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Leiden  
The Netherlands

## **A physicochemical study of Medieval and Post-Medieval ceramics from the Aegean**

Panagopoulou, A.

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## **CHAPTER 3        STATISTIC OF THE SAMPLED PIECES FROM THE THREE STUDIED SITES**

### **3. INTRODUCTION**

In this chapter, I relied on statistical methods in order to collect the archaeological data, take decisions based on these data and make predictions in order to employ the correct analyses and effectively present the results in the following chapters. For this reason, in the following lines I will present the archaeological results extracted by the collection, the analysis and interpretation of the sampled pieces taken for analysis.

Furthermore, in this section, a short background for the pottery data of Maiolica in Euboea, Athens in Attica and Mytilene in Lesvos will be given following them from the Medieval to the Modern period (Figure 1). In total, 245 excavated fragments from these three sites were analysed dating from the Early Byzantine to the Early Modern periods (Table 1). The ration between the analysed imported and local pottery does not necessarily correspond to the actual ration, since only archaeological data existed at this stage. In this chapter, interpretations will be based on the gathered material exclusively.

Finally, the imported and local pottery was divided into five, chronologically layered, groups: Early Byzantine (7th- 9th century), Middle Byzantine (10th- late 12th/early 13th century), Late Byzantine/Frankish (13<sup>th</sup>- mid 15th century), Ottoman/Venetian (late 15th- 18th century) and Early Modern (19th-middle 20th century). Most of the local pottery production from Chalcis in Euboea dates mainly to the Middle Byzantine period, while that from Athens to the Late Byzantine period and the one from Mytilene in Lesvos to the Ottoman/Venetian period (Appendix II).

### **3.1 LOCAL POTTERY**

Different aspects of the local pottery are going to be presented in this section. Generally, the ceramics date to the Early Byzantine to the Early Modern periods. The pottery of the region of Chalcis in Euboea can be dated to the Early Byzantine period, Middle Byzantine period, Late Byzantine/Frankish period, Ottoman/Venetian period, Islamic period and Early Modern period; however, the main bulk dates to the Middle Byzantine period. The pottery from Athens can be dated to the Middle Byzantine period, Late Byzantine/Frankish period and Ottoman/Venetian period but the bulk of pottery production dates to the Late Byzantine period. Finally, the pottery of Mytilene in Lesvos can be dated to the Late Byzantine/Frankish period, Ottoman/Venetian period and Early Modern period but the large amount of pottery production was at the Ottoman/Venetian period.

On the pie charts of Figures 25;26;27, wares were encountered with the following percentages. In the case of **Chalcis**, the local pottery within the sampled and analysed collection included:

|                                 |                                  |                           |
|---------------------------------|----------------------------------|---------------------------|
| Champlevé Ware 30.4 %,          | Incised Sgraffito Ware 19.7%,    | Amphora 13.6%,            |
| Monochrome Glazed Ware 12.2%,   | Slip-Painted Ware 6.1%,          | Plain Glazed Ware 4.5%,   |
| Painted Fine Sgraffito Ware 3%, | Green and Brown Painted Ware 3%, | Splashed Ware 3%,         |
| Fine Sgraffito Ware 1.5%,       | Painted Ware 1.5%,               | Unglazed Plain Ware 1.5%. |

Whereas the local pottery within the sampled and analysed collection from **Athens** included:

|                               |                                  |   |
|-------------------------------|----------------------------------|---|
| Monochrome Glazed Ware 39.1%, | Polychrome Sgraffito Ware 15.6%, | Polychrome Painted Ware/Maiolica 14.1%, |
| Zeuxippus Ware 10.9%,         | Pottery Waster 10.9%,            | Plain Glazed Ware 3.1%,                 |
| Slip-Painted Ware 3.1%,       | Late Sgraffito Ware 1.6%,        | Painted Ware 1.6%.                      |

Finally, the local pottery within the sampled and analysed collection from **Mytilene** included:

|                                 |                                  |                                  |
|---------------------------------|----------------------------------|----------------------------------|
| Monochrome Glazed Ware 48%,     | Polychrome Sgraffito Ware 17.3%, | Polychrome Marbled Ware 8.6%,    |
| Polychrome Painted Ware 6.5%,   | Painted Ware 6.5%,               | Tripod stilt 4.3%,               |
| Monochrome Sgraffito Ware 2.2%, | Unglazed Painted Ware 2.2%,      | Unglazed Incised Grey Ware 2.2%. |

One of the main features of local pottery is the long tradition of their style. The decoration and production techniques which potters used were in many cases extant before the Ottoman conquest. They are local traditions which have survived and evolved over time. However, sometimes the influence of Ottoman potters and imports, such as Kütahya, Iznik, Miletus and Zeuxippus Ware leave their mark on local pottery production. This influence will be traced in the following analysis. Additionally, other details such as motifs will be connected with the type of decoration.

### **Chalcis in Euboea**

In the Early Byzantine samples only Plain Glazed Ware was found in Chalcis.

In the Middle Byzantine samples the following pottery types were found:

|                                   |                               |                                    |
|-----------------------------------|-------------------------------|------------------------------------|
| Champlevé Ware 31.7%,             | Incised Sgraffito Ware 20.6%, | Amphora 14.3%,                     |
| Monochrome Glazed Ware 12.7%,     | Slip-Painted Ware 6.3%,       | Green and Brown Painted Ware 3.2%, |
| Painted Fine Sgraffito Ware 3.2%, | Polychrome White Ware 1.6%,   | Glazed White Ware II 1.6%,         |
| Fine Sgraffito Ware 1.6%,         | Unglazed Plain Ware 1.6%.     |                                    |

In addition, in the Islamic samples the following pottery types were found:

Glazed Frit Ware 50%, Frit Ware 25%, Lustre Ware 25%.

Furthermore, in the Late Byzantine/Frankish samples the following pottery types were found:

Zeuxippus Ware 42.9%, Splashed Ware 28.6%, Roulette/Veneto Ware 28.6%

Moreover, in the Ottoman/Venetian samples the following pottery types appeared:

Polychrome Marbled Ware 50%, Painted Ware 25%, Maiolica 25%.

Finally, in the Early Modern samples only Didymoteicho Ware was found in this region (Figure 28).

### **Athens in Attica**

In the Middle Byzantine samples the following pottery types were found:

Green and Brown Painted Ware 30.4%, Incised Sgraffito Ware 21.8%, Fine Sgraffito Ware 8.7%,  
Plain Glazed Ware 8.7%, Pottery waster 30.4%.

In addition, in the Late Byzantine/Frankish samples the following pottery types were common types:

Monochrome Glazed Ware 54.3%, Polychrome Sgraffito Ware 21.8%, Zeuxippus Ware 15.2%,  
Slip-Painted Ware 4.3%, Painted Ware 2.2%, Late Sgraffito Ware 2.1%.

Finally, in the Ottoman/Venetian samples the following pottery types were found:

Polychrome Painted Ware/Maiolica Ware 81.8%, Maiolica 9.1%, Spanish Lustre Ware 9.1%  
(Figure 29).

### **Mytilene in Lesvos**

Following the historic phases and dominant cultures on the island, in the Late Byzantine/Frankish samples the pottery finds are dominated by:

Zeuxippus Ware 37.5%, Monochrome Sgraffito Ware 12.5%, Glazed White Ware IV 12.5%,  
Elaborate Incised Ware 12.5%, Roulette/Veneto Ware 12.5%, Monochrome and One Colour  
Sgraffito Ware 12.5%.

