

Polychrome Marbles from the Theatre of the Sanctuary of Apollo Pythios in Gortyna (Crete)

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POLYCHROME MARBLES FROM THE THEATRE OF THE SANCTUARY OF APOLLO PYTHIOS IN GORTYNA (CRETE)

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Abstract

Since 2001, the Italian Archaeological School of Athens and the University of Padua have carried out archaeological excavations at the theatre near the temple of Apollo Pythios in Gortyna (Crete), identifying five main archaeological phases of the building. Based on macroscopic characterization, the fragments of coloured marbles recovered during the excavations have been archived in a database describing their fundamental features (lithotype, function, and traces of workmanship). Moreover, the fragments have been studied stratigraphically to understand the development of the architectural decorations and the use of the marbles in the theatre. This paper discusses the results of the study, highlighting the use of a wide range of coloured marbles from the Mediterranean and the richness of the decorations during the restoration phase of the theatre in the Severan age.

Keywords

marbles, Gortyna, Theatre

Introduction

The city of Gortyna is located in Messara Valley in the southern part of the island of Crete. Probably already inhabited in the Minoan period, it is reported to have been the most powerful Cretan city in the Hellenistic age, and during the Roman period it became the capital of the province of *Creta et Cyrenaica*.

In 1894 the forerunners of the Italian Archaeological School of Athens began an archaeological survey of the city, aiming to improve the knowledge of its historical development.

As a part of this long-lasting research activity, the Italian Archaeological School of Athens and the University of Padua have carried out archaeological excavations at the theatre near the temple of Apollo Pythios since 2001;

several campaigns of fieldwork¹ make it possible to identify the theatre's main phases of architectural and functional activity², beginning with its construction, which dates back to the 2nd century AD, and continuing with the renovation of the orchestra (2nd-3rd century, through periods in which it was abandoned (end of 3rd century) and reuse (first half of the 4th century), up to the final collapse due to the earthquake of 365 (Fig. 1). As a result of the excavations, a great many coloured marble fragments have been collected; in this paper we present the results of a study of these fragments, showing the development and the richness of the theatre's marble decorations.

Studies on the marble of Crete

Because of its position in the centre of the Mediterranean Sea, the island of Crete may be considered an important case study for understanding the dynamics of the distribution of marble during the Roman age.

Marble studies in Crete were slow in emerging due to the shortage of well-studied Roman buildings, and in studies of the 70s and 80s, the presence of marble was underestimated³. Some attention, however, was dedicated to the study of local Cretan quarry sites⁴.

In 1984 Lorenzo Lazzarini was invited to Crete by A. Di Vita to develop the studies of marbles in the island; his efforts produced a series of papers regarding both the spread of marbles⁵ and their use in the Roman age⁶.

- 1 BONETTO, GHEDINI, RINALDI 2003; BONETTO, GHEDINI, VERONESE 2003; BONETTO 2004; BONETTO, GHEDINI, RINALDI 2005; BONETTO *et al.* 2008.
- 2 BONETTO, FRANCISCI 2014.
- 3 DI VITA 1988.
- 4 DURKIN, LISTER 1983; HARRISON 1990.
- 5 LAZZARINI 2001.
- 6 PENSABENE, LAZZARINI 2004; ANTONELLI *et al.* [In press].

