

Giallo Antico in Context. Distribution, Use and Commercial Actors According to New Stratigraphic Data from the Western Mediterranean (2nd C. Bc - Late 1st C. Ad)

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GIALLO ANTICO IN CONTEXT. DISTRIBUTION, USE AND COMMERCIAL ACTORS ACCORDING TO NEW STRATIGRAPHIC DATA FROM THE WESTERN MEDITERRANEAN (2ND C. BC – LATE 1ST C. AD)

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Abstract

This article gives a first overview of the distribution of *giallo antico* in the Western Mediterranean during the earliest phases of its extraction. It discusses recently excavated, well-dated contexts from Italy, Spain, Gaul, Africa, and from Simitthus itself. The objective is not, as is usually the case, to focus on the marble's use in spectacular buildings in Rome. The article will rather highlight the variability of the marble's use in houses, sanctuaries, tombs, inscriptions and municipal buildings. In doing so, some options of naming the actors involved in the trade in the marble and possible trade routes will be discussed. As a result of this approach, it becomes clear that a wide range of private, municipal and provincial actors must have been involved in the marble trade, apart from the hitherto overestimated role of the Numidian kings and Roman emperors. The distribution-maps show the current state of a broader work in progress of the Tuniso-German project (INP/DAI) at Simitthus.

Keywords

giallo antico, Simitthus, trade actors, marble transport routes, contexts of marble use

brecciated forms². It was exploited in Chimtou/Simitthus (TN), situated in the Majrada valley, called *Campi Magni* in antiquity. Although previous research has led to important results concerning extraction techniques, workshops, administration, properties in the quarries and export routes³, many questions still remain open. We know little about the early phases of the marble's extraction, its transport routes and the actors involved in the commercialization of the stone⁴. Based on a database, which situates *giallo* matches chronologically and contextually, our project is designed to present a holistic overview of the development of the marble's distribution and utilization⁵. This article will preliminarily discuss some significant contexts of *giallo* use, with a special focus on reliable stratigraphical evidence from the 2nd c. BC to the end of the 1st c. AD.

1st phase (2nd c.–46 BC)

According to the available evidence, the first and only building erected completely in *giallo antico* was a monument on Djebel Bourfifa, at Simitthus itself, probably to celebrate the territorial expansions of the

It is well known that *giallo antico* or *marmor Numidicum* was one of the most famous and widespread marbles of antiquity¹. The stone is mainly understood as a yellow marble with red veneering, but it has also quite a variable range of veneering and colors, as well as

1 I would like to thank the German Archaeological Institute, especially P. VON RUMMEL and M. CHAOUALI from the Institute National du Patrimoine in Tunis for the possibility of presenting material from our excavations at Chimtou. For support, corrections and discussion I owe many thanks to S. BARKER, A.-F. BARONI, D. BECK, M. CISNEROS, S. and N. CLARKSON and B. RUSSELL. This article is dedicated to S. CLARKSON (†).

2 For the variety of the stone's geological composition and its various colors: RÖDER 1993; GNOLI 1971. The museum of Chimtou contains a representative scale of all varieties of the stone. In this paper, only the yellow form with red veneering is considered. I will not discuss the problem of so-called "substitutive-stones" of *giallo antico* (e. g. Santa Tecla or Buixcarró stones) in this article: cf. ÀLVAREZ *et al.* 2009; CISNEROS 2012.

3 RÖDER 1993; RAKOB 1993; labor camp: RAKOB 1994; MACKENSEN 2005; administration: KHANOUSSI 1997; 1998; KRAUS 1993; HIRT 2010; export: RÖDER 1993, 50–2; BRAEMER 2004; RUSSELL 2013.

4 GAGGIOTTI 1987 uses only literary sources; the distribution-map by LAZZARINI 2009, fig. 7, has neither chronological nor contextual differentiations.

5 This database is linked to a new PhD-project run by D. BECK (FU/DAI Berlin) on *giallo* distribution.

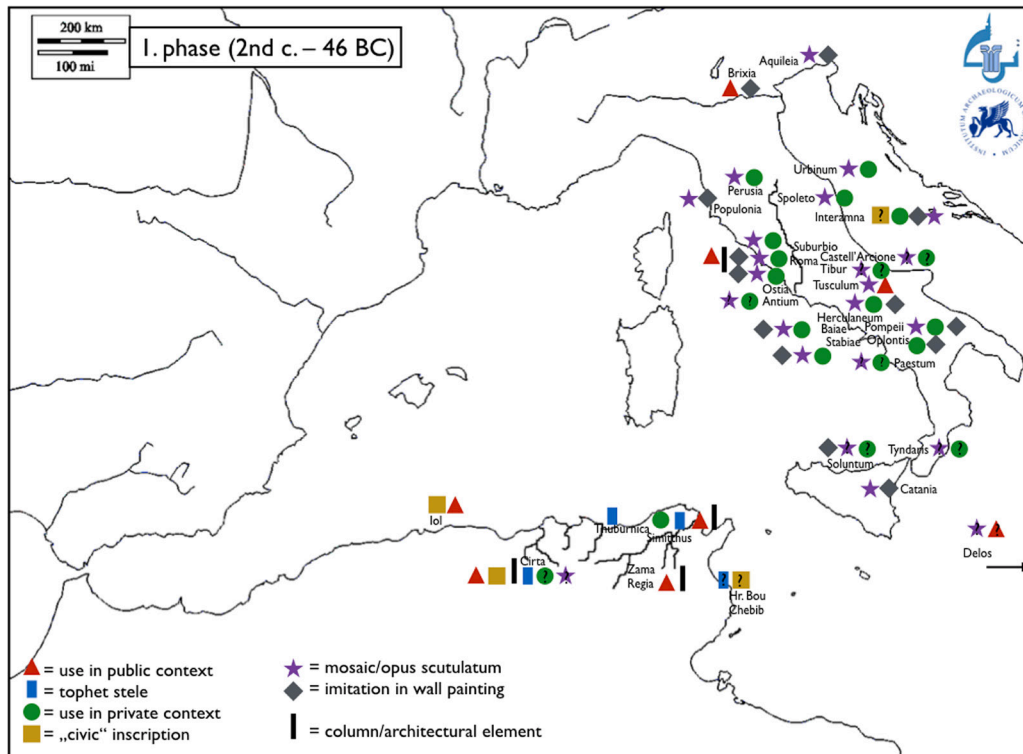


Fig. 1. Distribution of giallo antico in the Western Mediterranean; 1st phase (2nd c. – 46 BC) (S. Ardeleanu)

Numidian dynasty during the late 2nd c. BC⁶. The quarry opened next to the monument, at which half-worked pieces were found *in situ*, is far too large to have furnished material only for this building⁷. It is thus likely that it had already produced material for export. The close link between the monument's iconography and the Numidian kings' territorial policy suggests the royal control of this and perhaps of other quarries. An *officina regia*, on the southern slope of Djebel Bourfifa, may be identified with one of these quarries⁸.