Similarly, in the Ottoman/Venetian samples the following pottery types appeared to be widespread:

Monochrome Glazed Ware 30.5%, Kütahya Ware 16.6%, Polychrome Sgraffito Ware 11%,  
Porcelain 8.3%, Polychrome Marbled Ware 5.6%, Polychrome Painted Ware 4.2%,  
Iznik Ware 4.2%, Miletus Ware 4.2%, Maiolica 2.8%,  
Monochrome Painted Ware 2.8%, Tripod stilt 2.8%, Glazed Frit Ware 1.4%,  
Overfired Stoneware 1.4%, Unglazed Painted Ware 1.4%, Unglazed Incised Grey Ware 1.4%,  
Pottery waster 1.4%.

Finally, in the Ottoman/Venetian to Early Modern samples only Painted Ware was found in Mytilene in Lesvos (Figure 30).

### 3.2 IMPORTED POTTERY

In this section, the origins of the imported ceramics within the sampled and analysed collection will be discussed for each city throughout the different periods. There are big observable differences between the imports from Athens in Attica, Chalcis in Euboea and Mytilene in Lesvos (Figures 31,32,33).

In the case of **Chalcis**, the imported pottery within the sampled and analysed collection was:

|                            |                                |                             |
|----------------------------|--------------------------------|-----------------------------|
| Zeuxippus Ware 18.5%,      | Polychrome Marbled Ware 12.5%, | Roulette/Veneto Ware 12.5%, |
| Didymoteicho Ware 12.5%,   | Glazed Frit Ware 12.5%,        | Polychrome White Ware 6.3%, |
| Glazed White Ware II 6.3%, | Maiolica 6.3%,                 | Lustre Ware 6.3%,           |
| Frit Ware 6.3%.            |                                |                             |

The imports from **Athens** tell another story. There are five major types of imported pottery within the sampled and analysed collection:

|                                     |                               |                            |
|-------------------------------------|-------------------------------|----------------------------|
| Green and Brown Painted Ware 43.8%, | Incised Sgraffito Ware 31.2%, | Fine Sgraffito Ware 12.4%, |
| Maiolica 6.3%,                      | Spanish Lustre Ware 6.3%.     |                            |

Received significantly more diverse imports within the sampled and analysed collection compared to the previous two cities, **Mytilene** had almost 44.6% of the city's imports are Ottoman ceramics and more of them Kütahya Ware 32.5%. The other widespread types were:

|   |                              |                               |
|---|------------------------------|-------------------------------|
| Chinese porcelain 16.2%,                      | Zeuxippus Ware 8.1%,         | Iznik Ware 8.1%,              |
| Miletus Ware 8.1%.                            | Maiolica 5.4%,               | Monochrome Painted Ware 5.4%, |
| Glazed White Ware IV 2.7%,                    | Elaborate Incised Ware 2.7%, | Roulette/Veneto Ware 2.7%,    |
| Monochrome and One Colour Sgraffito Ware 2.7% |                              |                               |

(Figures 31,32,33).

Almost all of the imported sampled ceramics found in Chalcis in Euboea are from Italy 31.3%, Western Turkey 18.8%, Constantinople (Istanbul) 12.5%, Syria 12.5%, Egypt 12.5%, and Dardanelles or N. Greece 12.5%. Athens had imports from only two locations, 50% from Italy and 50% from Spain. Mytilene in Lesvos, Kütahya Ware and generally imports from W. Present-day Turkey make up the biggest proportion of the imports amounting up to 60%. They are followed by the luxurious Chinese porcelain (17.1%) imported from China, Italian ceramics (14.3%), ceramics from Constantinople (Istanbul) (5.7%) and ceramics in the traditional Byzantine style, which were still being produced in Thessaloniki or Constantinople (Istanbul) (2.9%) (Figures 34,35,36).

Mytilene in Lesvos received the most imports within the sampled and analysed collection of the three cities: 37/83 in comparison to Athens with 16/80 and Chalcis in Euboea with 16/82 (Table 1). Chalcis and Mytilene had significantly more diverse region imports compared to Athens. Specifically, the imports in Chalcis came from Italy, Constantinople (Istanbul), Western Turkey, Syria, Egypt, Dardanelles or N. Greece and the imports in Mytilene came from China, Western

Turkey, Constantinople (Istanbul), Italy and Thessaloniki. While the imports in Athens came from Italy, Spain (Figures 34,35,36).

Chalcis in Euboea had 80.5% local sampled and analysed fragments from the Early Byzantine to Early Modern periods and had one of the most numerous groups of locally produced pottery (Table 1). One distinct characteristic of the Chalcis ceramics was the presence of unique styles of which equivalents did not exist in the other two studied regions. The pottery from Chalcis followed almost the same local style that can be traced mainly to the Middle Byzantine style. Apart from the locally produced pottery in the Middle Byzantine style a high amount of Italian (31.3%) and Western Turkey (18.8%) imports pottery were extant. The rest of the analyzed pottery came from Constantinople (Istanbul) 12.5%, Syria 12.5%, Egypt 12.5% and Dardanelles or N. Greece 12.5% (Figure 34).

The data within the sampled and analysed collection from Athens is a bit more promising. The style of the Athenian local fragments up to an 80% either followed traditional local methods of production and decoration, or were heavily influenced by other styles of Greek pottery workshops such as Chalcis pottery workshops (Table 1, Figure 25). To a large extent, the tradition of the Athenian local pottery in the Late Byzantine period had clear Byzantine traits. The rest of the analyzed pottery (20%) came from Italy and Spain (Figure 29). Finally, one style decoration, namely the Polychrome Painted Ware/Maiolica, is present only in Athens and not in the other cities. This style emerged in the Ottoman/Venetian period and was widespread in this region. It is considered to be a high-quality luxury pottery and the fact that it is seen mostly on tableware supports that idea. These ceramics were an imitation of original Maiolica from Italy (Figure 35).

Out of the three cities, the sampled pottery from Mytilene in Lesbos is the most diverse (Figures 27,33). However, only few information can be found about local pottery in Mytilene. The reason for that is the lack of a large study on Late Medieval to Early Modern pottery in Mytilene. About 55.4% has a style which has derived from the local pottery following the Byzantine tradition. The rest 44.6% is imported pottery or from unknown origin. As a result, it does not offer any information on the tradition followed for their fabrication. These are followed by pottery influenced by Central European/Western Ottoman styles, which makes up less than the half of 42.2% of the assemblage (Figure 36). In the transitional period of the 17th-18th century the Ottoman-styled pottery becomes more ample and makes up a 65.7% of the total (Figure 30). New styles also start to appear, such as the Central Asian one. The proportion of luxurious Chinese porcelain increased significantly.

### 3.3 DECORATION AND ICONOGRAPHY

The sampled material from Chalcis in Euboea dates mostly from the Early Byzantine to the Middle Byzantine periods, the material from Athens dates mostly from the Middle Byzantine to Post-Medieval periods and finally the material of Mytilene in Lesvos from the Late Byzantine to Modern periods. It is my aim to understand the evolution and distribution of motifs and technical knowledge of pigments in a broader Mediterranean and Near Eastern perspective. I am interested in the decoration and the iconographical aspects of the 245 samples from the 3 different excavated sites in Greece.

