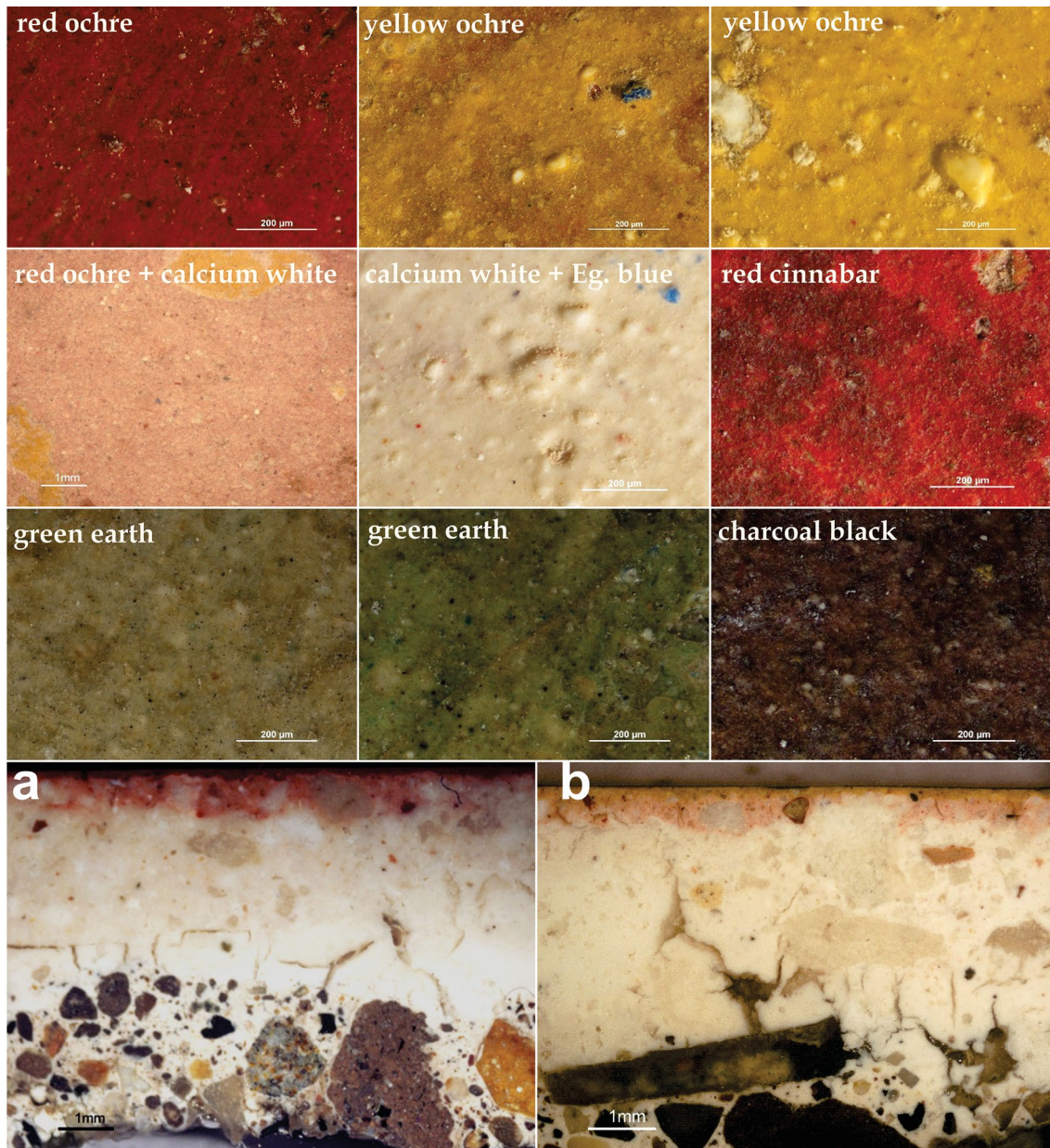


Fig. 5: Sample of Fourth Style colours in Ostia, with identification of the pigments. Below, thin section of Fourth Style plaster layers: a) *C. delle Taberne Finestrate*; b) *C. dei Lottatori*.

mixed with green earth. The archaeometrical analyses identified that some motifs from the *Caseggiato dei Lottatori* and the *Caseggiato delle Taberne Finestrate* are made with a mixture of Egyptian blue and a white calcium-based pigment. The result is a very delicate blueish grey, which is only used for small decorative elements (fig. 6, b). Pure