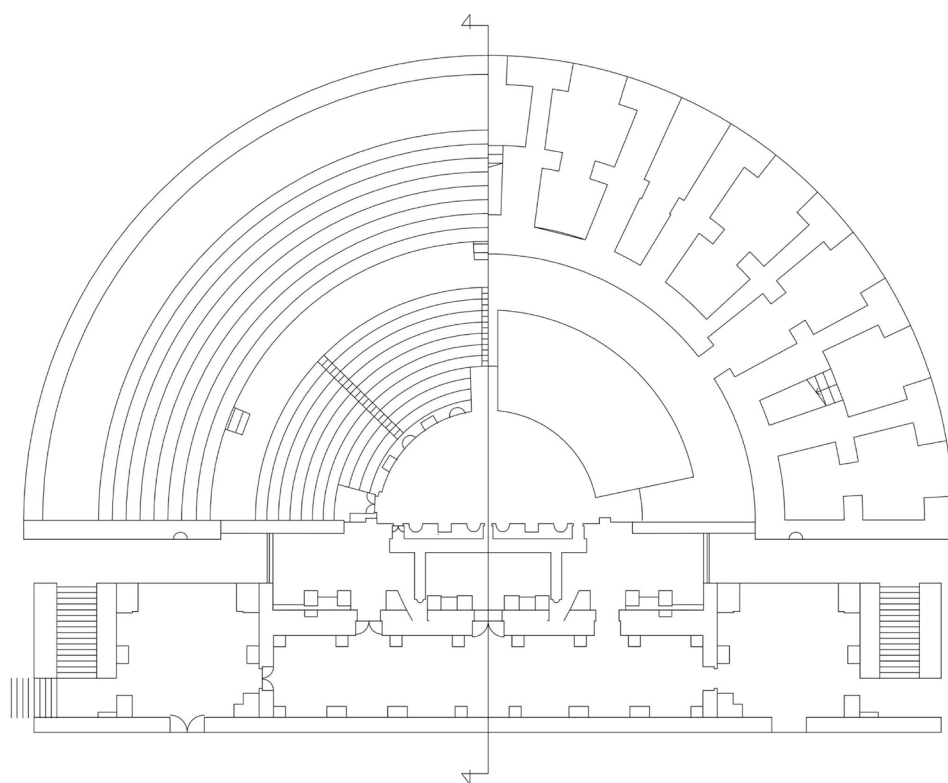


Fig. 1.
Plan of the theatre
at the end of the
excavation project
(2002-2010)

In 1999 a paper by Paton-Scheider⁷ addressed the role of imported marbles in Roman Crete, and in 2002 another paper by Lazzarini⁸ focused on a light grey Cretan marble, for which the author proposed the name “Marmo Gortinio”. The presence of local limestone was also investigated in a new paper⁹.

According to these papers, the use of exotic marbles in Crete can be dated back with certainty only to the time of the Emperor Hadrian; yet there are clues indicating that the introduction of exotic marble might have been as early as the beginning of the first century BC¹⁰. In the island some local lithotypes of good quality were also quarried in Roman times, but, as is confirmed by the finds from this study, they were used less commonly than imported marble.

The study of the theatre's marbles

The excavation of the theatre at the Pythion led to the discovery of a great number of marble fragments in part relevant to the architectural decoration of the building.

Based on macroscopic characterization, all coloured marble fragments have been archived in a database where the fundamental features (lithotypes, function, and traces of workmanship) and the stratigraphic context of the provenance of each fragment were recorded. Proconnesian marble has also been included in this study even though it is normally classed as white marble, a category of stone for which, as is generally recognized, macroscopic identifications are less reliable. In many cases, however, markings and grain size can give strong indications of the source. Accordingly, we count slabs with strong grey banding and medium-to-coarse grain as Proconnesian marble.

Thanks to a stratigraphic study of the archaeological deposits, it was possible to ascribe individual marble fragments to almost five archaeological phases of the theatre, making it possible to grasp the evolution of the architectural decoration.

A total of 1054 marble scraps have been studied, including 1015 fragments of slabs and 39 slabs still in situ belonging to a floor of the orchestra built between the 2nd and 3rd century. Only with respect to the slabs of the orchestra can the connection with the theatre be considered certain; the other fragments on the contrary belong mainly to fill layers, and their connection with decorations of the theatre will be analysed separately for each phase.

7 PATON, SCHNEIDER 1999.

8 LAZZARINI 2002.

9 LAZZARINI 2004.

10 PENSABENE, LAZZARINI 2004.

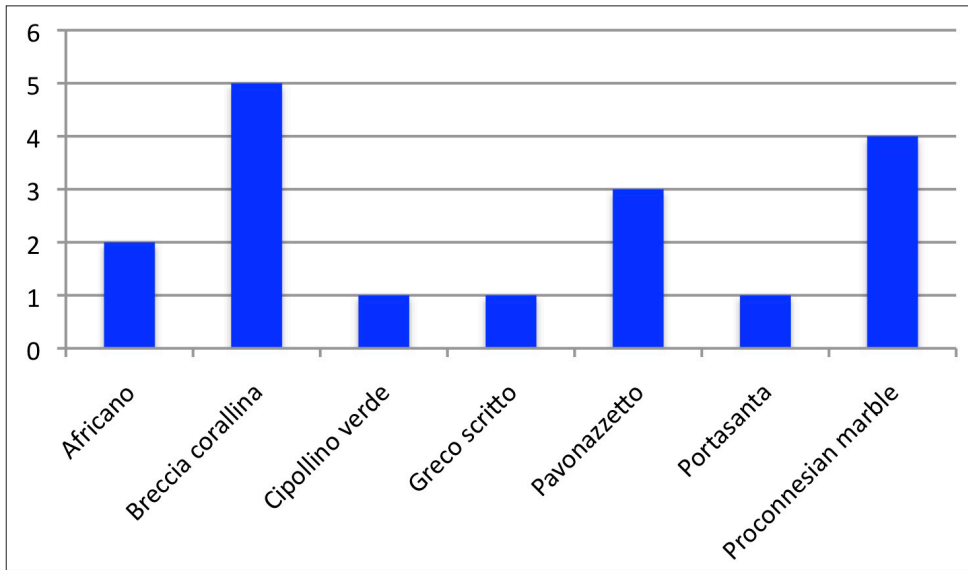


Fig. 2.
Histogram of the lithotypes
in first archaeological phase
of the Pythion Theatre
(100-150 AD)