According to the standard view, from the 12th century onwards Medieval art witnessed a clear emergence of realistic portraiture on material culture. Oddly enough, until now it seems unknown whether this view also holds true for pottery. As Professor Joanita Vroom have written ‘We see a combination of Byzantine Orthodox, Western European, Armenian, Eastern Christian and Islamic decorative motifs from various parts of the Mediterranean and the Near East’ (Vroom 2018, p. 6). Most of the vessels excavated in digs in the three cities under considerations are decorated. Vessels with a sparse or no decoration are few and far between among the specimens examined in the present study. All three cities have a great variety of motifs. When looking at the motifs on these 245 ceramics, it is noticeable that these can be divided in the following categories: designs with animals, with vegetal and finally with decorative motifs. It is interesting also to notice the iconography of Medieval ceramics, which were recovered until now in Greece, Turkey, Bulgaria, Crimea and the Near East. Open shapes such as bowls with small rim diameters will be the ones mostly studied and, due to limited dimensions, only a restricted repertoire of designs is observed. Moreover, it is necessary to keep in mind that these three areas had local pottery workshops. After production, the locally made ceramics were distributed in Greece as well as abroad, to Syria, Israel, Jordan, Turkey, Italy and even to southern France (Wartburg 2007).

Some of these human’s depictions date back to the Crusader period, mirroring not only the customs and beliefs of that era, but also the diffusion of chivalry values, influenced by French, Italian, Greek and Islamic culture, focusing on personal relations, expression of feelings and religious history especially in areas inhabited by Franks, as it is shown on frescoes or gravestones with heavily armoured warriors (Vroom 2018). For instance, stereotyped men’s bodily postures and clothing can be easily associated with new social types of interaction and gathering, changes in economy and politics besides a cultural transformation of Late Medieval society as a whole. It is evident that there are some iconographical elements on Medieval pottery depicting humans, which are still unknown to us, such as the ones in Chalcis in Euboea (Figure 37) (Vroom 2018, p. 11).

To continue with, the decoration with geometric designs or free style lines, plants or vegetal motifs, animals and inscriptions or monograms was very important (Figure 38). For instance, rabbits/hares were observed at these collections. Specifically, the decorative motifs in Chalcis in Euboea were: geometric designs or free style lines 57.3%, plants or vegetal motifs (4.9%), animals (3,7%) and inscriptions or monograms (2,4%) (Table 2). Whereas the decorative motifs in Athens were geometric designs or free style lines (71.3%) and plants or vegetal motifs (5%) (Table 3). Finally, the decorative motifs in Mytilene in Lesvos were: geometric designs or free style lines (68.7%), plants or vegetal motifs (19.3%) and inscriptions or monograms (2,4%) (Table 4). The rest of the studied ceramics in each area were unglazed or they have just a colourless glaze on the clay body.

The pottery from Chalcis presents a rather slightly high variety of motifs (geometric designs or free style lines, plants or vegetal motifs, animals and inscriptions or monograms) compared to Mytilene and Athens. The designs on the vessels from Athens were more simplified than those from Chalcis and Mytilene. They are most often geometric designs or free style lines and plants or vegetal motifs (Tables 2,3,4). But what is the meaning of them? For instance, hares or rabbits are an integral part of our culture from earliest times (Papanikola-Bakirtzi 1999 pp. 102-103). It can be past, present and future; Vitality, Rebirth and Resurrection (Appendixes III, IV).

Finally, the pottery from Mytilene in Lesvos has a rather high variety of colours (green, yellow, brown, red, blue, turquoise, purple and dark pigment) compared to Athens (green, yellow, brown, red, blue, turquoise and dark pigment) and Chalcis in Euboea (green, yellow, brown and blue) (Figure 39). The decoration and the iconographical aspects of these artifacts (single-coloured, bi-coloured and tri-coloured) are very interesting. I noticed that in Chalcis' pottery predominated mainly single-coloured ones and, to a lesser extent, bi-coloured ones which bore a decoration marked by intense green hue or olive and light ochre hue. Yellow is the most common pigment followed by green, brown and blue. In contrast, the Athenian potters used rather the bi-coloured decoration with light ochre, green or blue hues. Brown is the most common pigment followed by green, yellow, blue, dark pigment, red and turquoise. Finally, Lesvian potters also used ochre, green, and blue colour at many tones. They mainly used green, brown, yellow, blue, red, turquoise, dark pigment and purple. They seldom used ochre hues for the background as they preferred white background (Table 5; Appendixes III, IV).

To sum up, it has been noticed a melting of Byzantine Orthodox, Western European, Armenian, Eastern Christian and Islamic influences on the decorative patterns including heraldic symbols, chivalry and romantic epic elements, astrological and mythological images, symbols of Christian faith and court scenes (Wartburg 2007; Vroom 2014, figs 9-17; 2018). Such pottery seems to represent a shared ideology and common artistic ideas and styles shaped by the cultures previously mentioned with the strongest impact being that of Italian traders and craftsmen in the Eastern Mediterranean (Vroom 2014).



| Region             | Imports | %     | Local | %     | Total |
|--------------------|---------|-------|-------|-------|-------|
| Chalcis in Euboea  | 16      | 19.5% | 66    | 80.5% | 82    |
| Athens in Attica   | 16      | 20%   | 64    | 80%   | 80    |
| Mytilene in Lesvos | 37      | 44.6% | 46    | 55.4% | 83    |
| Total              | 69      |       | 176   |       | 245   |

Table 1 The total amounts and the percentages of the sampled and analyzed imported and local pottery finds in Chalcis in Euboea, Athens in Attica and Mytilene in Lesvos.

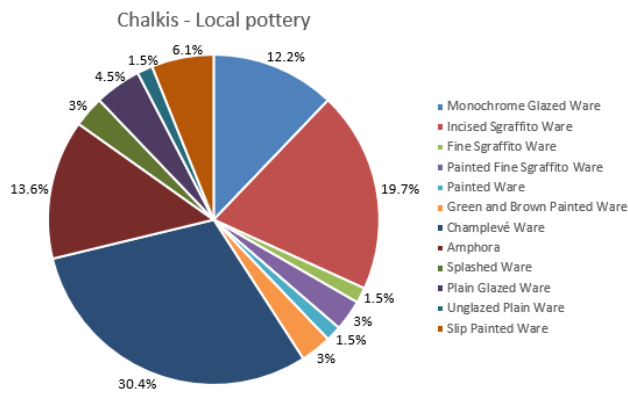


Figure 25 The local pottery in the analysed samples from Chalcis in Euboea.

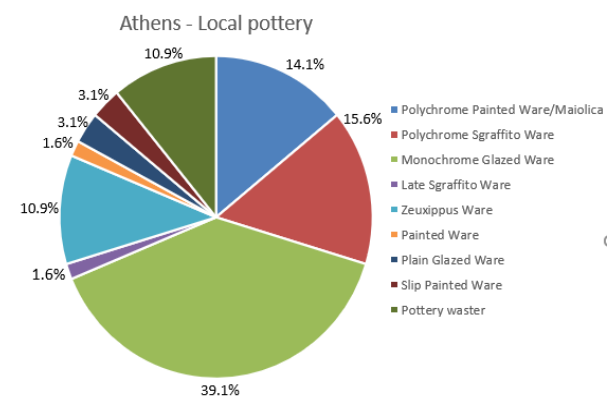


Figure 26 The local pottery in the analysed samples from Athens in Attica.

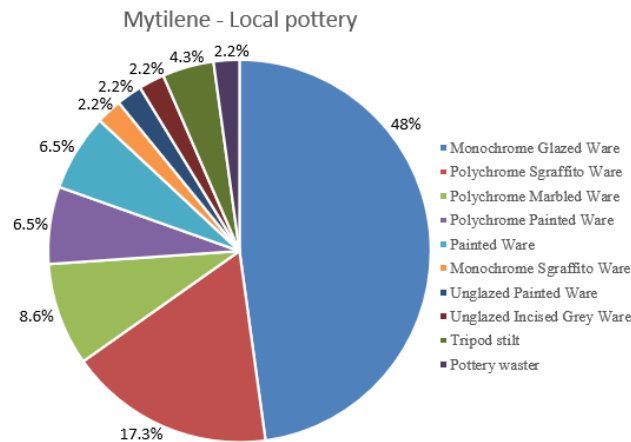


Figure 27 The local pottery in the analysed samples from Mytilene in Lesvos.