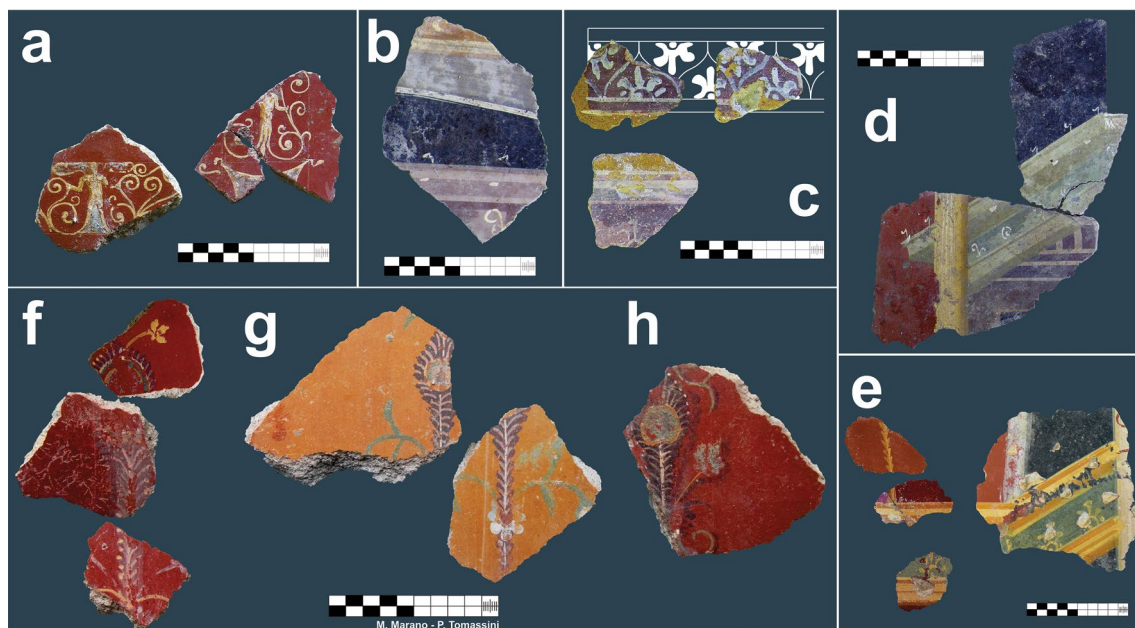


Fig. 6: Selection of representative Fourth Style fragments from Ostia; a) *C. dei Lottatori*, tapestry border with sirens; b) *C. dei Lottatori*, purple architectural element with blueish grey architrave; c) *C. delle Taberne Finestrate*, purple architectural element; d) *C. dei Lottatori*, green and yellow architectures; e) *C. delle Taberne Finestrate*, green and yellow architecture; f) *C. delle Taberne Finestrate*, peacock feather; g) V, II, 2, peacock feather; h) *C. dei Lottatori*, peacock feather.

Egyptian Blue is rarely used: at the moment, only one case is attested on some ceiling fragments from the *Caseggiato delle Taberne Finestrate*, employed *a secco*.<sup>15</sup> Red cinnabar is also quite rare, but it is used for small decorative details.

On the other hand, the general quality of the decorations remains very high, and the painters become more skilled to create a wide variety of colours with only a few pigments (fig. 6). The close analogies between the techniques used in the different contexts of the city are also visible in the decoration itself. In fact, Fourth Style paintings in Ostia seem to share a unified repertoire and a common taste for light architectural settings that alternate with tapestry-like fields. Moreover, a series of ornaments appear to be replicas of a same model, which could perhaps indicate the work of the same painter. This is the case of a peacock feather, which can be found in three different contexts, painted exactly in the same manner and with the same pigments (fig. 6, f/g/h). This could indicate the presence of a local atelier in Ostia, working at the same time on different buildings, or at least of different painters sharing the same manner of working.<sup>16</sup>

The situation drastically changes at the beginning of the 2<sup>nd</sup> c. AD. After the construction of Trajan's Port, Ostia is completely transformed. In a very short span of time, entire quarters of the city were destroyed and reconstructed; the vast majority of





Fig. 7: *Case a Giardino*, paintings from the *insulae* with *medianum*. Above: III, IX, 14, room 5, north wall; below: III, IX, 17, room 4, north wall.