The hypothesis of at least partial royal control is supported by the marble's early distribution (Fig. 1). In Africa, almost all indications of the marble's use derive from the kingdom's capitals. A capital from early-1st c. BC Cirra probably decorated a house⁹. In Zama, we have three acroteria of altars, probably from a temple complex of the 2nd-1st c. BC¹⁰. An inscription from Iol refers to a

cult of king Micipsa, dated to 118–104 BC¹¹. Together with a stele in *giallo* from Cirta's *tophet*¹², it is likely that these objects arrived at their find spots through royally controlled trade.

It is mainly from textual sources that most scholars date the first exports to Italy into the mid-1st c. BC¹³. However, the marble was employed in aristocratic houses for pavements in central Italy, which are dateable to the late 2nd and early 1st c. BC¹⁴. Representations of columns and other architectural elements of *numidicum* in wall paintings of 1st and 2nd Style houses in the very same area show that the marble was already well-known. Interestingly, its representation in painting corresponds with its

6 RAKOB 1994, 1–38.

7 RÖDER 1988, 92; RÖDER 1993, 28 fig. 16; 34–36; RAKOB 1994, 1. 30.

8 CIL 8, 14578. 14579; 14583 (107; 149–151 AD); RAKOB 1993, 5; KRAUS 1993, 58; LASSÈRE 1980, 28. 31.

9 RÜGER, HORN 1979, 470; RÖDER 1988, 93; 1993, 20 and RAKOB 1993, 5 attribute the capital to the royal palace (which is not proven) and assume a provenience from the *officina regia*.

10 FERCHIOU 2011, 177–9.

11 RÜGER, HORN 1979, 574; XELLA 2013, 143–50.

12 HORN, RÜGER 1979, 564; RAKOB 1993, n. 26 refers this slab to the *of. regia*.

13 RÖDER 1988, 93; MAYER 1996, 839; MCALPINE 2014, 74. On a debated text by Cato: GAGGIOTTI 1987, 201–2. Pliny's (nat. 36,49) well-known record mentioning the "first" use of *giallo* in Rome in Lepidus' house in 78 BC is over-estimated in comparison to earlier archaeological contexts.

14 For the marble's use as *opus scutulatum* in Latium: GNOLI 1971, 14; MORRICONE 1980; GUIDOBALDI, SALVATORI 1988, 72–3; PENSABENE 2002, 5; 2007a, 15; MCALPINE 2014, 71; Campania: PISAPIA 1989, 42.

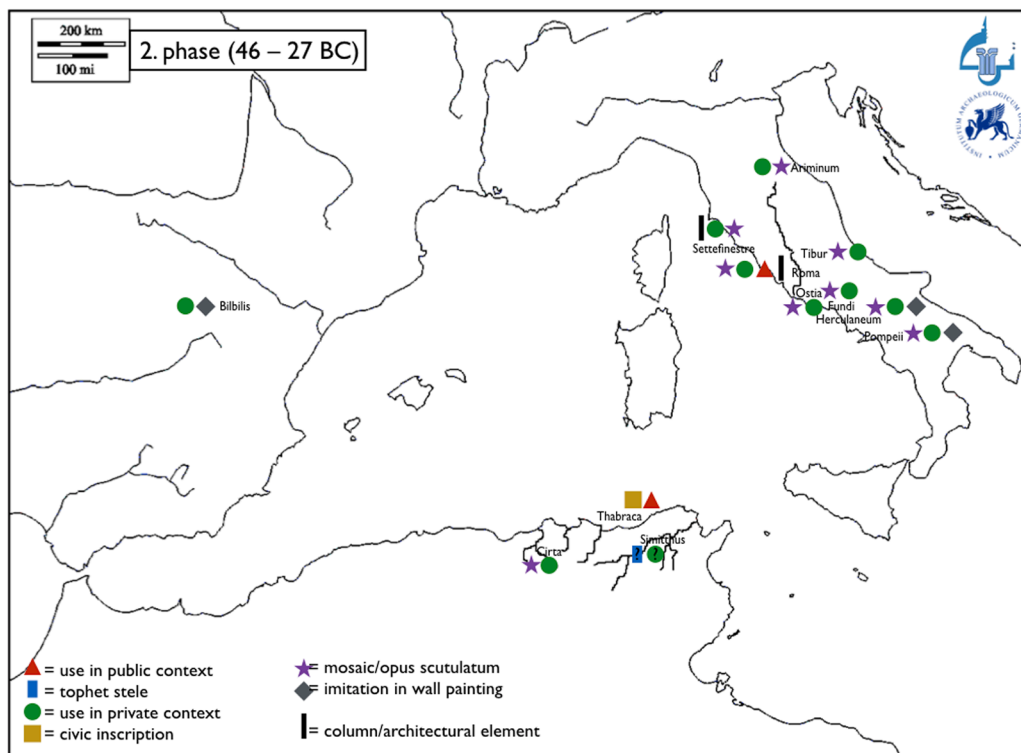


Fig. 2.
Distribution of giallo antico in the Western Mediterranean; 2nd phase (46 – 27 BC) (S. Ardeleanu)

later use in real architecture¹⁵. It never appears as column drums, but always as monolithic shafts. Its position as wall-*crustae* in the form of base and top profiles fits real norms. Even the characteristic red veneering was imitated. Yellow marble use in Soluntum and Delos will have to be confirmed by petrographic analyses. In Tyndaris, a domestic context is not precisely dated¹⁶. However, it is exactly with those regions that Numidia's elites maintained direct economic and political relationships¹⁷. It follows that these aristocratic connections were presumably responsible for this distribution.

There are some examples of *giallo* use in public space. In Tusculum, *giallo-sectilia* decorated a portico and a room of the forum before the mid-1st c. BC¹⁸. At Interamna, the first *giallo*-inscription in Italy honored the town's patron *C. Poppaeus*¹⁹. Even heavy stone cargoes were shipped at this early date to Rome. Recent archival analyses of excavations in the area of Pompeius'

theatre, whose construction began in 61 BC and which was dedicated in 55 BC, revealed that a monolithic *giallo* column was found in this zone²⁰. It bore the inscription *CN. POMPEI* on its plinth, at the exact position where mason's marks were generally placed. This is a strong argument supporting the view that *giallo* columns were used in the original Pompeian building rather than in one of the Imperial restorations²¹. This suggests that parts of the quarries might already have been directly accessible to Italian merchants or aristocrats during the first half of the 1st c. BC²². We know in fact that Pompeius was very active in the *Campi Magni* at this time, an area that nominally was still part of the Numidian kingdom²³.

15 MCALPINE 2014, 94. 121–2 rejects such an imitation.

16 WILSON 1990, 121.

17 BRIDOUX 2006; amphorae from central Italy and black-gloss ware from the Vesuvian area (Campana A/B) and from Sicily (C) are common finds in Numidia. On clientele-like bonds between Numidia's kings and Rome's elites: COLTELLONI-TRANNOY 2005.