Fig. 3. The Pavement was covered a few days after the discovery because of preservation requirements and safety of the excavation site. Therefore a complete study and documentation of the marble fragments wasn't possible. This photo should be considered such a working instrument that cannot let us a definitive identification for all slabs. When the characterization is very uncertain we signed the lithotype with a question mark, the slabs are listed as follows:

1 Proconnesian marble; 2 Portasanta (Marmor Chium); 3 Proconnesian marble; 4 Cipollino Verde (Marmor Carystium); 5 Cipollino verde (Marmor Carystium); 6 Pavonazzetto (Marmor Phrygium) (?); 7 Pavonazzetto (Marmor Phrygium); 8 Cipollino Verde (Marmor Carystium); 9 White marble (not presented in the text); 10 Breccia Corallina (Marmor Sagarium) (?); 11 Breccia Corallina (Marmor Sagarium) (?); 12 Pavonazzetto (Marmor Phrygium); 13 Breccia Corallina

(Marmor Sagarium) (?); 14 Proconnesian marble; 15 Proconnesian marble; 16 Proconnesian marble; 17 Breccia Corallina (Marmor Sagarium); 18 Pavonazzetto (Marmor Phrygium); 19 Proconnesian marble; 20 Bigio Antico from Lesbos (Marmor Lesbium); 21 Pavonazzetto (Marmor Phrygium); 22 Greco Scritto (?); 23 Pavonazzetto (Marmor Phrygium); 24 Breccia Corallina (Marmor Sagarium); 25 Breccia Corallina (Marmor Sagarium); 26 Cipollino Rosso (Marmor Iassense); 27 Breccia Corallina (Marmor Sagarium); 28 Breccia Corallina (Marmor Sagarium); 29 Cipollino Verde (Marmor Carystium); 30 Cipollino Verde (Marmor Carystium); 31 Cipollino Rosso (Marmor Iassense); 32 Greco Scritto (?); 33 Breccia Corallina (Marmor Sagarium); 34 Greco Scritto (?); 35 Breccia Corallina (Marmor Sagarium) (?); 36 Proconnesian marble (?); 37 White marble (not presented in the text); 38 Proconnesian marble (?); 39 Cipollino Verde (Marmor Carystium).

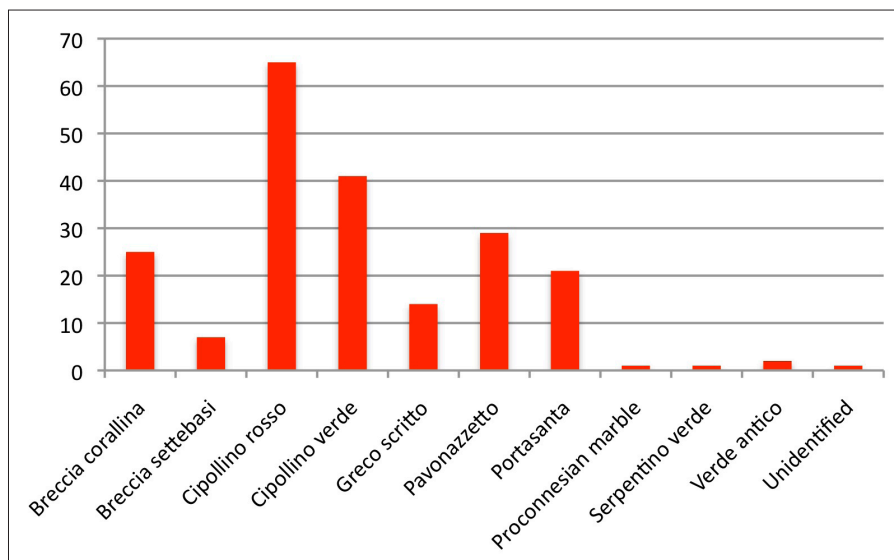


Fig. 4.
Histogram of the lithotypes
in the second archaeological
phase of the Pythion Theatre
(175-225 AD)