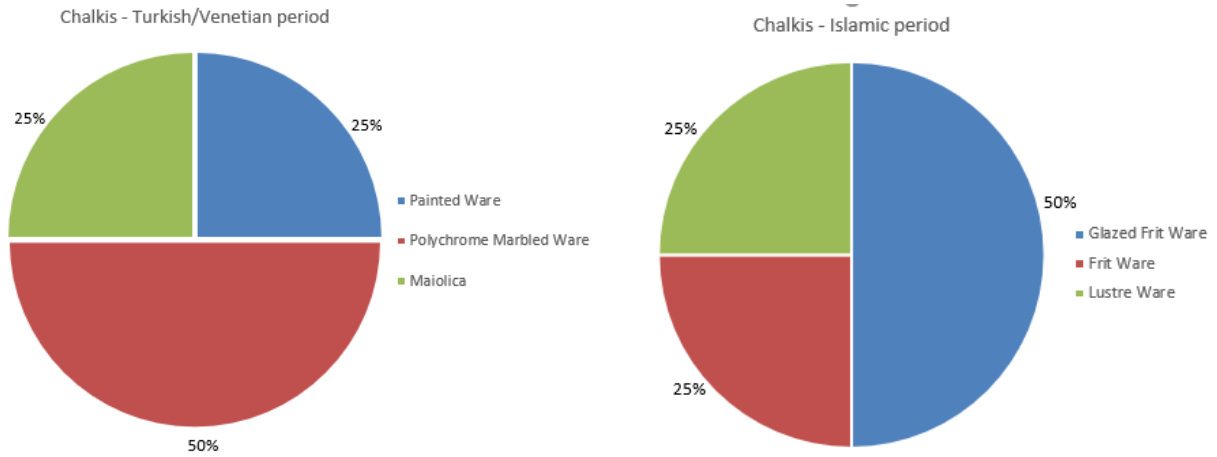


Figure 28 The local pottery in the analysed samples from Chalcis in Euboea in each chronological period.

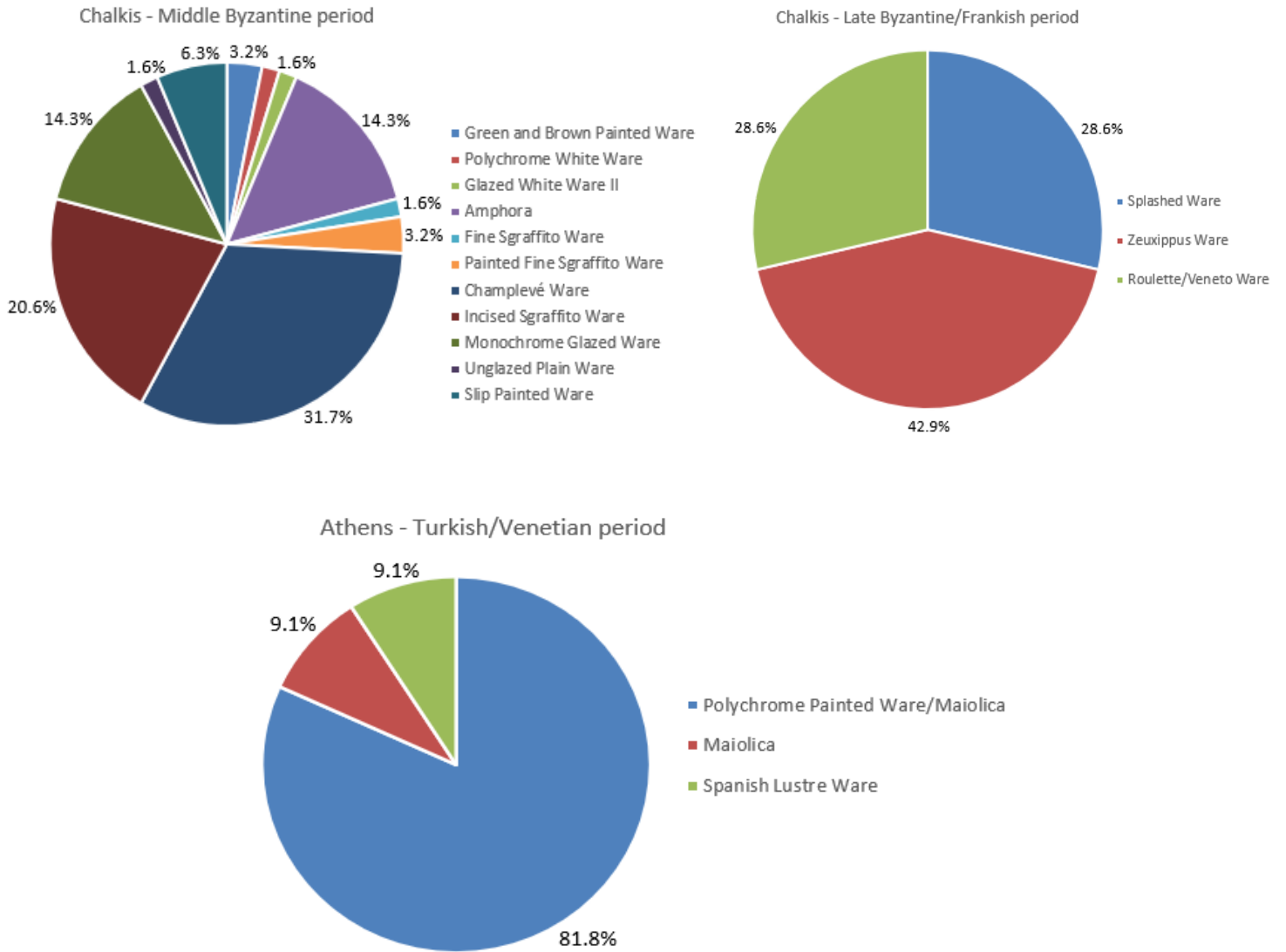


Figure 29 The local pottery in the analysed samples from Athens in each chronological period.