18 FLAMINIO 2012, 302.

19 CIL 1, 1904 (83–31 BC).

20 GAGLIARDO, PACKER 2006, 95. 98–9 nn. 38; 48 mention two other *giallo*-columns from the area which could have belonged to the theater as well.

21 GAGLIARDO, PACKER 2006, 98–9 and MCALPINE 2014, 74–5 discuss a reconstruction in the portico.

22 Italian *negotiatores* were active in Numidia and esp. in the *Campi Magni* mainly because of its grain: BRIDOUX 2006; on the kings' grain donations/sales to Rome, Delos and Rhodes: BRIDOUX 2006, 328.

23 In 81 BC, in Bulla Regia, 20 km east of Simitthus, Pompeius put king Hiarbas to death: App. bell. civ. 1,80; Plut. Pomp. 10–13. He re-installed Hiempsal II. in East Numidia and broke the power of the Marianists in *Africa*, which was particularly strong in the *Campi Magni* with colonies in Thuburnica and Thibar: Bell.

It seems that this “shared” accessibility to the stone continued until 46 BC. The *columnarium* declared by Caesar imposed taxes on imported colored marbles to Rome²⁴, indicating that the Senate had no unlimited access to the stone. Nevertheless, the proprietary picture in the quarries must have been even more complex, as there are contexts that definitely show non-royal and non-aristocratic use of the marble. We have a group of small stelai from Simitthus’ *tophet*, stylistically dated to the 2nd–1st c. BC²⁵. Another stele comes from the nearby *tophet* in Thuburnica, where small *giallo* plaques were used as covers for the cremation urns²⁶. A stele from Hr. Bou-Chebib is difficult to date, but its neo-Punic inscription could refer to a date before 46 BC²⁷. Thus, there was some regional trade in such objects, commerce obviously linked to the *molk-ritus* in Africa’s *tophetim*. The private actors – rather than official persons – remain obscure due to the lack of information in their epigraphy.

2nd phase (46–27 BC)

The second phase of distribution is marked by the annexation of Numidia as *Africa Nova*, in 46 BC (Fig. 2). Officially, the *Campi Magni* by then belonged to the *ager publicus*, but we do not have clear evidence defining Simitthus’ municipal status. Perhaps a *conventus civium Romanorum* was installed at the site²⁸. In this case, one possibility could be that Italian and/or African *negotiatores* took over parts of the quarries. This is corroborated by the fact that the *columnarium* was not revised. Another option might be that the town of Simitthus filled the power vacuum during the troubles after Caesar’s death and controlled its home quarries²⁹.

Strikingly, the distribution of *giallo* in mid-1st c. BC Italy and Africa shows similar use contexts and distribution as in the previous period: private elite houses, *villae*

in Latium³⁰ and Campania³¹, and a few examples of public architecture. At Thabraca, a *giallo* inscription of 37/6 BC honored A. Lepidus³². At Cirta, a mosaic with inserted yellow marble chips decorated an elite house of the mid-1st c. BC³³. This observation confirms that – with the exception of the abolition of the involvement of the Numidian kings – neither the property situation nor the actors involved in the marble trade were fundamentally altered after the conquest.

3rd phase (27 BC–60 AD)

With the incorporation of Simitthus in the province of *Africa Proconsularis* by 27 BC, the site and its quarries experienced profound changes (Fig. 3). According to most scholars, the whole mountain was transformed into an imperial estate³⁴. From 2nd c. AD inscriptions, we do know an *officina Agrippae* and an *officina regia* that were both located on the southern slope of Djebel Bourfifa and were probably taken over by Augustus and his general³⁵. The use of *Numidicum* in Imperial building programs, especially in Rome³⁶, leaves no doubt about the Emperors’ important role in the marble’s extraction, which not only stimulated quarrying in Simitthus itself, but also the town’s economic connectivity. Julio-Claudian tombstones, some of them on *giallo*-slabs, mention Imperial slaves³⁷, probably involved in quarrying and distribution. The oldest Imperial block inscriptions from Italy date to Nero’s reign³⁸.

Nevertheless, the sudden expansion of the marble’s use in Simitthus itself and its environs suggests that parts of the quarries belonged to the recently founded

Afr. 22, 2; Plut. Pomp. 12,7–8. In 79 BC, he celebrated his triumph, inter alia *ex Africa*: Plut. Pomp. 14,6. In 57 BC, he re-organized the *annona* in Africa, Sicily and Sardinia: Plut. Pomp. 50.

24 Cic. ad Atticum 13,6,1.

25 RÜGER, HORN 1979, 572; D’ANDREA 2014, 179–80.

26 D’ANDREA 2014, 186.

27 D’ANDREA 2014, 118.

28 On Pliny’s (Nat. 5,29) list of *oppida c. R.* of the 1st c. BC in Africa: TEUTSCH 1962. On a *conventus* at Simitthus: TEUTSCH 1962, 33; contra: LASSÈRE 1980, 33.

29 Bulla Regia was granted the status of an *oppidum liberum* after 46 BC (Plin. Nat. 5,22), which shows that some nearby towns kept autonomous control of their territories.

30 Rome: MORRICONE 1980; Ostia: PENSABENE 2007a, 17; Tibur: MORRICONE 1980, 50. 64–5; on Caesar’s column on the Forum: Suet. Iul. 85; GAGGIOTTI 1987, 201; FANT 1995, 278.

31 PISAPIA 1989; DUBOIS-PELERIN 2004.

32 AE 1959, 77; TEUTSCH 1962, 42–3.

33 BERTHIER 1966, 115.

34 SCHNEIDER 1986, 143; RÖDER 1993, 21. 34; KHANOUSSI 1998, 1006. KHANOUSSI 1997 identifies a *saltus Philomu/siano* from a Neronian text (CIL 8, 14603) with the Imperial quarry domain.

35 *Of. Agrippae*: CIL 8, 14564. 14580 (131–150 AD); RAKOB 1993, n. 29; MAYER 1996, 840.

