### Ancient Marbles from the Villa in Verige Bay, Brijuni Island, Croatia

#### Pavletić, Mira; Gobić-Bravar, Đeni

*Source / Izvornik:* ASMOSIA XI, Interdisciplinary Studies on Ancient Stone, Proceedings of the XI International Conference of ASMOSIA, 2018, 879 - 886

Conference paper / Rad u zborniku

Publication status / Verzija rada: Published version / Objavljena verzija rada (izdavačev PDF)

https://doi.org/10.31534/XI.asmosia.2015/08.07

Permanent link / Trajna poveznica: https://urn.nsk.hr/urn:nbn:hr:123:866438

Rights / Prava: In copyright/Zaštićeno autorskim pravom.

Download date / Datum preuzimanja: 2024-07-23



Repository / Repozitorij:

FCEAG Repository - Repository of the Faculty of Civil Engineering, Architecture and Geodesy, University of Split







# ASMOSIA XI

## Interdisciplinary Studies on Ancient Stone

## PROCEEDINGS

## of the XI ASMOSIA Conference, Split 2015

Edited by Daniela Matetić Poljak and Katja Marasović







## Interdisciplinary Studies on Ancient Stone Proceedings of the XI ASMOSIA Conference (Split 2015)

Publishers:

#### ARTS ACADEMY IN SPLIT UNIVERSITY OF SPLIT

and

#### UNIVERSITY OF SPLIT FACULTY OF CIVIL ENGINEERING, ARCHITECTURE AND GEODESY

Technical editor: Kate Bošković

English language editor: Graham McMaster

Computer pre-press: Nikola Križanac

> Cover design: Mladen Čulić

Cover page: Sigma shaped mensa of pavonazzetto marble from Diocletian's palace in Split

ISBN 978-953-6617-49-4 (Arts Academy in Split) ISBN 978-953-6116-75-1 (Faculty of Civil Engineering, Architecture and Geodesy)

e-ISBN 978-953-6617-51-7 (Arts Academy in Split) e-ISBN 978-953-6116-79-9 (Faculty of Civil Engineering, Architecture and Geodesy)

CIP available at the digital catalogue of the University Library in Split, no 170529005

Association for the Study of Marble & Other Stones in Antiquity

## ASMOSIA XI Interdisciplinary Studies of Ancient Stone

Proceedings of the Eleventh International Conference of ASMOSIA, Split, 18–22 May 2015

> Edited by Daniela Matetić Poljak Katja Marasović







Split, 2018

**Nota bene** All papers are subjected to an international review. The quality of the images relies on the quality of the originals provided by the authors.

#### CONTENT

	PRESENTATION	15
	NECROLOGY: NORMAN HERZ (1923-2013) by Susan Kane	17
1.	APPLICATIONS TO SPECIFIC ARCHEOLOGICAL QUESTIONS – USE OF MARBLE	
	Hermaphrodites and Sleeping or Reclining Maenads: Production Centres and Quarry Marks Patrizio Pensabene	25
	First Remarks about the Pavement of the Newly Discovered Mithraeum of the Colored Marbles at Ostia and New Investigations on Roman and Late Roman White and Colored Marbles from Insula IV, IX <i>Massimiliano David, Stefano Succi and Marcello Turci</i>	22
	Alabaster. Quarrying and Trade in the Roman World: Evidence from Pompeii and Herculaneum Simon J. Barker and Simona Perna	
	Recent Work on the Stone at the Villa Arianna and the Villa San Marco (Castellammare di Stabia) and Their Context within the Vesuvian Area Simon J. Barker and J. Clayton Fant	65
	Marble Wall Decorations from the Imperial Mausoleum (4 <sup>th</sup> C.) and the Basilica of San Lorenzo (5 <sup>th</sup> C.) in Milan: an Update on Colored Marbles in Late Antique Milan <i>Elisabetta Neri, Roberto Bugini and Silvia Gazzoli</i>	79
	Sarcophagus Lids Sawn from their Chests Dorothy H. Abramitis and John J. Herrmann	89
	The Re-Use of Monolithic Columns in the Invention and Persistence of Roman Architecture Peter D. De Staebler	
	The Trade in Small-Size Statues in the Roman Mediterranean: a Case Study from Alexandria Patrizio Pensabene and Eleonora Gasparini	101
	The Marble Dedication of Komon, Son of Asklepiades, from Egypt: Material, Provenance, and Reinforcement of Meaning <i>Patricia A. Butz</i>	109
	Multiple Reuse of Imported Marble Pedestals at Caesarea Maritima in Israel Barbara Burrell	117
	Iasos and Iasian Marble between the Late Antique and Early Byzantine Eras Diego Peirano	123