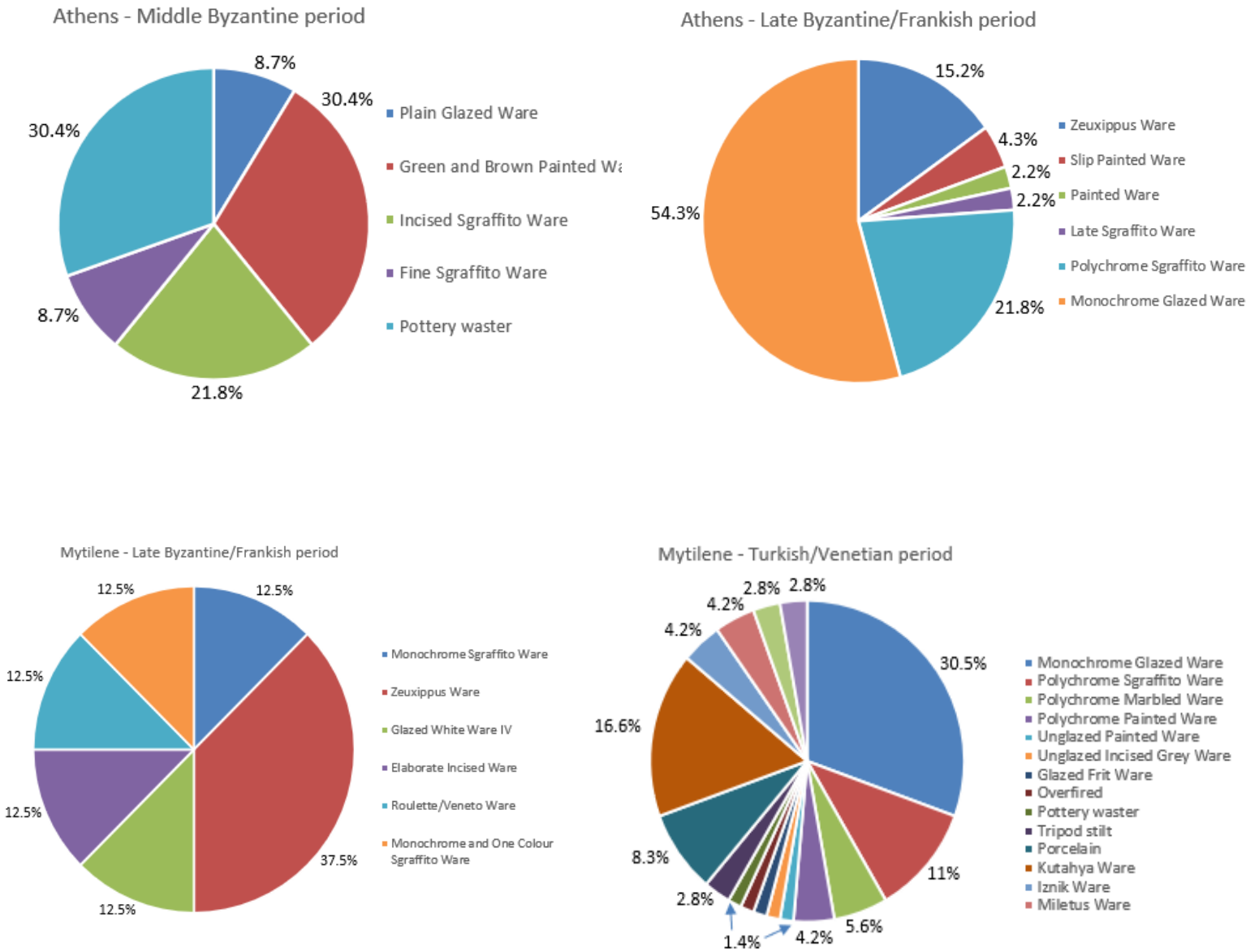


Figure 30 The local pottery in the analysed samples from Mytilene in Lesvos in each chronological period.

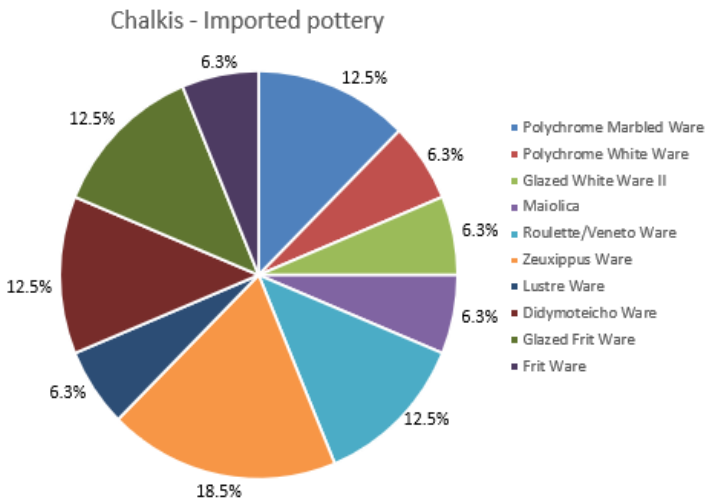


Figure 31 The imported pottery in the analysed samples from Chalkis in Euboea.

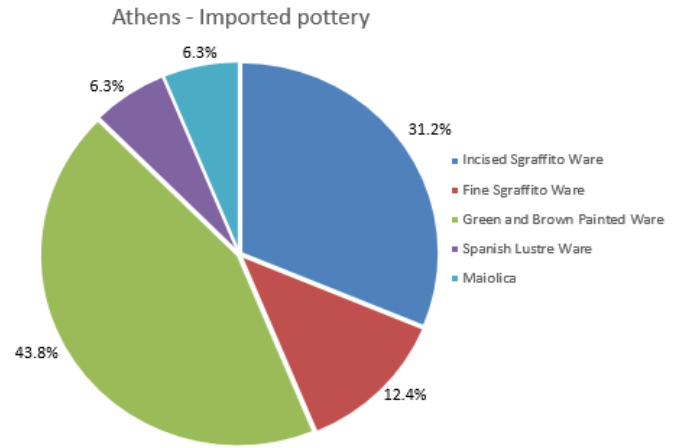


Figure 32 The imported pottery in the analysed samples from Athens.

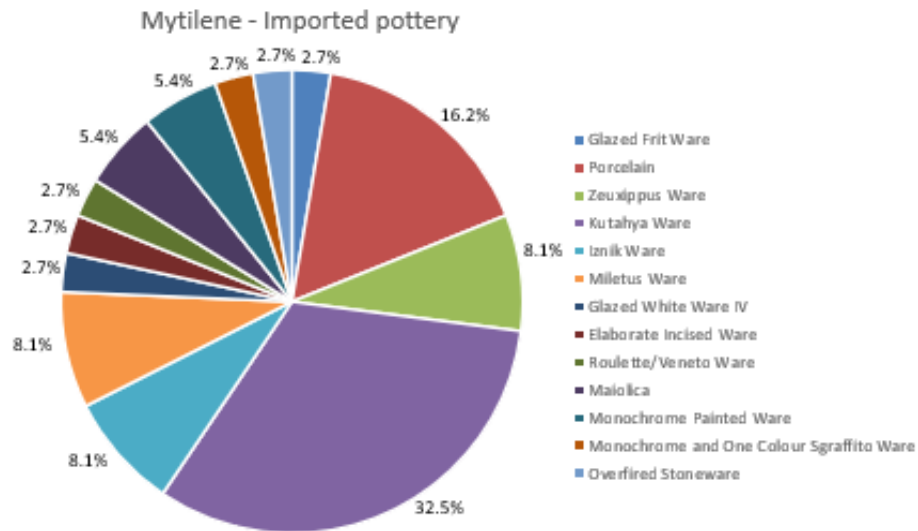


Figure 33 The imported pottery in the analysed samples from Mytilene.

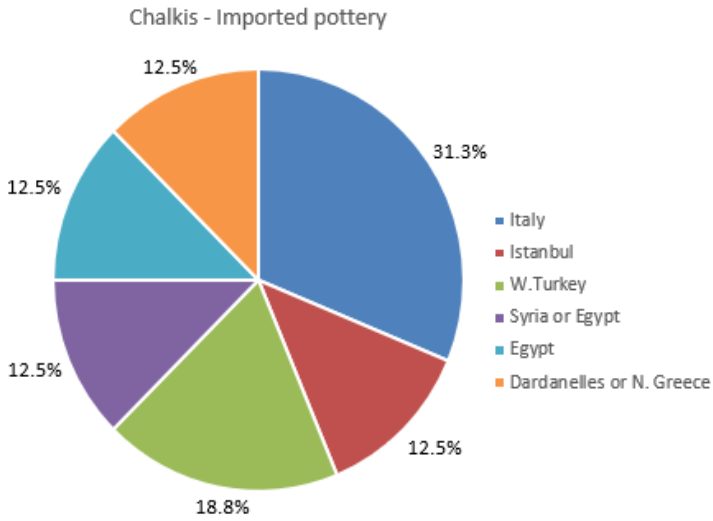


Figure 34 The region from which the imported pottery in the analysed samples from Chalkis in Euboea came.