36 FANT 1995; PENSABENE 1998; 2002; FLAMINIO 2012.

37 CIL 8, 25671; AE 1998, 1574; KHANOUSSI 1998, 1014.

38 PENSABENE 1995; MAISCHBERGER 1997, 19; KHANOUSSI 1998, 1008.

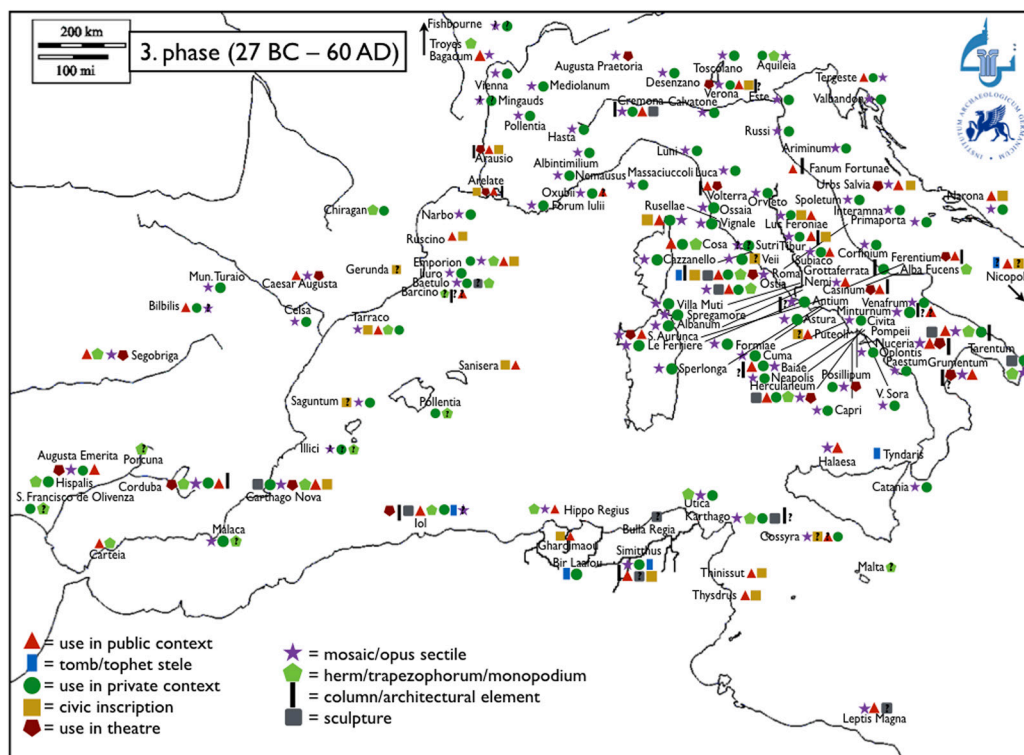


Fig. 3.
Distribution of giallo antico in the Western Mediterranean; 3rd phase (27 BC – 60 AD) (S. Ardeleanu)

colony³⁹: *Numidicum* was now used for private epitaphs and still for *tophet*-stelai⁴⁰. Our recent excavations revealed domestic contexts with *giallo* as mosaic chips and thresholds in simple houses, as well as rubble material in *opus caementicium* walls of houses, channels, temples, streets and the first bridge⁴¹. Thus, the town was the first to profit, and most directly, from quarrying (Fig. 5). The widely accepted opinion that the marble was used neither in Simitthus⁴² nor in Africa⁴³, but mainly for Imperial exports, must for these reasons be fundamentally reconsidered.

Even in the nearby settlements, the marble appears in a dedication in honor of Claudius found at Ghardimaou, as private tomb markers in Bir Laafou and as cover plaques of cremation urns in Ain-el-Haout⁴⁴. This local and regional distribution points to a continuous municipal

control of parts of the quarries⁴⁵, even if one has to take into consideration perhaps also private merchants as possible actors. Municipal activity is nevertheless confirmed by the fact that public buildings surrounded the quarries on the “Stadtberg” by the 2nd c. AD (Fig. 5, N)⁴⁶. The so-called “domain wall” is probably of late antique date, as is suggested by spolia in this wall. It did not separate the settlement from the quarries during the 1st c. AD⁴⁷. Furthermore, some inscriptions – for instance one from Carthage⁴⁸, which mentions a *caesura Puteolani* and another from Simitthus⁴⁹, mentioning probably a slave of the famous merchant *Rabirius Postumus* – could be interpreted as proof that private investors from the Vesuvian and Latio region were present at Simitthus.

Outside *Africa*, the marble’s appearance in such monumental building programs as those of theatres, temples or squares in Rome is well studied⁵⁰. In the case of theatres, a provincial *imitatio urbis* of Marcellus’ theatre in Rome is

39 Plin. Nat. 5,29; TEUTSCH 1962, 33; LASSÈRE 1980, 33.

40 AE 1998,1574; KHANOUSI 1998, 1014; MACKENSEN 2005, 21. 23; D’ANDREA 2014, 180.

41 KHANOUSI, VON RUMMEL 2012.

42 RAKOB 1993, 16; BULLO 2002, 148–9; HIRT 2010, 27. This view is influenced by a record by Suet. Tib. 49,2, which mentions a *ius metallorum*, by which the Emperors had a drastic impact on quarries; MAISCHBERGER 1999, n. 46.

43 GNOLI 1971, 141; GAGGIOTTI 1987, 205; GREGAREK 1999, 48.

44 CIL 8, 14727; personal observations.

45 Cf. HIRT 2010, n. 556; RUSSELL 2013, 44.

46 RÖDER 1993, 21, who admits that the *of. Certi* (110–141 AD) might be localized on municipal territory.

47 RÖDER 1993, 42; HIRT 2010, 27; D’ANDREA 2014, 178.

48 CIL 8, 14593. KRAUS 1993, 60; KHANOUSI 1998, 1010.

49 CIL 8, 14663. LASSÈRE 1980, 40–1.

50 RÖDER 1993, 19; PENSABENE 2002; 2007b, 11. 27; DE NUCCIO, PENSABENE 2014.

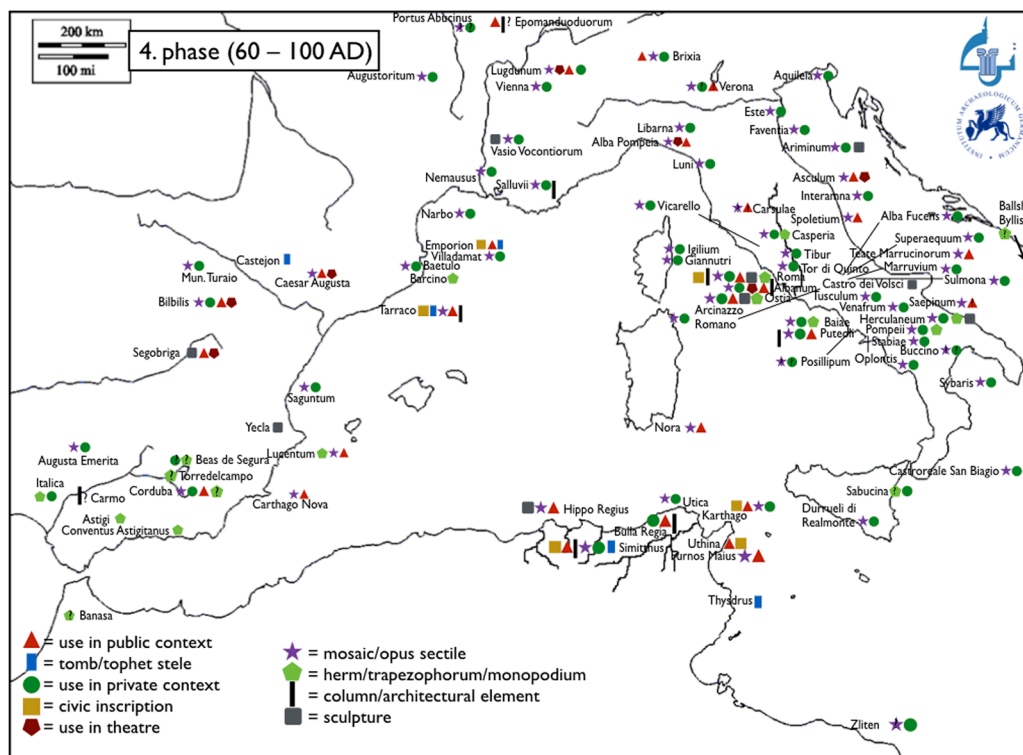


Fig. 4. Distribution of giallo antico in the Western Mediterranean; 4th phase (60 – 100 AD) (S. Ardeleanu)