	Thassos, Known Inscriptions with New Data	
	Tony Kozelj and Manuela Wurch-Kozelj	131
	The Value of Marble in Roman <i>Hispalis</i> : Contextual, Typological and Lithological Analysis of an Assemblage of Large Architectural	
	Elements Recovered at Nº 17 Goyeneta Street (Seville, Spain)	
	Ruth Taylor, Oliva Rodríguez, Esther Ontiveros, María Luisa Loza,	
	José Beltrán and Araceli Rodríguez	143
	Giallo Antico in Context. Distribution, Use and Commercial Actors According	
	to New Stratigraphic Data from the Western Mediterranean (2 <sup>nd</sup> C. Bc – Late 1 <sup>st</sup> C. Ad)	
	Stefan Ardeleanu	155
	Amethystus: Ancient Properties and Iconographic Selection	
	Luigi Pedroni	167
2.	PROVENANCE IDENTIFICATION I: (MARBLE)	
	Unraveling the Carrara – Göktepe Entanglement	
	Walter Prochaska, Donato Attanasio and Matthias Bruno	175
	The Marble of Roman Imperial Portraits	
	Donato Attanasio, Matthias Bruno, Walter Prochaska and Ali Bahadir Yavuz	185
	Tracing Alabaster (Gypsum or Anhydrite) Artwork Using Trace Element Analysis	
	and a Multi-Isotope Approach (Sr, S, O)	
	Lise Leroux, Wolfram Kloppmann, Philippe Bromblet, Catherine Guerrot,	105
	Anthony H. Cooper, Pierre-Yves Le Pogam, Dominique Vingtain and Noel Worley	195
	Roman Monolithic Fountains and Thasian Marble	
	Annewies van den Hoek, Donato Attanasio and John J. Herrmann	207
	Archaeometric Analysis of the Alabaster Thresholds of Villa A, Oplontis	
	(Torre Annunziata, Italy) and New Sr and Pb Isotopic Data for	
	Alabastro Ghiaccione del Circeo Simon J. Barker, Simona Perna, J. Clayton Fant, Lorenzo Lazzarini and Igor M. Villa	215
	Simon J. Burker, Simonu Fernu, J. Cluyton Funt, Lorenzo Luzzarini unu igor M. Villa	213
	Roman Villas of Lake Garda and the Occurrence of Coloured Marbles	
	in the Western Part of "Regio X Venetia et Histria" (Northern Italy)	001
	Roberto Bugini, Luisa Folli and Elisabetta Roffia	231
	Calcitic Marble from Thasos in the North Adriatic Basin:	
	Ravenna, Aquileia, and Milan	
	John J. Herrmann, Robert H. Tykot and Annewies van den Hoek	239
	Characterisation of White Marble Objects from the Temple of Apollo	
	and the House of Augustus (Palatine Hill, Rome)	247
	Francesca Giustini, Mauro Brilli, Enrico Gallocchio and Patrizio Pensabene	247
	Study and Archeometric Analysis of the Marble Elements Found	
	in the Roman Theater at Aeclanum (Mirabella Eclano, Avellino - Italy)	
	Antonio Mesisca, Lorenzo Lazzarini, Stefano Cancelliere and Monica Salvadori	255