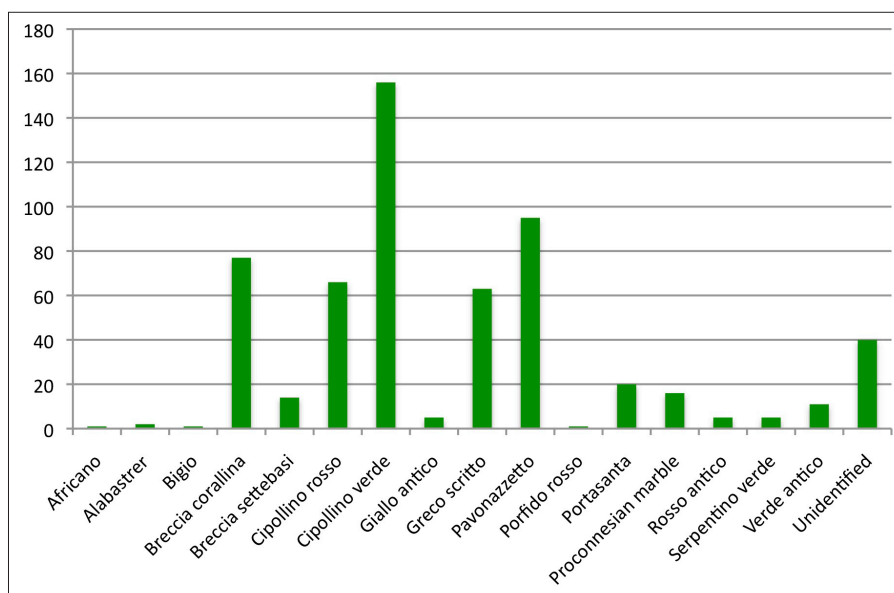


Fig. 5.
Histogram of the lithotypes
in the third archaeological
phase of the Pythion Theatre
(275-365 AD)

The Pythion Theatre's archaeological phases

After to the stratigraphic study of the archaeological deposits, it was possible to identify almost five phases of the theatre with different distribution of marble as summarized below:

1) Construction phase (first half of the second century).

This phase produced 22 fragments belonging to 8 different lithotypes (Fig. 2). From the stratigraphic point of view, however, their connection to the marble decoration of the theatre cannot be considered certain, but only probable. Greek marbles appear (*Cipollino Verde*, *Portasanta*), but Anatolian marbles predominate (*Africano*, *Breccia Corallina*, *Greco Scritto*, *Proconnesian marble*, *Pavonazzetto*).

2) Restoration phase (175-225)

The theatre was subjected to a radical restoration between the second and the third centuries.

This restoration led to the construction of a new floor of the orchestra, in which many marble slabs were used. Because of the irregular shapes of the marble slabs, the pavement seems to be the result of restoration work, in which slabs from an earlier period were reused. Almost 39 of these slabs, which are still *in situ*, have been studied, allowing us to recognize 8 marble types: *Breccia Corallina*, *Cipollino Rosso*, *Cipollino Verde*, *Greco Scritto*, *Bigio antico*, *Pavonazzetto*, *Portasanta* and *Proconnesian marble* (Fig. 3).

The archaeological layers of this phase produced a total amount of 207 marble fragments representing 11 different lithotypes (Fig. 4); the provenance of these fragments from layers marking some building makes their connection with the theatre very probable. These fragments seem to reflect a marble decoration based mainly on Anatolian lithotypes (*Breccia Corallina*, *Greco Scritto*,

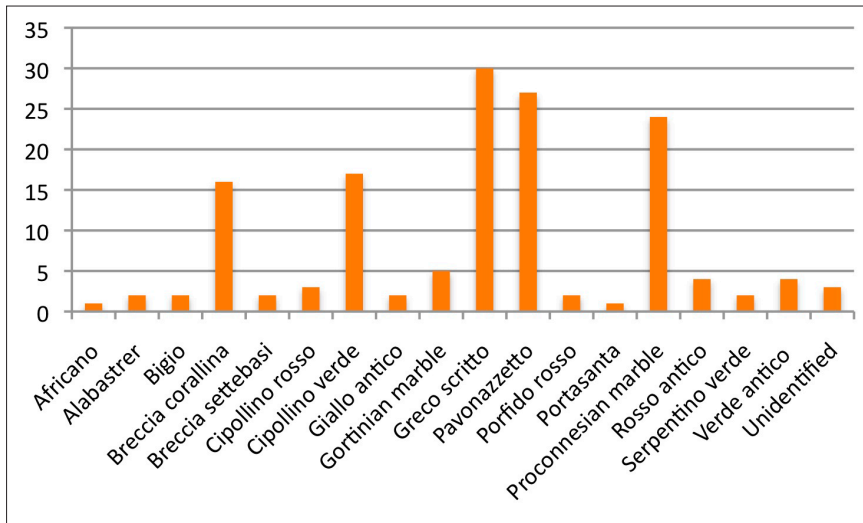


Fig. 6.
Histogram of the lithotypes
in the fourth archaeological
phase of the Pythion Theatre
(365-425 AD)