widely accepted for such cities as Nuceria, Volterra, Casinum, Herculaneum, Verona and Augusta Praetoria⁵¹. However, in these towns columns and architectural elements were variably combined in the *scaenae frontes*, but also in the porticoes *in summa gradatione* (Corduba). *Opus sectile* decorated floors and walls of the *orchestrae*, the stages and annexes, such as *sacella* or porticoes (Mérida) in very different manners. In the cited cases of Italy, but also in Arelate⁵², Arausio⁵³, Caesar Augusta, Segobriga and Carthago Nova⁵⁴, the donors were, so far as we can trace them, municipal elites or provincial officials. Of course, they could have obtained the marble through their relationships with the Imperial court, but also through personal bonds with merchants and municipal administrators⁵⁵. The simultaneous presence of domestic *giallo* use in most of such towns that used it in public contexts points to a distribution following regional trade patterns. If we have clear evidence for private or municipal entrepreneurship and administration in the quarries as well

as in the find's contexts, why has private and municipal distribution beyond Imperial trade not been considered so far?

The evidence of *Numidicum* in the Vesuvian cities shows in fact how personal relationships and regional trade patterns must have affected the marble's employment. Here it was applied in great quantities and variability in domestic contexts – as *sectilia* on walls and floors, as *candelabra*, *monopodia*, *trapezophora* and surfaces for tables, as *labra*, façade architecture, stone vessels and statuettes⁵⁶. *Giallo* reached up to 16% and 27% of all colored marbles that decorated bars in Pompeii and Herculaneum, respectively⁵⁷. It is certain that not all of these bars belonged to aristocratic houses. This evidence from “simple” contexts, which is paralleled by multiple use of *Numidicum* in similar luxury objects in Carthago Nova⁵⁸, Aquileia/Cremona⁵⁹, Rome/Ostia⁶⁰, Carthage and Utica⁶¹, shows that a vast range of actors must have been involved in the marble's distribution.

51 PENSABENE 2002, 13; DE NUCCIO, PENSABENE 2014, 60 see Imperial participation in the building processes.
 52 PENSABENE 2007b, 31.
 53 RUSSELL 2013, n. 98.
 54 MAYER 1996, 842.
 55 Cf. the *casa de los Delfines* in Celsa with extensive *giallo* use, where a text found *in situ* mentions the proprietor *L. Licinius At(ticus?)*, freedman of a local *duovir*: CISNEROS 2012, 119.

56 *Opus sectile*: DUBOIS-PELERIN 2004; FLAMINIO 2012; bars: FANT, BARKER, RUSSELL 2013. On small finds of *Numidicum*: RÜCKERT 1998; GREGAREK 1999; SOLER 2005.
 57 FANT, BARKER, RUSSELL 2013.
 58 SOLER 2005.
 59 SLAVAZZI 2005.
 60 PENSABENE 2002; 2007a; GREGAREK 1999; FLAMINIO 2012.
 61 RAKOB 1993, pl. Ec.; SCHNEIDER 1986, n. 1165.

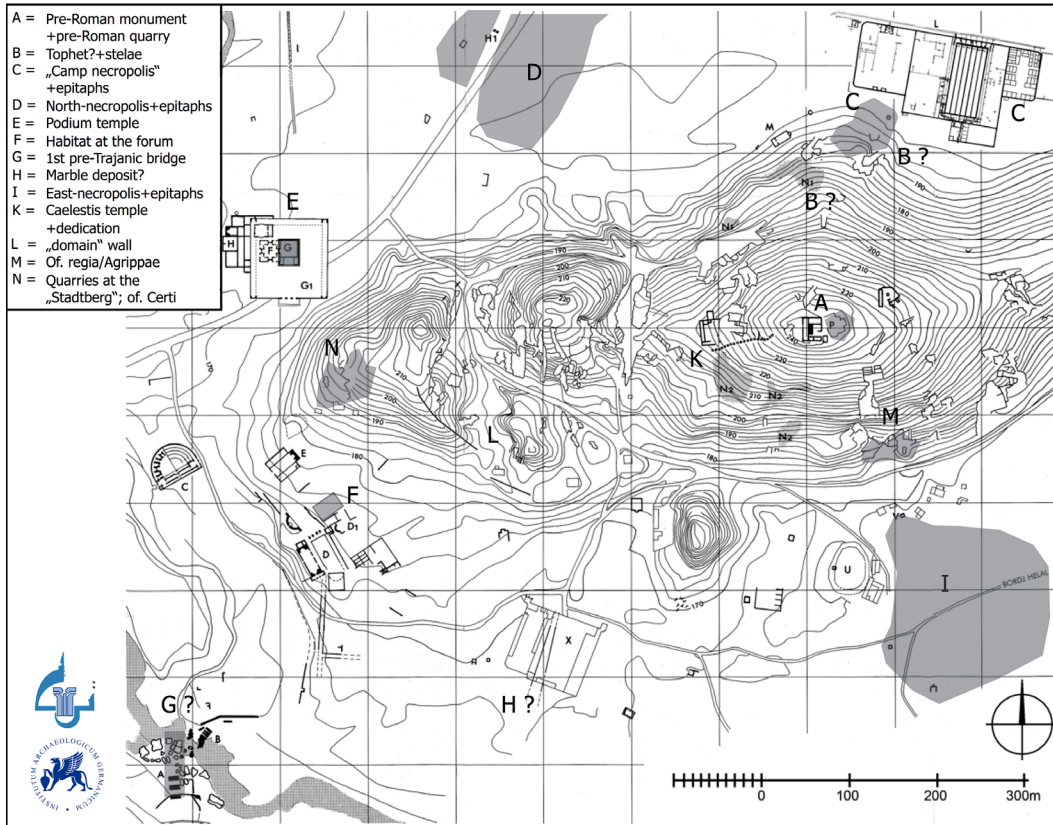


Fig. 5. Simitthus, location of marble use/quarrying/possible storing (S. Ardeleanu after VON RUMMEL, SCHÖNE, BROISCH 2013)