Two Imperial Monuments in Puteoli:	
Use of Proconnesian Marble in the Domitianic and Trajanic Periods in Campania	
Irene Bald Romano, Hans Rupprecht Goette, Donato Attanasio and Walter Prochaska	
Coloured Marbles in the Neapolitan Pavements (16th And 17th Centuries):	
the Church of Santi Severino e Sossio	
Roberto Bugini, Luisa Folli and Martino Solito	
Roman and Early Byzantine Sarcophagi of Calcitic Marble from Thasos in Italy:	
Ostia and Siracusa	
Donato Attanasio, John J. Herrmann, Robert H. Tykot and Annewies van den Hoek	
Revisiting the Origin and Destination of the Late Antique Marzamemi	
'Church Wreck' Cargo	
Justin Leidwanger, Scott H. Pike and Andrew Donnelly	291
The Marbles of the Sculptures of Felix Romuliana in Serbia	
Walter Prochaska and Maja Živić	301
Truce I Fochusku unu muju zirre	
Calcitic Marble from Thasos and Proconnesos in Nea Anchialos (Thessaly)	
and Thessaloniki (Macedonia)	
Vincent Barbin, John J. Herrmann, Aristotle Mentzos and Annewies van den Hoek	311
Architectural Decoration of the Imperial Agora's Porticoes at Iasos	
Fulvia Bianchi, Donato Attanasio and Walter Prochaska	
The Winged Victory of Samothrace - New Data on the Different Marbles	
Used for the Monument from the Sanctuary of the Great Gods	
Annie Blanc, Philippe Blanc and Ludovic Laugier	331
Polychrome Marbles from the Theatre of the Sanctuary of Apollo Pythios	
in Gortyna (Crete)	
Jacopo Bonetto, Nicolò Mareso and Michele Bueno	337
Paul the Silentiary, Hagia Sophia, Onyx, Lydia, and Breccia Corallina	245
John J. Herrmann and Annewies van den Hoek	
Incrustations from Colonia Ulpia Traiana (Near Modern Xanten, Germany)	
Vilma Ruppienė and Ulrich Schüssler	351
Stone Objects from Vindobona (Austria) – Petrological Characterization	
and Provenance of Local Stone in a Historico-Economical Setting	
Andreas Rohatsch, Michaela Kronberger, Sophie Insulander,	
Martin Mosser and Barbara Hodits	
Marbles Discovered on the Site of the Forum of Vaison-la-Romaine (Vaucluse, France):	
Preliminary Results Elsa Roux, Jean-Marc Mignon, Philippe Blanc and Annie Blanc	272
Lisu Noux, jeun-wine wignon, r nuppe dunc and Annie dunc	
Updated Characterisation of White Saint-Béat Marble. Discrimination Parameters	
from Classical Marbles	
Hernando Royo Plumed, Pilar Lapeunte, José Antonio Cuchí, Mauro Brilli and Maria Clairo Savin	270
Mauro Brilli and Marie-Claire Savin	

Grey and Greyish Banded Marbles from the Estremoz Anticline in Lusitania Pilar Lapuente, Trinidad Nogales-Basarrate, Hernando Royo Plumed, Mauro Brilli and Marie-Claire Savin	391
New Data on Spanish Marbles: the Case of <i>Gallaecia</i> (NW Spain) Anna Gutiérrez Garcia-M., Hernando Royo Plumed and Silvia González Soutelo	401
A New Roman Imperial Relief Said to Be from Southern Spain: Problems of Style, Iconography, and Marble Type in Determining Provenance John Pollini, Pilar Lapuente, Trinidad Nogales-Basarrate and Jerry Podany	413
Reuse of the <i>Marmora</i> from the Late Roman Palatial Building at Carranque (Toledo, Spain) in the Visigothic Necropolis <i>Virginia García-Entero, Anna Gutiérrez Garcia-M. and Sergio Vidal Álvarez</i>	427
Imperial Porphyry in Roman Britain David F. Williams	435
Recycling of Marble: Apollonia/Sozousa/Arsuf (Israel) as a Case Study Moshe Fischer, Dimitris Tambakopoulos and Yannis Maniatis	443
Thasian Connections Overseas: Sculpture in the Cyrene Museum (Libya) Made of Dolomitic Marble from Thasos John J. Herrmann and Donato Attanasio	457
Marble on Rome's Southwestern Frontier: Thamugadi and Lambaesis Robert H. Tykot, Ouahiba Bouzidi, John J. Herrmann and Annewies van den Hoek	467
Marble and Sculpture at Lepcis Magna (Tripolitania, Libya): a Preliminary Study Concerning Origin and Workshops Luisa Musso, Laura Buccino, Matthias Bruno, Donato Attanasio and Walter Prochaska	481
The Pentelic Marble in the Carnegie Museum of Art Hall of Sculpture, Pittsburgh, Pennsylvania <i>Albert D. Kollar</i>	491
Analysis of Classical Marble Sculptures in the Michael C. Carlos Museum, Emory University, Atlanta	471
Robert H. Tykot, John J. Herrmann, Renée Stein, Jasper Gaunt, Susan Blevins and Anne R. Skinner	501
PROVENANCE IDENTIFICATION II: (OTHER STONES)	
Aphrodisias and the Regional Marble Trade. The <i>Scaenae Frons</i> of the Theatre at Nysa <i>Natalia Toma</i>	513