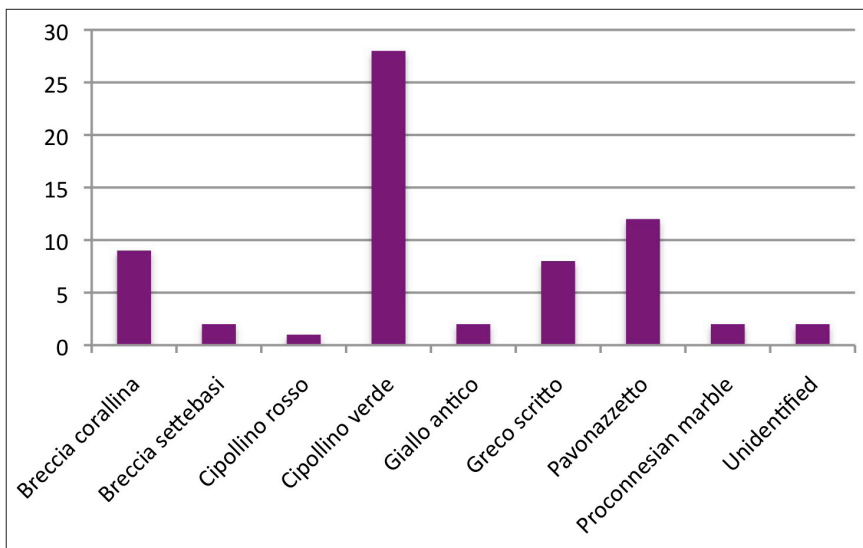


Fig. 7.
Histogram of the lithotypes in
the fifth archaeological phase
of the Pythion Theatre

Pavonazzetto and *Proconnesian marble*) used together with a scattering of Greek marbles (*Cipollino Verde*, *Portasanta* and *Breccia Settebasi*). In this phase some lithotypes from newly exploited quarry sites (*Verde Antico* and *Cipollino Rosso*) are also used. The prevalent use of Anatolian marbles seems to confirm the hypothesis of the crucial role played by craftsmen of Anatolian workshops in the diffusion of marble through Crete during the Antonine-Severan age¹¹.

The collected data suggest that during this phase the previous lithotypes were still utilized; the predominance of marble from Asia Minor appears clearly, but a good quantity of lithotypes from Greece is also attested. Most of the latter, it could be noted, provide the colour green (*Cipollino Verde*, *Verde Antico*, and *Serpentino*), a colour that is missing from Anatolian quarries.

3) *Reuse phase* (275-365)

After being briefly abandoned, the theatre was partially reused both as a stable and as a workshop.

In total, 578 fragments of 17 different marble types (Fig. 5) have been ascribed at this phase; the connection with the theatre can be considered probable for the majority of these fragments, but there are also fragments unrelated to the theatre. The huge quantity of fragments and the variety of lithotypes belonging to this phase allows the clarification of the importance of spoliation activities probably connected to commercialization of scavenged fragments. In this phase a furnace was built to produce lime from marble fragments, other fragments were probably collected to be reused or to be sold as scavenged materials. In this collection some new lithotypes joined the deposit, as the presence of *Porfido Rosso* from Egypt and *Bigio Antico* from Lesbos off the Anatolian coast demonstrate.