Due to the marble's multi-functional application, the widely accepted hypothesis that it revealed an ideological symbolism, which might have been understood by ancient commissioners and viewers, is hardly sustainable⁶². Furthermore, it was the marble's exotic and specific yellow color, its visual effect, its high cost and its suitability for multi-colored combination that influenced the contemporary tastes and fashions. These aspects of the marble were specifically mentioned by authors at the time⁶³. A good example for the high aesthetic perception of the marble is provided by civic inscriptions on *giallo* slabs from Thysdrus⁶⁴, Carthage⁶⁵ and Thinissut⁶⁶, belonging to a broader group of colored inscriptions in the Western provinces⁶⁷. This very particular manner of

presenting texts on the yellow-red veneered material was – as we have seen – firstly employed in North Africa, and not at the Imperial court. Even if most inscriptions derive from Imperial contexts⁶⁸, there are still some private epitaphs, from Rome itself⁶⁹, and even for children in Tyndaris⁷⁰. The letters of such texts could have been painted for the sake of visibility, which would probably have increased their already high optical effect on their viewers. The luxurious material was exclusively exported in thin plaques, which underlines its high cost.

4th phase (60–100 AD)

During the second half of the 1st c. AD, *giallo antico* was increasingly distributed in the West, going in turn to rural areas and interior settlements (Fig. 4). Recent research has shown the impact of the newly founded port in Caesar Augusta on the marble's distribution in the Ebro valley⁷¹. Official inscriptions in Tarraco were written on *giallo* plaques, which were also used for

62 SCHNEIDER 1986, 79. 98. 115; FANT 1995, 278–9 and PENSABENE 2002, 5. 9 interpret the execution of statues (esp. barbarians) and columns in *giallo* as references to Rome's supremacy over conquered Numidia.

63 SCHNEIDER 1986, 142–3.

64 CIL 8, 22844.

65 CIL 8, 24530 (perhaps a marble-procurator and the owner of the *ratio Felicis* on Northern Bourfifa; cf. KRAUS 1993, 57; RÖDER 1993, 36).

66 ILAfr. 306.

67 MAYER, RODÀ 1998; MAYER 2012.

68 MAYER, RODÀ 1998 and MAYER 2012 assume Imperial entrepreneurship.

69 CIL 6, 4647. 35162; for epitaphs in Simitthus see above.

70 AE 1989, 338 m; WILSON 1990, 396.

71 CISNEROS 2012.

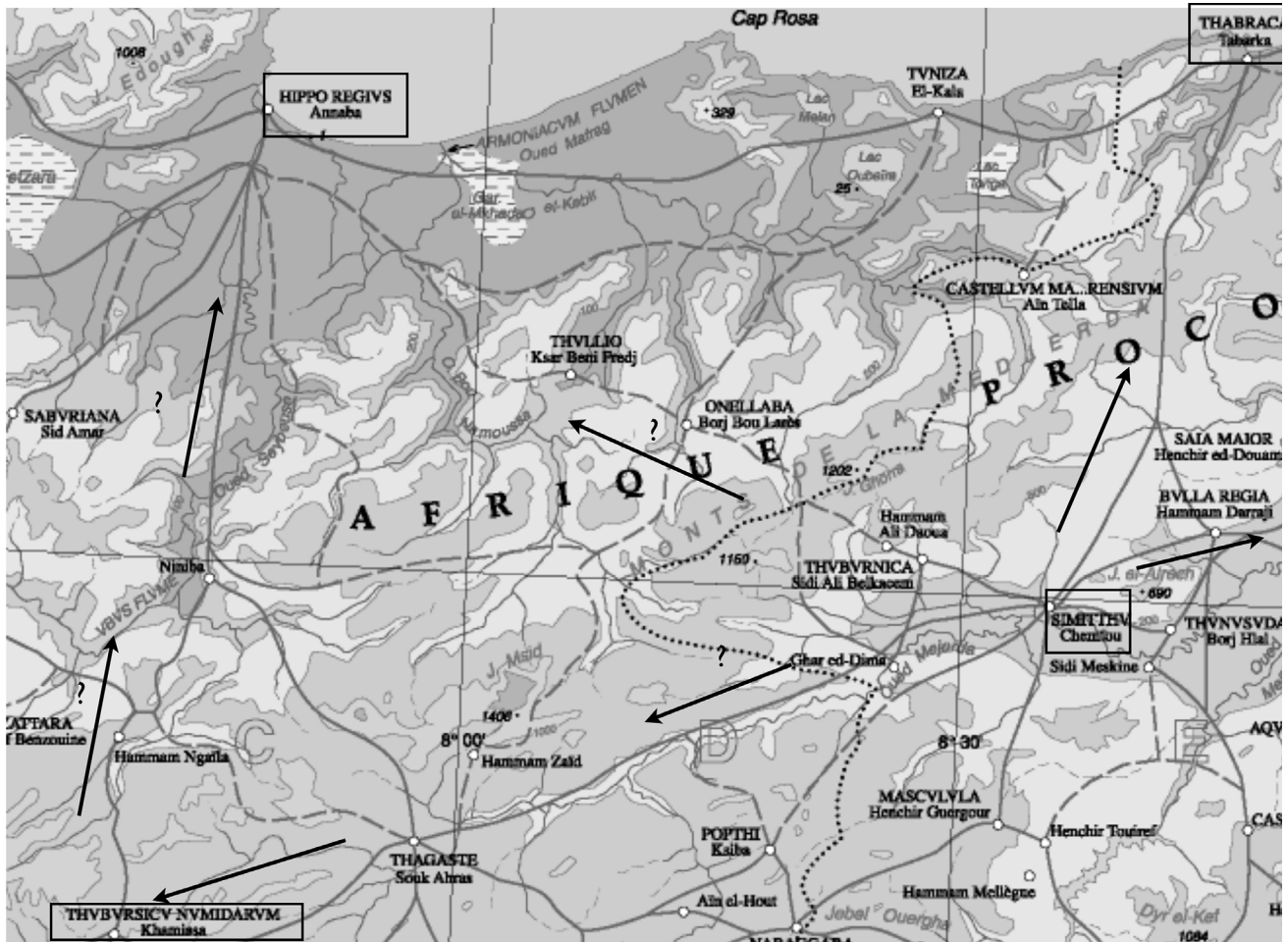


Fig. 6. Western Africa Proconsularis, possible marble trade routes for giallo antico (S. Ardeleanu after DESANGES *et al.* 2010, Carte des routes et des cités de l'Est de l'Africa à la fin de l'antiquité, Turnhout)

private tombstones⁷². One of these mentions a *dispensator of Hispania Citerior*, who was perhaps involved in the commercialization of marbles⁷³. In Etruria, Histria and Venetia, and also in Eastern Gaul and in the hinterland of the *Hispaniae*, similar developments took place half a century later than in central Italy. Again, the marble was used primarily in houses. Less commonly, it was present in public architecture, e.g. in the theatres at Alba Pompeia and Asculum, or in temples and *basilicae* at Brixia or Ostia. The production of small and bigger statues expanded probably in the later 1st c. AD⁷⁴. Increasingly, rural *villae* were decorated with the precious material.