The Stones of Felix Romuliana (Gamzigrad, Serbia)	
Bojan Djurić, Divna Jovanović, Stefan Pop Lazić and Walter Prochaska	523
Aspects of Characterisation of Stone Monuments from Southern Pannonia	
Branka Migotti	537

3.

	The Budakalász Travertine Production Bojan Djurić, Sándor Kele and Igor Rižnar	545
	Stone Monuments from Carnuntum and Surrounding Areas (Austria) – Petrological Characterization and Quarry Location in a Historical Context	
	Gabrielle Kremer, Isabella Kitz, Beatrix Moshammer, Maria Heinrich and Erich Draganits	557
	Espejón Limestone and Conglomerate (Soria, Spain):	
	Archaeometric Characterization, Quarrying and Use in Roman Times	
	Virginia García-Entero, Anna Gutiérrez Garcia-M, Sergio Vidal Álvarez, María J. Peréx Agorreta and Eva Zarco Martínez	567
	The Use of Alcover Stone in Roman Times (Tarraco, Hispania Citerior).	
	Contributions to the Officina Lapidaria Tarraconensis	
	Diana Gorostidi Pi, Jordi López Vilar and Anna Gutiérrez Garcia-M.	577
4.	ADVANCES IN PROVENANCE TECHNIQUES, METHODOLOGIES AND DATABASES	
	Grainautline – a Supervised Grain Boundary Extraction Tool	
	Supported by Image Processing and Pattern Recognition	
	Kristóf Csorba, Lilla Barancsuk, Balázs Székely and Judit Zöldföldi	587
	A Database and GIS Project about Quarrying, Circulation and Use of Stone	
	During the Roman Age in Regio X - Venetia et Histria.	
	The Case Study of the Euganean Trachyte	
	Caterine Previato and Arturo Zara	597
5.	QUARRIES AND GEOLOGY	
	The Distribution of Troad Granite Columns as Evidence for Reconstructing	
	the Management of Their Production	612
	Patrizio Pensabene, Javier Á. Domingo and Isabel Rodà	613
	Ancient Quarries and Stonemasonry in Northern Choria Considiana	
	Hale Güney	621
	Polychromy in Larisaean Quarries and its Relation to Architectural Conception Gizem Mater and Ertunç Denktaş	622
	Euromos of Caria: the Origin of an Hitherto Unknown Grey Veined Stepped Marble	
	of Roman Antiquity	
	Matthias Bruno, Donato Attanasio, Walter Prochaska and Ali Bahadir Yavuz	639
	Unknown Painted Quarry Inscriptions from Bacakale at <i>Docimium</i> (Turkey) <i>Matthias Bruno</i>	651
	The Green Schist Marble Stone of Jebel El Hairech (North West of Tunisia):	
	a Multi-Analytical Approach and its Uses in Antiquity	
	Ameur Younès, Mohamed Gaied and Wissem Gallala	659
	Building Materials and the Ancient Quarries at <i>Thamugadi</i> (East of Algeria),	
	Case Study: Sandstone and Limestone <i>Younès Rezkallah and Ramdane Marmi</i>	673
	A C FFFF WC A CONFERENCE VERIFUL A CONFERENCE A CONFERENC	