11 PENSABENE, LAZZARINI 2004.

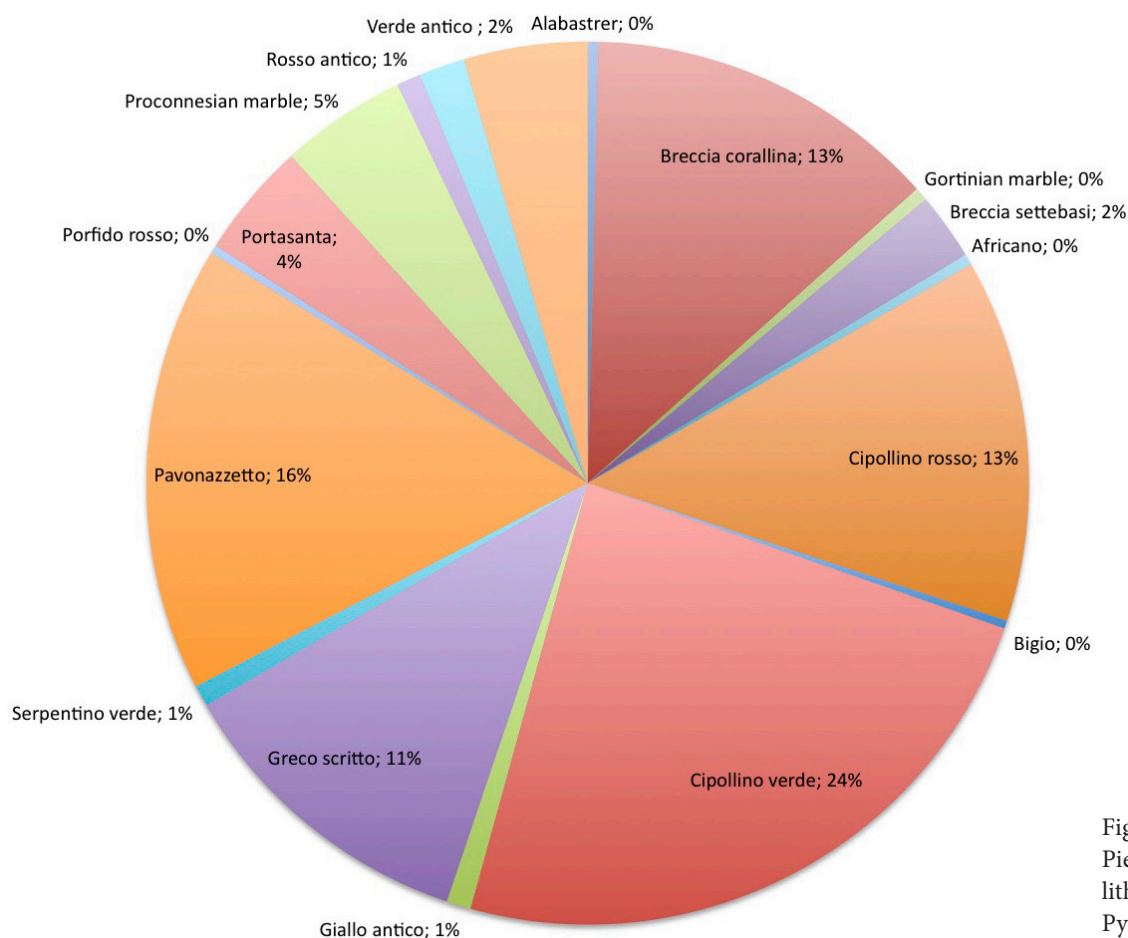


Fig. 8.
Pie chart of the
lithotypes from the
Python Theatre

4) Collapse phase (365-425)

The fourth phase shows the collapse of the building: a first extensive collapse was caused by an earthquake in July 365, while the definitive destruction of the theatre can be dated to the beginning of the 5th century after an intermediate period of occupation of the theatre.

Almost 66 fragments of nine different marble types have been ascribed to this phase: *Cipollino Verde*, *Pavonazzetto* and *Breccia Corallina* are the most numerous lithotypes, but their connection with the theatre's decoration is doubtful (Fig. 6).

5) Abandonment (475-present)

The last phase of the theatre is characterized by occasional activity through Early Byzantine times (475-625) ending with the definitive abandonment of the building in or around the 7th century. In this phase the theatre seems to have been a collection point for scavenged fragments coming from the last spoliations of the building. This phase has produced 147 fragments belonging to 17 lithotypes, of which *Greco Scritto*, *Pavonazzetto* and *Proconnesian marble* are the most attested (Fig. 7). Again, the majority of the fragments have a very uncertain connection with the decoration of the theatre

because of their provenience from the most superficial layers of the deposit. Their alien origin is confirmed by the presence of some lithotypes (*Porfido Rosso* and *Rosso Antico*) probably unrelated to the theatre.

General remarks and conclusions

The study of the 1015 fragments of coloured marble recovered from the theatre near the temple of the Python Apollo has made it possible to identify at least 16 of the most widespread lithotypes in the Roman period (Fig. 8) including *Cipollino Verde* (Carystus, Evvia, Greece) with 24% of the total fragments, *Pavonazzetto* (*Marmor Docimium*, Iscehisar, Turkey) 17%, *Greco Scritto* (Hasançavuslar, Turkey or Cap de Gard, Algeria) 13%, *Breccia corallina* (*Marmor Sagarium*, Vezirhan, Turkey) 13%, *Cipollino Rosso* (*Marmor Iassense*, Kiyikislacik, Turkey) 9%, *Proconnesian marble* (*Marmor Proconnesium*, Marmara island, Turkey) 6%, *Breccia di Settebasi* (Skyros Island, Greece) 2%, *Portasanta* (*Marmor Chium*, Chios Island, Greece) 2%, *Verde Antico* (*Marmor Thessalicum*, Thessaly, Greece) 2%, *Alabaster* (Pamukkale, Turkey) 1%, *Giallo Antico* (*Marmor Numidicum*, Chemtou, Tunisia) 1%, *Rosso Antico* (*Marmor Tenarium*, Cape Tenarion,

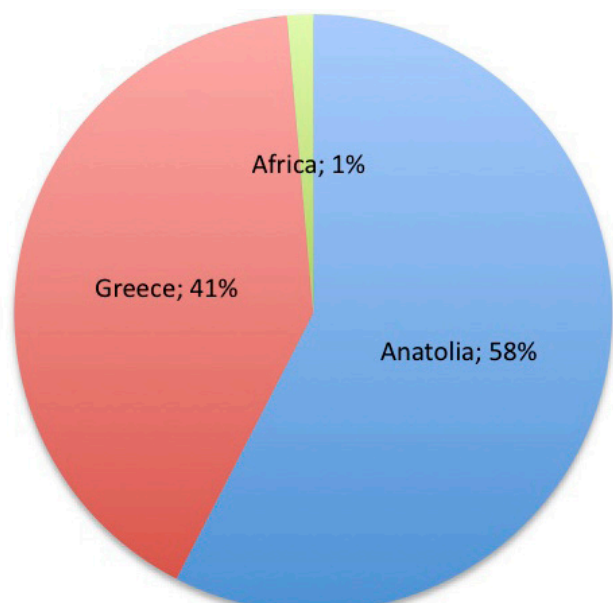


Fig. 9. Pie chart of the provenances of the recognized lithotypes

Greece) 1%, *Serpentino Verde* or *Porfido Verde di Grecia* (*Marmor Lacedaemonicum*, Krokea, Greece) 1%, *Africano* (*Marmor Luculleum*, Salgacik, Turkey), *Bigio Antico*, Gortinian marble (Gortyna, Crete, Greece) and *Porfido Rosso* (*Lapis Porphirites*, Jebel Dokham, Egypt).