In Africa, we find it in growing quantities in the cities of the interior, such as Bulla Regia⁷⁵, Furnos Maius, Uthina⁷⁶ and Thysdrus⁷⁷. In Simitthus, official dedications⁷⁸ and tombstones of the second half of the 1st c. AD⁷⁹ were written on *Numidicum*. Obviously this new distribution had to do with *Africa's* dense system of roads, in which Simitthus played an important role⁸⁰.

72 CIL 2, 14. 1101; MAYER 1996, 846.

73 RUSSELL 2013, 44.

74 Although the first attestations of both miniature and life-sized sculpture in *giallo* can be dated to the late 1st c. BC (RÜCKERT 1998, 182; SCHNEIDER 1986), the bulk of the production seems to be from the 2nd half of the 1st and the early 2nd c. AD: RÜCKERT 1998; GREGAREK 1999.

75 Cornices from a Flavian building: RÖDER 1993, n. 59; BULLO 2002, 139–41.

76 Dedication to Domitian: AE 2000, 1695.

77 Private epitaph: AE 1939, 30.

78 AE 1994, 1884.

79 KHANOUSI 1998, 1015–6.

80 CHAOUALI 2013; VON RUMMEL, SCHÖNE, BROISCH 2013.

Remarks on early transport routes

This leads us to the question about the marble's early transport routes. Latest investigations revealed that we should in fact imagine combined transportation, on land, by river and sea⁸¹. The topographical situation around Simitthus was complex, which was the main reason for the marble's high cost. Although we cannot rule out transport on the Majrada, which was in fact a major trade route for many objects, at most times of the year the riverbed was deep and its banks were instable, complicating any heavy loading activity⁸². It is well known that it could have been Utica⁸³ or Carthage⁸⁴ at which heavy objects first arrived. However, it is also possible that, once it was loaded, the marble was transported westwards on the street that followed the Majrada, or even on the river itself to its sources at Thubursicu Numidarum (Fig. 6). In fact, it is this site, where we have a deposit of 20 massive *giallo* columns, that shows heavy marble moving westwards⁸⁵. Further on, transport along the Flavian road following the *Ubus* to Hippo Regius is imaginable.

Another possibility could be the Tiberian route from Carthage to Hippo Regius, which crossed Simitthus halfway and ran *intra muros* close to the southern quarries⁸⁶. This road was longer than the hitherto favored "marble road" to Thabraca⁸⁷, but its topography was not that complex. The high amount of *giallo* in Spain and Gaul, but also such ship cargoes as the wreck at Porto Nuovo⁸⁸, which was bearing *giallo* blocks, suggest a direct sea route between Numidia and those regions. As well as at Utica and Carthage⁸⁹, we can thus assume *stationes marmorum* at the harbors of Hippo⁹⁰ and Thabraca. Direct economic relations between Spain, Gaul and Africa

not linked to the "Imperial *annona* route" via Italy are confirmed by both ceramic and epigraphic evidence⁹¹. Mixed cargoes of marble, ceramics, grain and other products are therefore very probable.

Summing up, not only the property situation in Simitthus, but also the marble's distribution, the find contexts and the transport routes, point towards multi-layered processes that were at work from the very beginning of its extraction. We should therefore be cautious about labeling the marble as "royal" or "Imperial stone", as has often been done⁹². The broad contexts of its use, the find spots and its multiple applications show that we must bear in mind a varied range of owners, merchants and consumers. From a diachronic point of view, it seems that not only the geographical distribution of the marble, but also the variety of its uses, steadily increased. Until the end of the 1st c. AD, the whole western Mediterranean was furnished with the precious material. If we want to understand this marble's importance in its early phase, further investigation is needed not only to develop a more precise dating of the quarries themselves, but also to document its use in such "unspectacular" contexts as houses, workshops, rural sanctuaries and *villae*.

81 PENSABENE 1995; BRAEMER 2004; HIRT 2010, 27; RUSSELL 2013.

82 On a possible loading station at the river (fig. 5, H): RÖDER 1993, n. 104.

83 BRAEMER 2004, 98 fig. 7.

84 MACKENSEN 2005, 15–6; HIRT 2010, 27.

85 RÖDER 1993, 47 (not later than Hadrianic).

86 BULLO 2002, 55; CHAOUALI 2013, 348; VON RUMMEL, SCHÖNE, BROISCH 2013, 221 fig. 9.

87 GAGGIOTTI 1987, 205; RÖDER 1993, 51; CHAOUALI 2013, 343; RUSSELL 2013, 138.

88 PENSABENE 2002, 34 (27–8 AD).

89 On a marble deposit in Carthage: RÖDER 1993, 47; block inscriptions of *proc. marmorum Numidicorum* are attested in both towns: CIL 8, 14593; AE 1913, 165.

90 For yellow marble finds: MAREC 1954, 369. 375. 408.

91 Terra sigillata from Gaul/Spain and oil amphorae from *Tarraconensis* and *Baetica* are regular finds in late 1st c. AD Africa. Simultaneously, Sigillata Africana A increases in Spain/Gaul: MAYER, RODÀ 1998, 1424.

92 KHANOUSI 1998, 998 suggests a pre-Roman "royal monopoly" on the marble's trade. On *giallo* as "Imperial marble": PENSABENE 2002, 47; 2007b, 40.