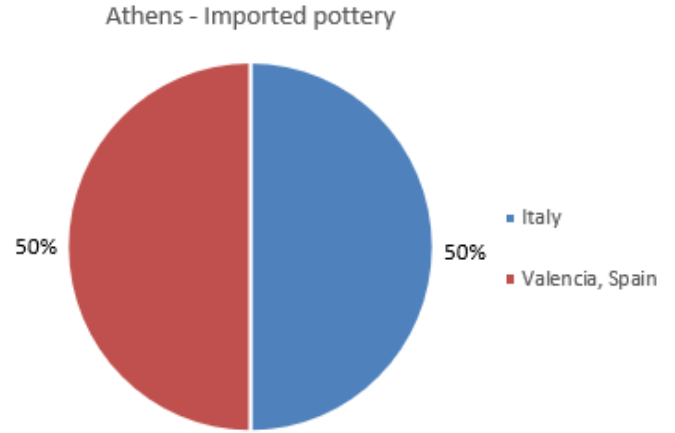


Figure 35 The region from which the imported pottery in the analysed samples from Athens came.

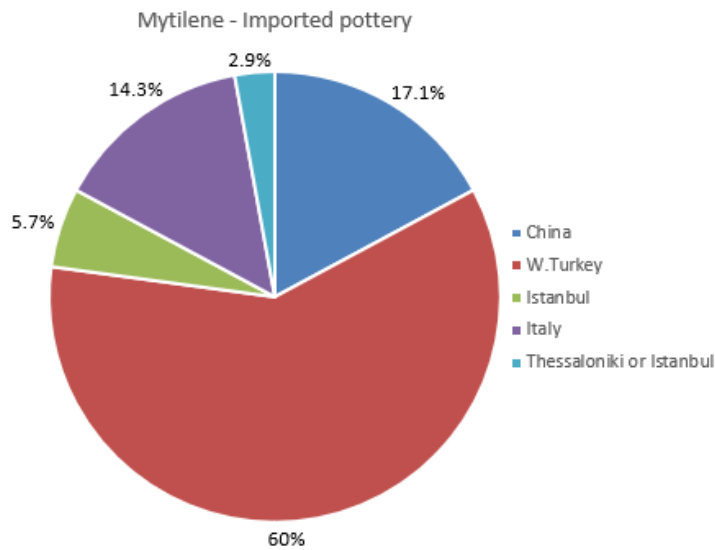


Figure 36 The region from which the imported pottery in the analysed samples from Mytilene in Lesbos came.

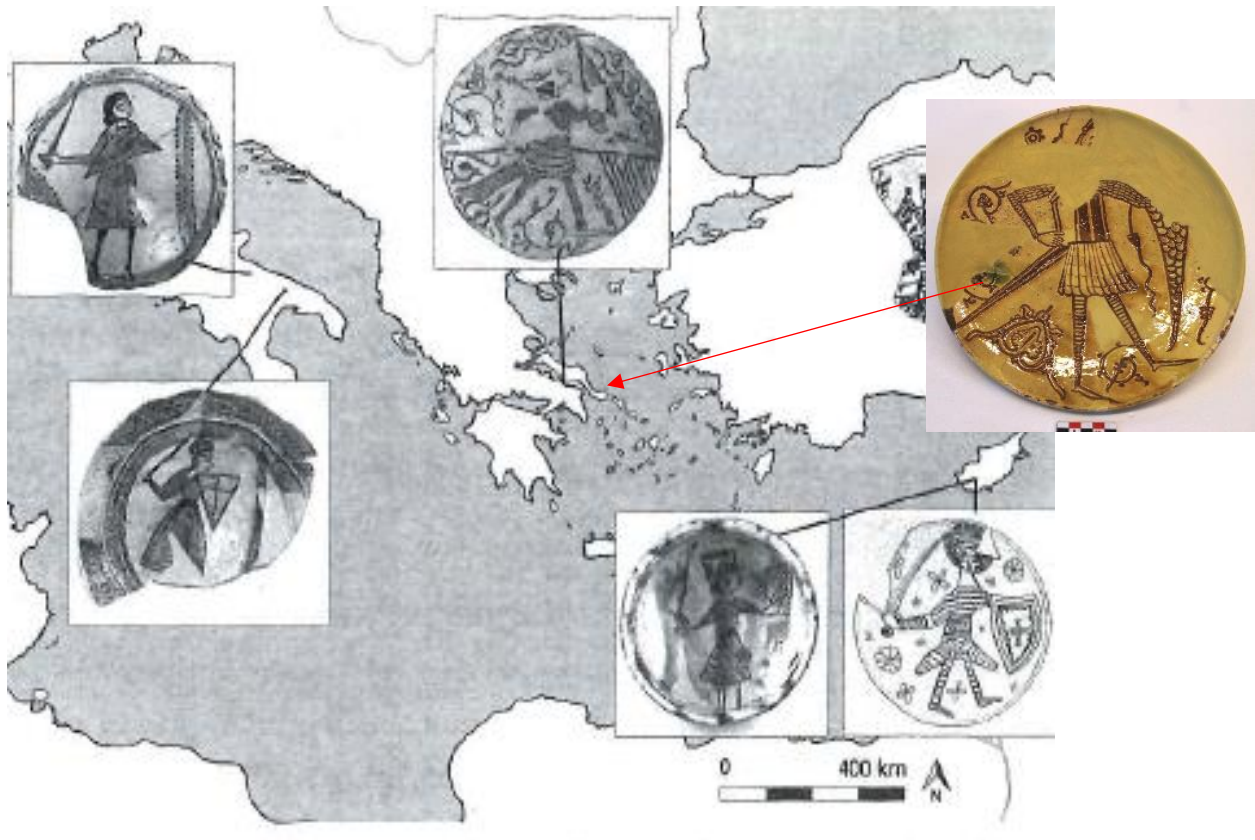


Figure 37 Map of Lucera, Acre, Vrea, Kinet Höyük, Paphos and Larnaka, including depictions of a standing single man on Medieval ceramics (Vroom 2018, p. 11). Incised Sgraffito Ware from Chalcis in Euboea (Vroom et al. 2021, p. 455, fig. 5 right).