	The Local Quarries of the Ancient Roman City of <i>Valeria</i> (Cuenca, Spain) Javier Atienza Fuente	683
	The Stone and Ancient Quarries of Montjuïc Mountain (Barcelona, Spain) Aureli Álvarez	693
	<i>Notae Lapicidinarum</i> : Preliminary Considerations about the Quarry Marks from the Provincial Forum of <i>Tarraco</i> <i>Maria Serena Vinci</i>	699
	The Different Steps of the Rough-Hewing on a Monumental Sculpture at the Greek Archaic Period: the Unfinished Kouros of Thasos <i>Danièle Braunstein</i>	
	A Review of Copying Techniques in Greco-Roman Sculpture Séverine Moureaud	717
	Labour Forces at Imperial Quarries <i>Ben Russell</i>	
	Social Position of Craftsmen inside the Stone and Marble Processing Trades in the Light of Diocletian's Edict on Prices <i>Krešimir Bosnić and Branko Matulić</i>	
6.	STONE PROPERTIES, WEATHERING EFFECTS AND RESTORATION, AS RELATED TO DIAGNOSIS PROBLEMS, MATCHING OF STONE FRAGMENTS AND AUTHENTICITY	
	Methods of Consolidation and Protection of Pentelic Marble Maria Apostolopoulou, Elissavet Drakopoulou, Maria Karoglou and Asterios Bakolas	749
7.	PIGMENTS AND PAINTINGS ON MARBLE	
	Painting and Sculpture Conservation in Two Gallo-Roman Temples in Picardy (France): Champlieu and Pont-Sainte-Maxence Véronique Brunet-Gaston and Christophe Gaston	
	The Use of Colour on Roman Marble Sarcophagi Eliana Siotto	
	New Evidence for Ancient Gilding and Historic Restorations on a Portrait of Antinous in the San Antonio Museum of Art Jessica Powers, Mark Abbe, Michelle Bushey and Scott H. Pike	783
	Schists and Pigments from Ancient Swat (Khyber Pukhtunkhwa, Pakistan) Francesco Mariottini, Gianluca Vignaroli, Maurizio Mariottini and Mauro Roma	
8.	SPECIAL THEME SESSION: "THE USE OF MARBLE AND LIMESTONE IN THE ADRIATIC BASIN IN ANTIQUITY"	
	Marble Sarcophagi of Roman Dalmatia Material – Provenance – Workmanship <i>Guntram Koch</i>	809

Funerary Monuments and Quarry Management in Middle Dalmatia Nenad Cambi	827
Marble Revetments of Diocletian's Palace Katja Marasović and Vinka Marinković	839
The Use of Limestones as Construction Materials for the Mosaics of Diocletian's Palace Branko Matulić, Domagoj Mudronja and Krešimir Bosnić	855
Restoration of the Peristyle of Diocletian's Palace in Split Goran Nikšić	
Marble Slabs Used at the Archaeological Site of Sorna near Poreč Istria – Croatia <i>Deni Gobić-Bravar</i>	871
Ancient Marbles from the Villa in Verige Bay, Brijuni Island, Croatia Mira Pavletić and Đeni Gobić-Bravar	
Notes on Early Christian Ambos and Altars in the Light of some Fragments from the Islands of Pag and Rab <i>Mirja Jarak</i>	
The Marbles in the Chapel of the Blessed John of Trogir in the Cathedral of St. Lawrence at Trogir <i>Deni Gobić-Bravar and Daniela Matetić Poljak</i>	
The Use of Limestone in the Roman Province of Dalmatia Edisa Lozić and Igor Rižnar	
The Extraction and Use of Limestone in Istria in Antiquity Klara Buršić-Matijašić and Robert Matijašić	925
Aurisina Limestone in the Roman Age: from Karst Quarries to the Cities of the Adriatic Basin <i>Caterina Previato</i>	933
The Remains of Infrastructural Facilities of the Ancient Quarries on Zadar Islands (Croatia) <i>Mate Parica</i>	941
The Impact of Local Geomorphological and Geological Features of the Area for the Construction of the Burnum Amphitheatre <i>Miroslav Glavičić and Uroš Stepišnik</i>	951
Roman Quarry Klis Kosa near Salona Ivan Alduk	957
Marmore Lavdata Brattia Miona Miliša and Vinka Marinković	963
Quarries of the Lumbarda Archipelago Ivka Lipanović and Vinka Marinković	