the domus was replaced by multi-storey buildings, the so-called *insulae*.<sup>17</sup> This urban, demographic and economic boom had many consequences in the conception of housing, but also in the conception of painting as well. Indeed, in wall painting production there was a real phenomenon of standardization and an important loss in quality, caused by the need to decorate a very large amount of rooms in a very short span of time. An archetype of Ostian architecture of the 2<sup>nd</sup> c. AD is the residential complex of the *Case a Giardino*, in the western part of the city. The paintings of the central apartments of the complex are replicated in a modular way, with only a few variations (fig. 7). This most



Fig. 8: *Insula delle Ierodule*, room 6, east wall.

probably indicates the synergy of the painters on a common project.<sup>18</sup> One of the richest apartments of this complex, the *Insula delle Ierodule*, was more accurately studied in the last years (fig. 8).<sup>19</sup> Archaeometrical analyses of the paintings were conducted by Johannes Weber, as part of the project *Leben mit Bildern in Ephesos und Ostia*, of the *Institut für Kunst und Technologie/Naturwissenschaften in der Konservierung* of Vienna and directed by Norbert Zimmermann. The petrographic analyses, presented in Naples at the tenth AIPMA conference,<sup>20</sup> have revealed the presence of three mortar layers of much poorer quality, characterized by a high porosity and by many lumps and cracks. A strong increment of volcanic rocks is also attested in the *intonachino*, *intonaco*, and *arriccio*, while the carbonate rocks seem to disappear. The loss of quality also affected the pigments. Even in the richest apartment houses, the most precious colours, like the Egyptian blue and the red cinnabar, seem to disappear or are used in a very limited way; from now on, the palette is essentially based on red and yellow ochres. This general lack of quality, which is also attested elsewhere, reveals a diffuse change in the mentality of the painters. Now, the richness of a decoration lies more in the artistic skills of the painter rather than in the quality of the materials, while in the past both were equally important.

Concerning the decoration, second century paintings are much more schematic than in the past. The execution is generally quicker and less precise, and the repertoire used by the painters becomes simpler and more repetitive. This stylistic pauperization is probably to be linked to the production dynamics of the ateliers. As said above, in the 2<sup>nd</sup> c. AD there is a need in Ostia to create quickly enough buildings to host the growing population of the city; this should explain the standardization of the motifs

and their simplification. At this stage of the research, it is not yet possible to identify more accurately the nature and the practices of the craftsmen working on the site at this period. However, like in the past, the execution technique and the materials used seem to be extremely homogeneous, which is a first argument in favour of the presence in Ostia of a local atelier, working on different buildings in the city at the same time.

Further analyses on the composition of the mortars and the pigments will provide a better understanding of the production dynamics of this period, which is one of the most complex in the history of Ostia. Our intent is to continue the study by extending the research to other contexts and later phases.<sup>21</sup>

With this contribution, we have tried to show the importance of studying ancient wall painting through a material and technical approach. To study the evolution of techniques in Ostia together with the stylistic and historical analysis also means to understand the social, cultural, and economic transformations experienced by the population of the city during its ancient life. At this stage of the research, it is very interesting to see how the history of the technique is linked to the history of the city, and how both have influenced the changes of taste and status of Roman art. In this study, archaeometrical analyses have brought a fundamental contribution to the understanding of ancient wall painting, and we can only hope that studies of this kind will be conducted on larger scale in the future, in order to better understand the evolution of techniques and practices of Roman painting in time and space.

### Notes

<sup>1</sup> We would like to thank Mariarosaria Barbera, Paola Germoni and Cinzia Morelli for their support of our project, as well as all the staff of the Parco Archeologico di Ostia Antica. We are also thankful to the Fonds de la Recherche Scientifique (FNRS) for funding part of the archaeometrical analysis, but also to Susanna Bracci and Emma Cantisani for their outstanding work.

<sup>2</sup> For a complete synthesis of the paintings of Ostia, we recommend Falzone 2004 and Falzone 2007.

<sup>3</sup> Conte et al. 2017; Conte et al. 2018; Falzone 2015; Falzone 2017; Falzone 2018; Falzone et al. 2018; Marano 2017; Marano 2018; Marano – Tomassini 2018; Tomassini 2014; Tomassini 2016; Tomassini 2019.

<sup>4</sup> For a study concerning the First Style decorations see Laidlaw 1985.

<sup>5</sup> Mols 2002, p. 152.

<sup>6</sup> Presented for the first time in 2017 by T. Morard and L. Motta at the first Congress of the *Associazione Italiana Ricerche Pittura Antica* (AIRPA) in Aquileia, but their paper is still unpublished.