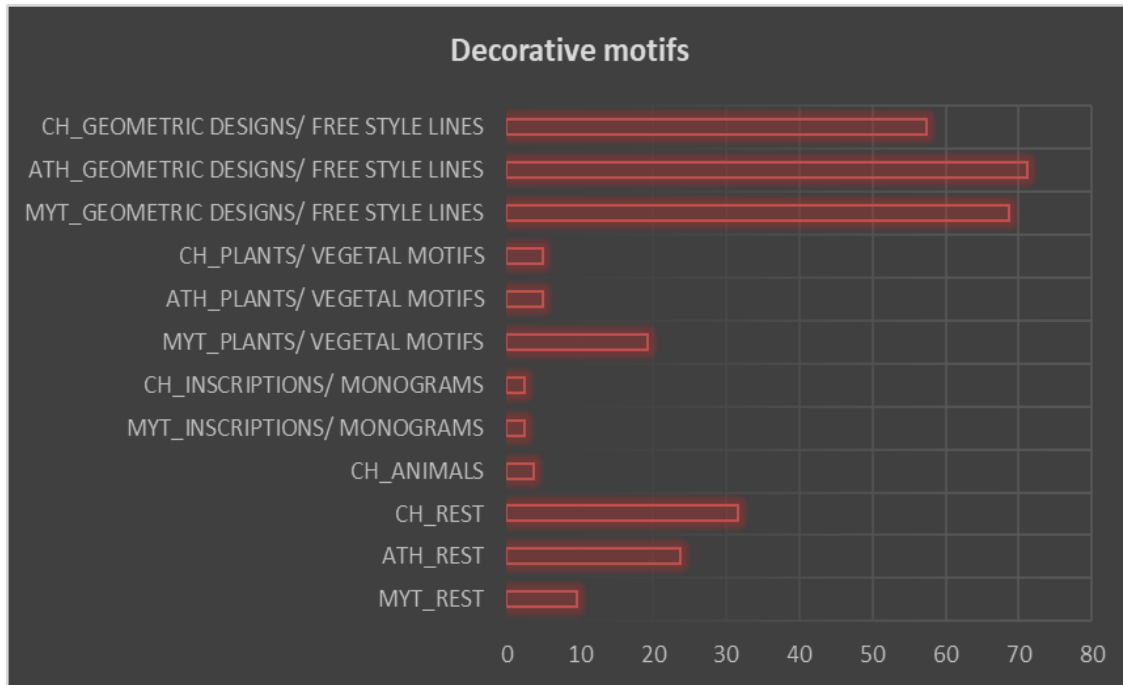


Figure 38 Scatterplot with the pottery decorative motifs in Chalchis in Euboea, Athens and Mytilene in Lesvos, GR.

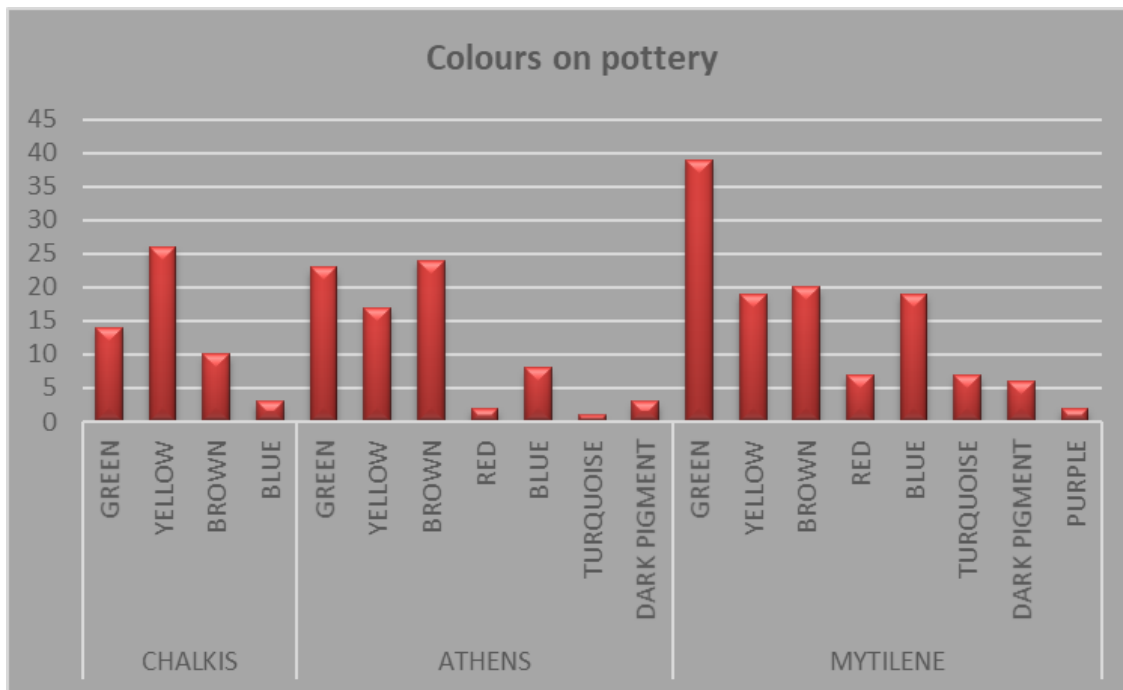


Figure 39 Scatterplot with the colours used in Chalchis in Euboea, Athens and Mytilene in Lesvos, GR.

CHALCIS IN EUBOEA

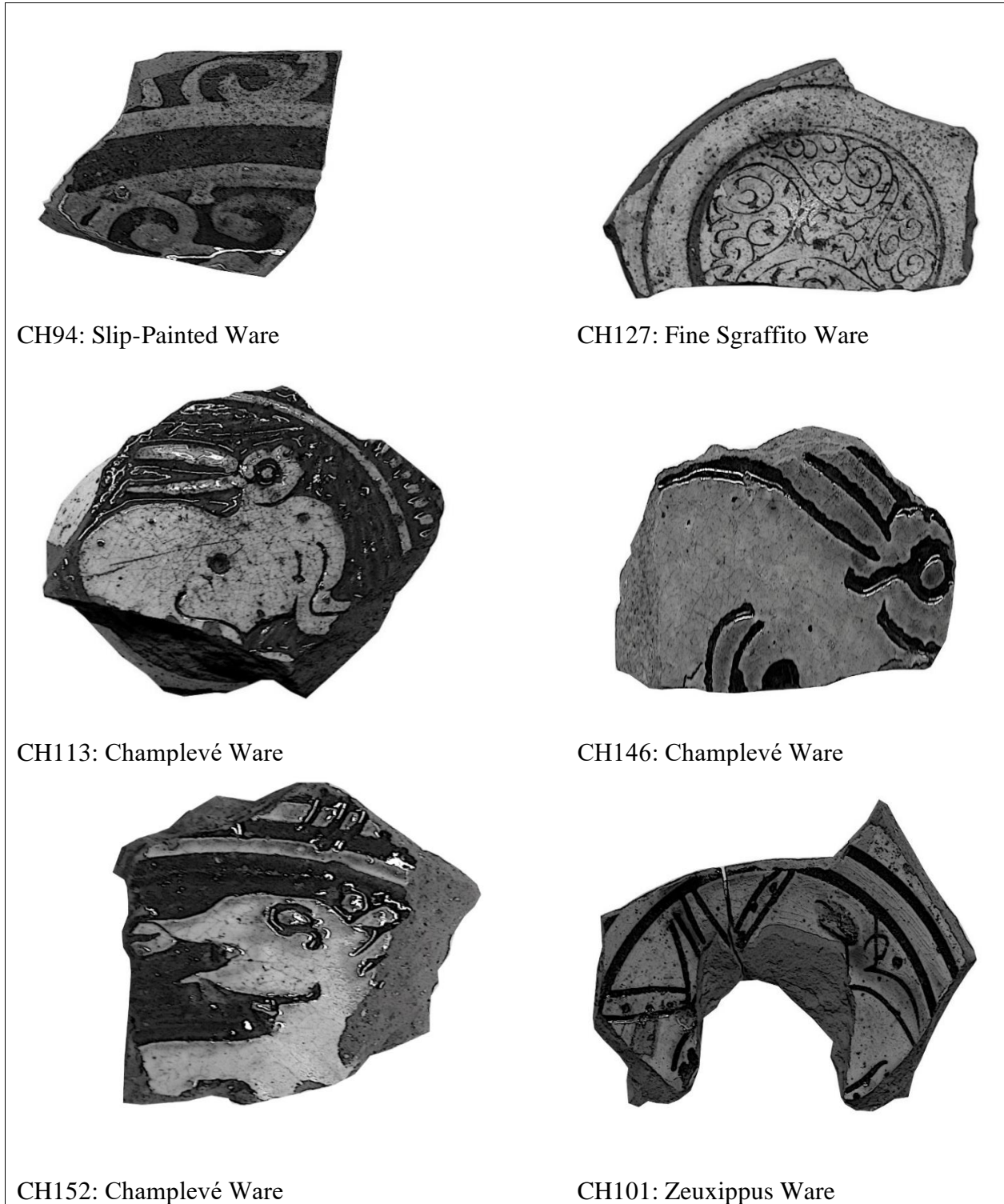
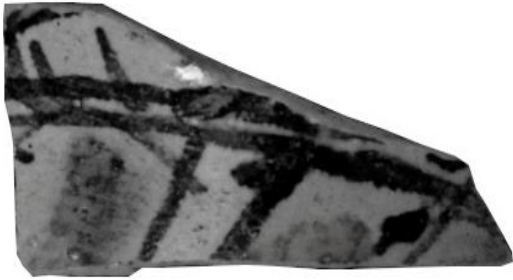
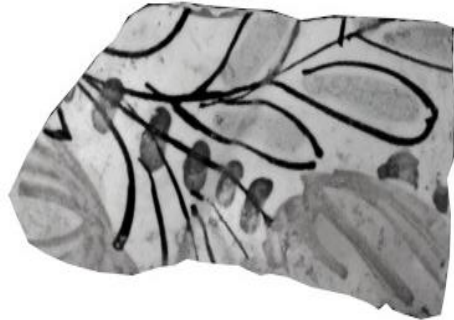