Island of Korčula – Importer and Exporter of Stone in Antiquity	
Mate Parica and Igor Borzić	
Faux Marbling Motifs in Early Christian Frescoes	
6 7	
in Central and South Dalmatia: Preliminary Report	
Tonči Borovac, Antonija Gluhan and Nikola Radošević	
INDEX OF AUTHORS	1009

#### ANCIENT MARBLES FROM THE VILLA IN VERIGE BAY, BRIJUNI ISLAND, CROATIA

#### Mira Pavletić<sup>1</sup> and Đeni Gobić-Bravar<sup>2</sup>

<sup>1</sup> Department for the Protection of Cultural Heritage, Public institution Brijuni National Park, Fažana, Croatia (m.pavletic@np-brijuni.hr)
<sup>2</sup> Archaeological Museum of Istria, Pula, Croatia (gobic-bravar@ami-pula.hr; geni.gobic.bravar@gmail.com)

#### Abstract

During many years of research of the luxurious Roman villa in Verige Bay on Veli Brijuni, Austrian conservator Anton Gnirs found the fragments of floor and wall coverings and decorations made of marble. While in the early report he indicated only the colours, in the last report he accurately determined the type of marbles. The objective of this study is to identify the remainings of marbles and complement them by materials found in the bay at the end of the last century. By determining the types of marble which decorated different buildings in the bay, we will get a complemented picture of the brilliance of this Roman villa as another confirmation of its luxurious equipment and find out with which quarry sites of the Mediterranean basin the small port in the Verige Bay was connected.

#### Keywords

roman villa, use of coloured marble, Anton Gnirs, historical research on marble, Brijuni island - Croatia

#### About the villa complex

The Roman villa in Verige Bay on the eastern coast of Veliki Brijun is the largest ancient residential complex in Istria. It consisted of several buildings for different purposes located at various positions along the bay (Fig. 1). This included: a residential-production building located on three terraces, a temple area, diaeta, palestra, thermae, a fish pond and another work area. All buildings were connected into one whole, with a system of open and closed walkways (porticos and cryptoporticus) that extended the length of one kilometre along the bay. The construction of the villa started in the 1<sup>st</sup> century BC, and some parts were still in use until the 6th century. Austrian historian, archaeologist and conservator Anton Gnirs (1873-1933) excavated the site between 1903 and 1914. During those years there were still plenty of marble decorations in the

villa<sup>1</sup>. At that time some of the objects were already being exhibited in a small museum on the island<sup>2</sup> where they are still today, while part of the findings have been stored at the Archaeological Museum of Istria in Pula.<sup>3</sup> The villa was also richly decorated with mosaics, fresco paintings and stucco decorations.<sup>4</sup>

The villa consisted of several buildings for various purposes situated at carefully selected locations along the bay. The luxurious residential-cum-production villa, with its structures descending towards the sea shore, dominated the bay.5 It was architecturally designed around two peristyles at the highest point of the villa. The sea-facing front of both the production and residential architectural units was unified by a porch over 100 meters in length at the level of the lowest terrace. At the inner most point of the bay stood the temple area. This consisted of the temple of Neptune on the south, the temple of Venus on the north and probably the temple of the Capitoline Triad between them. Next to the temple area, following the sea shore, were the rooms for priests, dieta, palestra, a spa, a fish pond and another production area situated on the northern side of the bay. All the buildings were connected by an interesting system of open and closed paths that extended for a kilometre along the sea front, thus forming an architectural complex in perfect harmony with the landscape. The whole complex had a built coastline made of large stone blocks which presently stands about 1 meter below sea level.6 The access to the port was regulated with

- 4 See note 2; GNIRS 1902, 44-48; GNIRS 1906, 29-48; GNIRS 1908a, 124-143.
- 5 JURIŠIĆ, ORLIĆ 1987, 99; JURIŠIĆ 1991, 28.
- GNIRS 1915, 99-163; BEGOVIĆ-DVORŽAK 1990, 97 110; BEGOVIĆ-DVORŽAK 1993, 25-45; BEGOVIĆ DVORŽAK 1995, 47-54; BEGOVIĆ-DVORŽAK 1997,
   85-96; DE FRANCESCHINI 1998, 618-676.