<sup>7</sup> The first style fragments were more thoroughly discussed in Falzone – Tomassini 2019.

<sup>8</sup> Tomassini 2016.

<sup>9</sup> Further analysis is planned, in order to identify whether the green earth is a celadonite or a glauconite.

<sup>10</sup> See the paintings of the *Domus dei Bucrani* (Morard 2007).

<sup>11</sup> See the fragments discovered in the *Tempio dei Fabri Navales*.



<sup>12</sup> Concerning the decoration of the *domus*, see Bocherens 2012; Falzone 2007, 25–30; Morard 2007, 54–79. Concerning the technical properties of these paintings: Terrapon 2007; Falzone et al. 2010.

<sup>13</sup> Keay – Paroli 2011.

<sup>14</sup> Third Style decorations are still very rare in Ostia, and seem to be technically similar to Second Style paintings, with the only difference being that the *intonachino* layer becomes less thick. Among them, we cite the paintings from the *Portico delle Corporazioni* (Pohl 1978), from the cella of the *Santuario della Bona Dea* (Falzone 2006; Falzone 2007, 41–42; Medri et al. 2017, 18–19, fig. 29) and from the excavations of the *Terme Bizantine* (Conte et al. 2018, Falzone et al. 2018).

<sup>15</sup> Tomassini 2019, 71–73, pl. XVII,1.

<sup>16</sup> Concerning the Fourth Style paintings in Ostia and the identification of workshops, see Marano – Tomassini 2018.

<sup>17</sup> DeLaine 2012, esp. 328–332; Falzone 2007, 52–54; Heinzelmann 2002; Pavolini 2006, 34–35.

<sup>18</sup> Falzone – Zimmermann 2010. It is not possible yet to identify the work of a single atelier for the whole complex, due to the strong differences between the richest houses, like the *Insula delle Muse*, and the medium-level structures. A more complete study on the technique and the materials will be conducted within the project „The ‚Case a Giardino‘ in Ostia – archaeological context and virtual archaeology“ approved financing by the Austrian Science Fund (FWF) and started on 2019 at the Institute for the Study of Ancient Culture (IKAnt) at the Austrian Academy of Sciences (ÖAW) in Vienna.

<sup>19</sup> All the results of the recent excavations and studies are published in Falzone – Pellegrino 2014.

<sup>20</sup> Falzone et al. 2010. This paper compares the pictorial technique of Ostia and Ephesus, showing how the same technique can be adapted depending on the characteristics of the local materials.

<sup>21</sup> It is the aim of a newly started project of P. Tomassini, funded by the *École française de Rome*.

## Image Credits

Fig. 1: P. Tomassini. – Fig. 2–3: pictures P. Tomassini, microscopic view S. Bracci, ICVBC. – Fig. 4: E. Cantisani. – Fig. 5: S. Bracci, E. Cantisani. – Fig. 6: pictures M. Marano, P. Tomassini. – Fig. 7: PA-OANT POS 784; PA-OANT POS 791. – Fig. 8: picture S. Falzone.

## References

### Bocherens 2012

C. Bocherens (ed.), *Nani in festa: iconografia, religione e politica a Ostia durante il secondo triumvirato* (Bari 2012).

### Conte et al. 2017

C. Conte – D. Dinunno – S. Falzone – R. Lazzaro – P. Tomassini, *Contesti di pittura inediti della tarda epoca repubblicana e della prima età imperiale, conservati nei Depositi di Ostia*, in: S. T. A. M. Mols – E. M. Moormann (eds.), *Context and meaning. Proceedings of the twelfth International Conference*

of the Association Internationale pour la Peinture Murale Antique, BaBesch Supplements 31 (Leuven 2017) 343–348.

**Conte et al. 2018**

C. Conte – D. Dinunno – S. Falzone – R. Lazzaro – P. Tomassini, Contesti di pittura frammentaria conservati nei Depositi Ostiensi: nuove testimonianze di soffitti di quarto stile, in: *Forum Romanum Belgicum* 2018, [<http://www.bhir-ihbr.be>].

**DeLaine 2012**

J. DeLaine, Housing in Roman Ostia, in: D. L. Balch – A. Weissenrieder (eds.), *Contested Spaces. Houses and Temples in Roman Antiquity and the New Testament* (Tübingen 2012) 327–354.