BIBLIOGRAPHY

- ÁLVAREZ A. *et al.* 2009: Tarraco Marble. The quarrying, use and trade of Santa Tecla stone in Roman Times, Tarragona.
- BERTHIER A. 1966: “Une mosaïque solaire trouvée à Constantine”, in J. HUERGON (ed.): *Mélanges J. Carcopino*, Paris, 113–24.
- BRAEMER F. 2004: “Répertoire des gisements de pierres ayant exporté leur production à l’époque romaine”, in CHARDRON-PICAULT 2004, 287–328.
- BRIDOUX V. 2006: *Les royaumes d’Afrique du Nord de la fin de la deuxième guerre punique à la mort du roi Bocchus II*, Paris.
- BULLO S. 2002: *Provincia Africa*, Rome.
- CHARDRON-PICAULT P. (ed.) 2004: *Les roches décoratives dans l’architecture antique et du Haut Moyen Âge*, Paris.
- CHAOUALI M. 2013: “Les voies d’époque romaine du territoire de Simitthus”, *MDAI(R)* 120, 333–54.
- CISNEROS M. 2014: “El uso del marmor en el valle del Ebro”, in GARCÍA-ENTERO 2012, 115–34.
- COLTELLONI-TRANNOY M. 2005: “Rome et les rois amis et alliés du peuple romain en Afrique”, in Y. LAFOND (ed.): *L’Afrique romaine*, Toulouse, 117–44.
- D’ANDREA B. 2014: *I tofet del Nord Africa dall’età arcaica alla prima età romana*, Rome.
- DUBOIS-PELERIN E. 2004: “Remarques sur le caractère luxueux des pavements en opus sectile dans les demeures privées de Campanie”, in CHARDRON-PICAULT 2004, 267–88.
- FANT J. 1995: “Augustus and the City of Marble”, in *ASMOSIA IV*, 277–81.
- FANT J., BARKER S., RUSSELL B. 2013: “Marble Use and Reuse at Pompeii and Herculaneum: The Evidence from the Bars”, *PBSR* 81, 181–209.
- FERCHIOU N. 2011: “À propos de quelques éléments d’architecture de Zama”, in A. FERJAOUI (ed.): *La Carthage punique*, Tunis, 131–83.
- FLAMINIO R. 2012: “Resti pavimentali in opus sectile nel Palazzo delle Generali in Via Suvereto a Roma e prospettive di riesame della villa”, in *ASMOSIA IX*, 299–310.
- GAGGIOTTI M. 1987: “L’importazione del marmo numidico a Roma in epoca tardo-repubblicana”, *AfrRomana* 4, 201–13.
- GAGLIARDO M., PACKER J. 2006: “A New Look at Pompey’s Theater: History, Documentation, and Recent Excavation”, *AJA* 110, 93–122.
- GARCÍA-ENTERO V. (ed.) 2012: *El marmor en Hispania*, Madrid.
- GNOLI R. 1971: *Marmora romana*, Rome.
- GREGAREK H. 1999: “Untersuchungen zur kaiserzeitlichen Idealplastik aus Buntmarmor”, *KölnJb* 32, 33–284.
- GUIDOBALDI F., SALVATORI A. 1988: “The Introduction of Polychrome Marbles in Late Republican Rome”, in WAELEKENS, HERZ 1988, 171–5.
- HIRT A. 2010: *Imperial Mines and Quarries in the Roman World*, Oxford.
- KRAUS T. 1993: “Steinbruch- und Blockinschriften”, in RAKOB 1993, 55–64.
- KHANOUSSE M. 1997: “Le saltus Philomusianus et les carrières de marbre numidique”, *MDAI(R)* 104, 375–77.
- KHANOUSSE M. 1998: “Les officiales marmorum numidicorum”, in *AfrRomana* 12, 997–1016.
- KHANOUSSE M., VON RUMMEL P. 2012: “Simitthus. Vorbericht über die Aktivitäten 2009–2010”, *MDAI(R)* 118, 179–222.
- LASSÈRE J. M. 1980: “Remarques sur le peuplement de la Colonia Iulia Augusta Numidica Simitthus”, *AntAfr* 16, 27–44.
- LAZZARINI L. 2009: “The Distribution and Re-Use of the Most Important Colored Marbles in the Provinces of the Roman Empire”, in *ASMOSIA VIII*, 459–84.
- MACKENSEN M. (ed.) 2005: *Simitthus III. Militärlager oder Marmorwerkstätten*, Mainz.
- MAISCHBERGER M. 1997: *Marmor in Rom*, Wiesbaden.
- MAREC E. 1954: “Le forum d’Hippone”, *Libyca* 2, 1954, 363–414.
- MAYER M. 1996: “La circulación del marmor Numidicum en Hispania”, in *AfrRomana* 11, 837–48.
- MAYER M. 2012: “El material lapídeo como elemento identificativo de *officinae* epigráficas”, in A. DONATI, G. POMA (eds.): *L’officina epigrafica romana*, Faenza, 89–107.
- MAYER M., RODÀ I. 1998: “Los contactos entre el Norte de África y la costa del conventus Tarraconensis”, *AfrRomana* 12, 1424–33.
- MCALPINE L. 2014: *Marble, Memory, and Meaning in the Four Pompeian Styles of Wall Painting*, Ann Arbor.
- MORRICONE M. 1980: *Scutulata pavimenta*, Rome.
- PENSABENE P. 1995: *Le vie del marmo. I blocchi di cava di Roma e di Ostia*, Rome.
- PENSABENE P. 1998: “Amministrazione dei marmi e sistema distributivo nel mondo romano”, in *id.* (ed.): *Marmi antichi II*, Rome, 43–53.
- PENSABENE P. 2002: “Il fenomeno del marmo nel mondo romano”, in M. DE NUCCIO, L. UNGARO (eds.): *I marmi colorati della Roma imperiale*, Venice, 3–68.
- PENSABENE P. 2007a: *Ostiensium Marmorum decus et decor*, Rome.
- PENSABENE P. 2007b: “Marmo ed evergetismo negli edifici teatrali d’Italia, Gallia e Hispania”, *Mainake* 29, 7–52.

- PENSABENE P., DE NUCCIO M. 2014: “Il Teatro di Marcello e la divulgazione dei marmi colorati nell’architettura teatrale romana”, in GARCÍA-ENTERO 2012, 49–72.
- PISAPIA M. 1989: Mosaici antichi in Italia. Regione I. Stabia, Rome.
- RAKOB F. (ed.) 1993: Simitthus I. Die Steinbrüche und die antike Stadt, Mainz.
- RAKOB F. (ed.) 1994: Simitthus II. Der Tempelberg und das römische Lager, Mainz.
- RÖDER G. 1988: “Numidian Marble and Some of its Specialities”, in WAELKENS, HERZ 1988, 91–6.
- RÖDER J. 1993: “Die Steinbrüche des numidischen Marmors von Chemtou”, in RAKOB 1993, 17–53.
- RÜCKERT C. 1998: “Miniaturhermen aus Stein”, MDAI(M) 39, 176–237.
- RÜGER C., HORN H. (eds.) 1979: Die Numider, Bonn.
- RUSSELL B. 2013: The Economics of the Roman Stone Trade, Oxford.
- SCHNEIDER R. 1986: Bunte Barbaren, Worms.
- SLAVAZZI F. 2005: “Sostegni scanalati e modanati in Italia settentrionale”, in *id.* (ed.): Arredi di lusso di età romana, Giglio, 169–77.
- SOLER B. 2005: “Hacia una sistematización cronológica sobre el empleo del marmor y su comercialización en Carthago Nova”, Mastia 4, 29–64.
- TEUTSCH L. 1962: Das Städtewesen in Nordafrika in der Zeit von C. Gracchus bis zum Tode des Kaisers Augustus, Berlin.
- VON RUMMEL P., BROISCH M., SCHÖNE C. 2013: “Geophysikalische Prospektionen in Simitthus”, KuBa 3, 203–16.
- WAELKENS M., HERZ N. (eds.) 1988: Classical Marble, London.
- WILSON R. 1990: Sicily under the Roman Empire, Warmington.
- XELLA P. 2013: “Le testimonianze epigrafiche”, in I. MANFREDI, A. MEZZOLANI (eds.): Iside Punica, Bologna, 143–57.