<sup>1</sup> GNIRS 1904, 131-146; GNIRS 1907, 43-58; GNIRS 1908, 167-186; GNIRS 1915, 99-163; GNIRS 1930, 177-190.

<sup>2</sup> GNIRS 1930, 178, n. 6.

<sup>3</sup> GIRARDI-JURKIĆ, DŽIN 2001, 33.

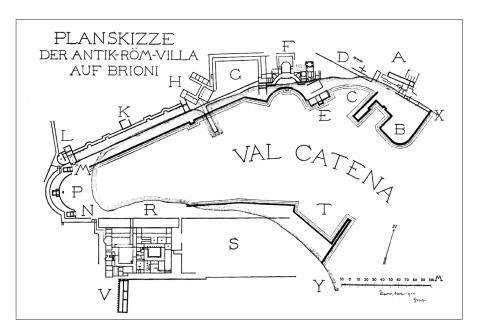


Fig. 1. Plan of the Verige bay complex



Fig. 2. Aerial view of the three-terrace villa and the temple area

a big chain that stretched between the two opposite shorelines, after which the bay itself was named (a chain is called verige in Croatian).

Marble decorations were found in almost every part of the complex: the residential part of the villa, the temple area, the portico, the *thermae* and in the rooms for the priests. Marble was used for floor pavement and wall decoration. However, the data collected during the excavation couldn't show how richly the villa was furnished because most of the marble disappeared into the lime kiln located in the bay. Through the examination of the remains of the lime kilns, Gnirs was able to prove the existence of the remains of destroyed sculptures that were made of the finest types of marble<sup>7</sup>. He found these fragments within the waste of the Byzantine and the early Venetian lime kiln. According to the stratigraphy of the ash mound, which was swept away during the time of his research, Gnirs concluded "that during the Middle Ages, the material that was first thrown into the limekiln was the valuable and easily accessible marble sculptures and architectural fragments".<sup>8</sup>

Therefore, the preserved parts of marble revetment and marble decoration from the villa are even more precious. We must also take into account that, until 1915,

<sup>7</sup> GNIRS 1930, 179-180, n. 7.

<sup>8</sup> *op. cit.* 

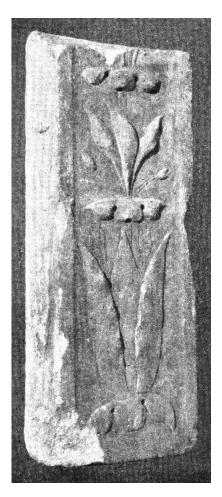


Fig. 3. Pilaster made of white marble, from room XIII

when "giallo africano" and "pavonazzetto" were mentioned for the first time as types of marble found in the *thermae*, the descriptions of the marble material that Gnirs left us were limited to its colour and sometimes dimensions.

#### The three-terraced villa

Inside the complex of the three-terraced villa (Fig. 2) there were residential rooms for the owner and his guests and all the auxiliary spaces such as: summer and winter dining rooms, a hall with two rows of columns, *balneum*, a kitchen, rooms for the servants, spaces for slaves, spaces for olive oil production and storage rooms. Some of the reception spaces of the villa were paved with mosaic floors, with tiles made of marble, imported coloured limestone and local white limestone. Gnirs described the mosaic floor in room XVII as made of "black and white marble tiles of 1 cm in size." This mosaic was divided into rectangular fields with a side length from 23 to 25 cm. In the centre of the mosaic there were polychrome scenes of fruits and flowers.<sup>9</sup> Another mosaic, the one in room XIII, was made of marble tiles forming a meander and

geometric ribbon ornaments and in the middle of it there was an *emblema vermiculatum*.<sup>10</sup> In this room, a marble architectural fragment was also found; a pilaster of white marble, measuring 10.5x6.2x30.8 cm (Fig. 3), with two sides decorated with stylized floral elements.<sup>11</sup>