Table 2 Some pottery decorative motifs of the analysed samples from Chalcis in Euboea.

**ATHENIAN AGORA IN ATTICA**



AAG30: Polychrome Painted Ware/Maiolica



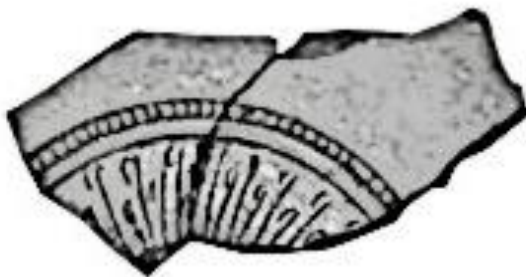
AAG70: Maiolica



AAG69: Green and Brown Painted Ware



AAG60: Polychrome Sgraffito Ware



AGBZY849: Incised Sgraffito Ware



AAG47: Zeuxippus Ware

Table 3 Some pottery decorative motifs of the analysed samples from the Athenian Agora in Attica.

MYTILENE IN LESVOS



MYT168: Iznik Ware



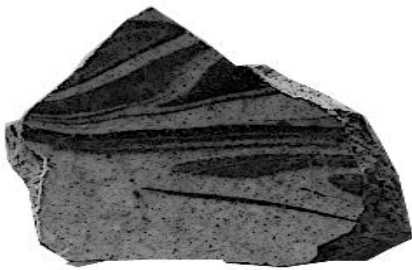
MYT214: Iznik Ware



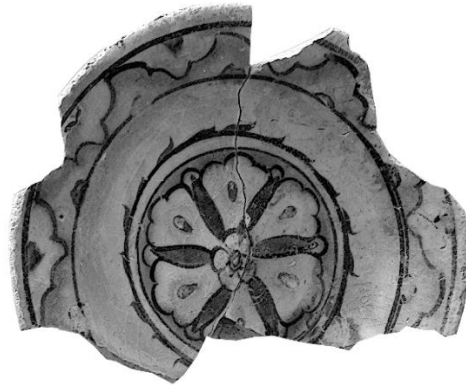
MYT204: Miletus Ware



MYT215: Polychrome Painted Ware



MYT197: Polychrome Marbled Ware



MYT228: Polychrome Painted Ware

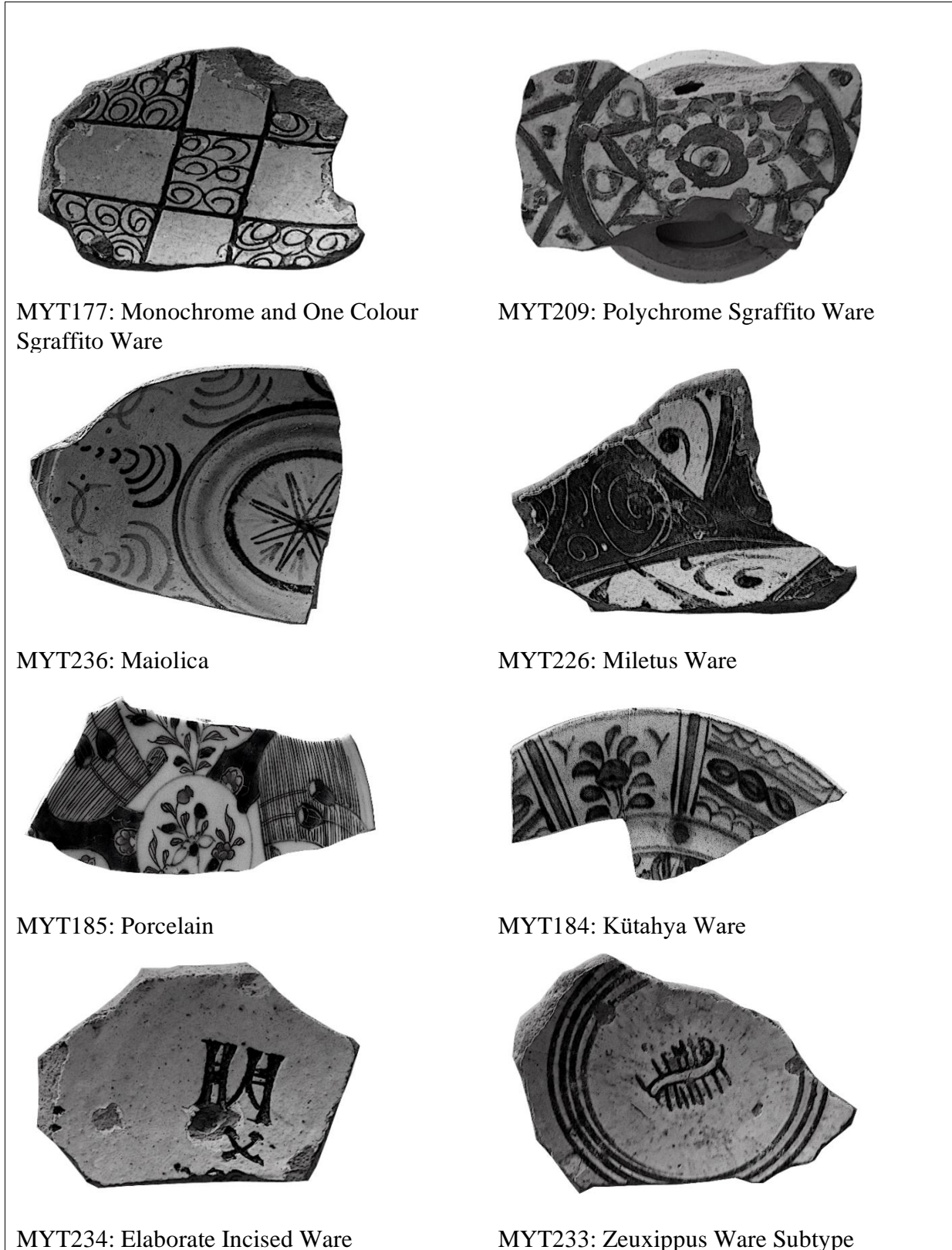


Table 4 Some pottery decorative motifs of the analysed samples from Mytilene in Lesvos.



Table 5 Some pottery colours of the analysed samples from Chalcis in Euboea, Athens in Attica and Mytilene in Lesvos.