If the focus is placed on the provenance of lithotypes, the use of a wide range of coloured marbles from the Mediterranean appears well demonstrated (Fig. 9); in particular, Anatolian marbles are prevalent (45%). Greek lithotypes are also well-attested (32%), while marbles from Africa are less common (2%). In addition, some fragments cannot be identified (8%). Moreover, *Greco Scritto* (13%) could come from both Africa¹² and Anatolia¹³. Furthermore the *Portasanta* marble was quarried in the island of Chios, which is within the border of the modern nation of Greece but is also very close to the Anatolian mainland. So, it could be listed both with the Anatolian and Greek marble. We listed it with Greek marbles according to Lazzarini's classification¹⁴.

The reconstruction of the marble decorations of the first phase of the theatre cannot be presented because of the uncertain relationship of the fragments to the building's decoration. In this phase some Anatolian lithotypes (*Greco Scritto*, *Pavonazzetto* Proconnesian marble) were

probably used in decorations of the theatre but the framework of the decorative program cannot be understood entirely.

Indeed the stratigraphic study of the archaeological deposits suggest that only the fragments recovered from the layers related to the second archaeological phase may be confidently connected with the architectural decoration of the theatre. Consequently we can propose a realistic reconstruction only for the marble decorations used in the restoration phase of the theatre (175/225).

In this phase the architectural decoration of the theatre appears to be based largely on the presence of Anatolian lithotypes used together with several Greek stones; the use of an African lithotype (*Giallo Antico*) remains very uncertain.

The prevalence of Anatolian marbles makes clear the importance of this region as a source for marble in Gortyna. Moreover, in a recent paper¹⁵ some close links with Anatolian craftsmen's traditions are identified in architectural elements belonging to several Gortinian archaeological contexts; it is the case of the Great Theatre where Lesbian *kymatia* have strong similarities with *kymatia* used in the Theatre of Ephesus (Turkey). This evidence allows scholars to postulate the presence in the city of a micro-Asiatic atelier during the late Antonine-Severan age.

It is also possible that these craftsmen could be employed also in the Theatre of the Pythion using mainly Anatolian stones in combination with the most prestigious Greek lithotypes, perhaps primarily to provide the colour green, which was missing from Anatolian quarries.

The very small attestations of the local *Marmo Gortinio* seem to indicate that the marble was not heavily used, even in its native area. This supposed rarity contrast with the scholars' reports that it was widely used "in Roman and Byzantine times"¹⁶. However, the absence of the *Marmo Gortinio* from all but the latest layers of the theatre do not allow us to estimate the real attestation of this local stone in the theatre because of the modest reliability of these latest layers in defining the architectural decoration of the theatre.

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12 PENSABENE 1976; ANTONELLI, LAZZARINI, CANCELLIERE. 2009.