**De Ruyt – Alavoine 2007**

C. De Ruyt – V. Alavoine, Les enduits peints et les stucs du site du temple des Fabri Navales (Ostie), in: B. Perrier (ed.), *Villas, maisons, sanctuaires et tombeaux tardo-républicains : découvertes et relectures récentes*, Actes du colloque international de Saint-Romain-en-Gal en l'honneur d'Anna Gallina Zevi (Rome 2007) 113–119.

**Falzone 2004**

S. Falzone, Scavi di Ostia. XIV. Le Pitture delle *Insulae* (Rome 2004).

**Falzone 2006**

S. Falzone, Le pitture del santuario della *Bona Dea* ad Ostia (V, X, 2), *Archeologia Classica* LVII, 405–445.

**Falzone 2007**

S. Falzone, *Ornata Aedificia*. Pitture parietali dalle case ostiensi (Rome 2007).

**Falzone 2015**

S. Falzone, Contesti di pitture frammentarie da Ostia: il caso dei soffitti dell'Insula delle Ierodule e il caso dei contesti di scavo dai depositi ostiensi, in: M. Salvadori – A. Didonè – G. Salvo (eds.), *La pittura frammentaria in età romana: metodi di catalogazione e studio dei reperti*, TECT 2 (Padova 2015) 73–84.

**Falzone 2017**

S. Falzone, Pittura parietale di Ostia (I secolo a.C./I secolo d.C.): i contesti domestici, in: S. T. A. M. Mols – E. M. Moormann (eds.), *Context and Meaning. Proceedings of the twelfth International Conference of the Association Internationale pour la Peinture Murale Antique*, BaBesch Supplements 31 (Leuven 2017) 335–342.

**Falzone 2018**

S. Falzone, Gli arredi decorativi delle *domus* ostiensi (I sec. a.C.-I sec. d.C.): progetto di studio delle pitture frammentarie conservate nei Depositi Ostiensi, in: C. De Ruyt – T. Morard – F. Van Haepelen (eds.), *Ostia Antica. Nouvelles études et recherches sur les quartiers occidentaux de la cité* (Brussels 2018) 87–98.

**Falzone – Pellegrino 2014**

S. Falzone – A. Pellegrino (eds.), Scavi di Ostia. XV. L'insula delle Ierodule (Rome 2014).

**Falzone – Zimmermann 2010**

S. Falzone – N. Zimmermann, Stratigrafia orizzontale delle pitture delle case a giardino. Modello della fase originaria dei blocchi centrali del complesso ostiense, *AnzWien* 145-1, 107–160.

**Falzone et al. 2010**

S. Falzone – B. Tober – J. Weber – N. Zimmermann, La parte invisibile della pittura. Qualità, cronologia e provenienza nell'analisi petrografica: L'esempio di Efeso ed Ostia, in: I. Bragantini (ed.), *Atti del X Congresso internazionale dell'Association Internationale pour la Peinture Murale Antique* (Naples 2010) 925–929.

**Falzone et al. 2018**

S. Falzone – C. Gioia – M. Marano – P. Tomassini, Des enduits « de seconde main »: les peintures fragmentaires oubliées dans les dépôts de Rome et Ostie, in: J. Boislève – A. Dardenay – F. Monier (eds.), *Actes du XXIXe Colloque de l'Association Française pour la Peinture Murale Antique* (Bordeaux 2018) 11–20.

**Falzone – Tomassini 2019**

S. Falzone – P. Tomassini, Riflessioni sulle pitture di primo stile a Roma e Ostia, alla luce delle recenti acquisizioni di contesti frammentari, in: M. Salvadori – F. Fagioli – C. Sbrilli (eds.), *Nuovi dati per la conoscenza della pittura antica, Atti del I Convegno dell'Associazione Italiana Ricerche Pittura Antica, Aquileia, 16–17 giugno 2017* (Rome 2019) 107–116.

**Heinzelmann 2002**

M. Heinzelmann, Bauboom und urbanistische Defizite – zur städtebaulichen Entwicklung Ostias im 2. Jh., in: C. Bruun – A. Gallina Zevi (eds.), *Ostia e Portus nelle loro relazioni con Roma, Acta Instituti Romani Finlandiae* 27 (Rome 2002) 103–121.

**Keay – Paroli 2011**

S. Keay – L. Paroli (eds.), *Portus and its Hinterland: Recent Archaeological Research* (London 2011).

**Laidlaw 1985**

A. Laidlaw, *The First Style in Pompeii: Painting and Architecture*, *Archaeologica* 57 (Rome 1985).

**Marano 2017**

M. Marano, Affreschi di IV stile pompeiano provenienti dallo scavo del Caseggiato dei Lottatori ad Ostia (V, III, 1), in: S. T. A. M. Mols – E. M. Moormann (eds.), *Context and meaning. Proceedings of the twelfth International Conference of the Association Internationale pour la Peinture Murale Antique*, *BaBesch Supplements* 31 (Leuven 2017) 349–354.