13 ATTANASIO *et al.* 2012.

14 LAZZARINI 2007; LAZZARINI 2009, 464.

15 PENSABENE, LAZZARINI 2004, 777.

16 LAZZARINI 2002, 228.

BIBLIOGRAPHY

- ANTONELLI F., LAZZARINI L., CANCELLIERE S. 2009: "Minero-petrographic and geochemical characterization of greco scritto marble from Cap de Garde, near Hippo Regius (Annaba, Algeria)", *Archaeometry* 51, 351-365.
- ANTONELLI F., BONETTO J., GIOVANNA FABRINI M., LAZZARINI L.: "The use of white marbles in roman Gortyn (Crete) as resulting from archaeometric analyses" in *ASMOSIA XI* [In press].
- ATTANASIO D., YAVUZA A. B., BRUNO M., HERRMANN JR J. J., TYKOT R. H., VAN DEN HOEK A. 2012: "On the Ephesian origin of Greco Scritto", in *ASMOSIA IX*, 245-254.
- BONARRIGO A., BORTOLASO G., ENZI S., GHEDINI F., LAZZARINI L. 1987: "Il problema dell'identificazione dei marmi cristallini usati in antichità: un esempio di studio (Gortina-Creta)", *Quaderni di Archeologia del Veneto III*, 222-229.
- BONETTO J. 2004: "Gortyna (Creta). Lo scavo 2004 presso il Teatro del Pythion", *Annuario Scuola Archeologica di Atene LXXXII*, serie III, 4, tomo II, 581-585 e 599-606.
- BONETTO J., GHEDINI F., RINALDI F. 2003: "Ricerche archeologiche dell'Università di Padova in Grecia. Le campagne di indagine 2001 e 2002 al Teatro del Pythion di Gortina (Creta)", *Quaderni di Archeologia del Veneto XIX*, 228-232.
- BONETTO J., GHEDINI F., VERONESE F. 2003: "Gortyna (Creta). Lo scavo 2003 presso il Teatro del Pythion", *Annuario Scuola Archeologica di Atene LXXXI*, serie III, 3, tomo II, 885-912.
- BONETTO J., GHEDINI F., RINALDI F. 2005: "Ricerche archeologiche dell'Università di Padova in Grecia. La campagna di indagine 2004 al Teatro del Pythion di Gortina (Creta)", *Quaderni di Archeologia del Veneto XXI*, 129-135.
- BONETTO J., BRESSAN M., FRANCISCI D., BUENO M., SEGATA M., GHEDINI F. 2008: "Lo scavo 2005 presso il teatro del Pythion" *Annuario della Scuola Archeologica di Atene e delle Missioni Italiane in Oriente LXXXIII*, Serie III, 5, Tomo 2. 649-672.
- BONETTO J., FRANCISCI D. 2014: "Il teatro del Pythion di Gortina: storia di un teatro romano a Creta" in J. M. ALVAREZ, T. NOGALES, I. RODÀ FRANCISCI D. J. M. (ed.): *Centro y periferia en el mundo clasico*, *Actas XVIII CIAC. Congreso Internacional Arqueologia Clasica*, 941-944.
- DI VITA A. 1988: *Gortina I*, *Monografie della Scuola Archeologica di Atene e delle Missioni italiane in Oriente II*, Roma.
- DURKIN M. K., LISTER C. J. 1983: "The rods of Digenis: an ancient marble quarry in Eastern Crete", *BSA* 78, 69-96.
- HARRISON G. W. M. 1993: *The Romans and Crete*, Amsterdam, 1993.
- LAZZARINI L. 2001: "I materiali lapidei di importazione dell'area del Pretorio di Gortina" in A. DI VITA: *Gortina V. 3.2 Lo scavo del pretorio (1989-1995)*, *I materiali: Gortina: lo scavo del pretorio (1989-1995)*, *Monografie della Scuola Archeologica Italiana di Atene e delle Missioni Italiane in Oriente XII. V. 3*, 3, 721-730.
- LAZZARINI L. 2002: "A new grey marble from Gortyna (Crete) used in Greek and Roman antiquity" in *ASMOSIA VI*, 227-232.
- LAZZARINI L. 2004: "Il marmo e i 'parolithoi' di Gortina (Creta): cave e caratterizzazione petrografico-geochimica", in I. SIMIAKAKI, M. LIVADIOTTI (eds.): *Creta romana e proto bizantina*, *Atti del Congresso Internazionale (Iraklion 23-30 Settembre 2000)*, Vol. III.1, 1247-1261.
- LAZZARINI L. 2007: "Poikiloi Lithoi, Versicolores Maculae: I marmi colorati nella Grecia antica" *Pisa*, 119-131.
- LAZZARINI L. 2009: "The distribution and re-use of the most important coloured marbles in the provinces of the Roman Empire", in *ASMOSIA V*, 459-484.
- LIVADIOTTI M. 2000: "Le volte costruite con i mattoni perpendicolari alla generatrice: il caso del calidario 13 delle Terme del Pretorio di Gortina", in A. DI VITA: *Gortina V.1 Lo scavo del Pretorio (1989-1995)*, *Monografie della Scuola Archeologica Italiana di Atene e delle Missioni Italiane in Oriente XII. vol. 1*, 801-823.
- PATON S., SCHNEIDER R. M. 1999: "Imperial Splendour in the Province: Imported Marble on Roman Crete", in A. CHANIOTIS: *From Minoan farmers to roman traders*, *Stuttgart*, 279-304.
- PENSABENE P. 1976: "Sull'impiego del marmo di Cap de Garde. Condizioni giuridiche e significato economico delle cave in età imperiale", *Studi Miscelanei* 22, 177-190.
- PENSABENE P., LAZZARINI L. 2004: "Marmi, pietre colorate e maestranze a Creta in età imperiale" in I. SIMIAKAKI, M. LIVADIOTTI (eds.): *Creta romana e proto bizantina*, *Atti del Congresso Internazionale (Iraklion 23-30 Settembre 2000)* Vol. III.1, 763-779.
- ROCCO G., LIVADIOTTI M. 1991: "Note sull'uso di distanziatori fittili per la realizzazione di intercapedini nei *calidaria*. Le terme del Pretorio a Gortina (Creta)", *Annuario della Scuola Archeologica Italiana di Atene*, vol. LXI, 353-387.