**Marano 2018**

M. Marano, Rivestimenti pittorici di IV stile da Ostia: studio dei frammenti rinvenuti negli scavi del Caseggiato dei Lottatori, in: *Forum Romanum Belgicum* 2018, [<http://www.bhir-ihbr.be>].

**Marano forthcoming**

M. Marano, Il Quarto Stile ad Ostia: nuove attestazioni dal Caseggiato dei Lottatori, in: *Atti del II Colloquio dell'Associazione Italiana Ricerche Pittura Antica*, Pisa 14–15 giugno 2018 (Pisa forthcoming).

**Marano – Tomassini 2018**

M. Marano – P. Tomassini, *De Ratione pingendi parietes. Quelques considérations sur les dynamiques de production des ateliers dans la peinture ostienne de IVe style*, in: Y. Dubois – U. Niffeler (eds.), *Pictores per Provincias II – Status Quaestionis. Actes du XIIIe Colloque de l'Association Internationale pour la Peinture Murale Antique*, *Antiqua* 55 (Lausanne 2018) 115–124.



**Marano – Tomassini forthcoming**

M. Marano – P. Tomassini, La pittura ad Ostia prima di Adriano: bilancio di una “riscoperta” e prospettive della ricerca, in: Atti del Primo Incontro Internazionale dei Dottorandi e Dottori di Ricerca “Ricerche Archeologiche alla Foce del Tevere” (forthcoming).

**Medri et al. 2017**

M. Medri – S. Falzone – M. Lo Blundo – S. Calvigioni, Le fasi costruttive del Santuario di Bona Dea (V, X, 2). Relazione sulle indagini svolte negli anni 2012–2013, in: FOLD&R, 375 (2017), 1–30.

**Mols 2002**

S. T. A. M. Mols, Ricerche sulla pittura di Ostia: *status quaestionis* e prospettive, BaBesch 77, 2002, 151–174.

**Morard 2007**

T. Morard, Le plan de la Domus aux Bucranes et son système décoratif: pavements – parois peintes – stucs – plafonds, in: B. Perrier (ed.), Villas, maisons, sanctuaires et tombeaux tardo-républicains: découvertes et relectures récentes, actes du colloque international de Saint-Romain-en-Gal en l'honneur d'Anna Gallina Zevi (Rome 2007) 55–79.

**Pavolini 2006**

C. Pavolini, Ostia, Guide Archeologiche Laterza 11 (Rome 2006).

**Pohl 1978**

I. Pohl, Piazzale delle Corporazioni ad Ostia. Tentativo di ricostruzione del Portico Claudio e la sua decorazione, MEFRA 90, 1978, 331–347.

**Terrapon 2007**

N. Terrapon, Les enduits peints du péristyle et de l'oecus 101 de la Domus aux Bucranes: observations techniques, in: B. Perrier (ed.), Villas, maisons, sanctuaires et tombeaux tardo-républicains: découvertes et relectures récentes, actes du colloque international de Saint-Romain-en-Gal en l'honneur d'Anna Gallina Zevi (Rome 2007) 81–98.

**Tomassini 2014**

P. Tomassini, Peinture pompéienne à Ostie: état de la recherche et nouvelles attestations, les fragments provenant des fouilles du *Caseggiato delle Taberne Finestrate*, Les Études Classiques 87, 2014, 30–42.

**Tomassini 2016**

P. Tomassini, “Scavare negli Archivi”. La *domus* tardo-repubblicana e giulio-claudia sotto il Caseggiato delle Taberne Finestrate di Ostia (IV, V, 18): nuove e vecchie scoperte, FOLD&R The Journal of Fasti OnLine 350, 2016, 1–12.

**Tomassini 2019**

P. Tomassini, L'apporto delle decorazioni frammentarie del Caseggiato delle Taberne Finestrate per la conoscenza della pittura cd. “pompeiana” ad Ostia, in: S. Falzone – M. Galli (eds.), Pitture frammentarie di epoca romana da Roma e dal Lazio: nuove ricerche, Atti della giornata di studi organizzata il 6 giugno 2016 alla Sapienza Università di Roma, ScAnt 25, 2 (Rome 2019) 67–76.