Other floors were made in the opus sectile technique. Gnirs described the floor of the balneum, E, as made of "black and white floor marble slabs (side length 30 cm)" (Fig. 4).<sup>12</sup> And the floor of room H, the so called 'room with two rows of columns' was "paved with large slabs of coloured marble". The remains of some of the marble were found in the waste, such as: a square plate (side length 22 cm) made of white marble and red veined marble (Fig. 4). According to the description made by Gnirs it is possible to assume that the floors were paved in a simple, rectangular module as described by Guidobaldi (the Q module with two interchanging colours). <sup>13</sup> A very similar floor was found at the Roman villa of Cazzanello<sup>14</sup> and at the Villa dei Misteri in Pompei. There was also a find of a small white plate with a side length of 9 cm.15 And in room XIV there were "floor slabs of black and white marble" as well as "large basalt pieces".16

#### The temple area

At the innermost point of the bay there was the temple area, which consisted of three temples of the tetrastylos prostylos type, of small dimensions (20x40 Roman feet according to Vitruvius).<sup>17</sup> The three temples were surrounded from their rear side with a semicircular porch. According to the discovered sculptural remains, the southern temple was dedicated to the god of the sea Neptune, and the northern to the goddess of love and beauty Venus, who was considered the mother of the emperors from the Julius family. The central temple, set back further from the other two temples, was probably dedicated to the Capitolian triad.

Within the temple area Gnirs found fragments of small marble columns, which today cannot be located. Near the temple of Venus he found two fragments of a column with an elliptical cross-section. The column was made of white marble, decorated with laurel leaves that

- 10 GNIRS 1915, 104, fig. 39.
- 11 GNIRS 1915, 105, fig. 40.
- 12 GNIRS 1915, 120.
- 13 GUIDOBALDI 1993, 171-251.
- 14 AOYAGI 2005, 339-352; AOYAGI 2003, 187-244.
- 15 GNIRS 1906, 37.
- 16 GNIRS 1915, 106-107.
- 17 GNIRS 1904, 136-137; GNIRS 1906, 25-28; GNIRS 1908, 167-172.

<sup>9</sup> GNIRS 1915, 109-110, fig. 43.





Fig. 4. Black limestone slab, and breccia corallina slab

Fig. 5. Part of an arm, parts of curls and a small *aedicula* with holes for mounting. White marble

overlap like scales, with a triangular space between the leaves filled with three berries on one of the fragments. He also found a twisted marble pillar with an elliptical cross-section, which was decorated with leaves on its much damaged lower part.<sup>18</sup>

The most significant fragments of marble sculptures that Gnirs found (Fig. 5) were located in the area of the temples in Verige Bay. These were small fragments, such as the thumb of a female hand, folds of clothes and curls of hair (Fig. 5). However the most important object discovered was part of a *hydria* (Fig. 6), a vessel with three handles used for the transportation of water. It was found in 1907.<sup>19</sup> It was richly decorated with palmettes and antithetically placed flying swans made of white fine-grained marble. These finds helped him to recognize a Roman copy of the famous Praxiteles statue of Aphrodite from the island of Cnidus.<sup>20</sup>



Fig. 6. Hydria, part of a sculpture, in white marble, from the temple area

<sup>18</sup> GNIRS 1906, 39.

 <sup>19</sup> GNIRS 1907, 50; GNIRS 1930, 178-181, fig. 82, 84;
 BEGOVIĆ-DVORŽAK 1993, 28-29, fig 2.

<sup>20</sup> GNIRS 1930, 180.

#### M. PAVLETIĆ AND Đ. GOBIĆ-BRAVAR



Fig. 7. Fragments of giallo antico, probably wall and/or floor decoration



Fig. 8. Thick and thin fragments of pavonazzetto marble

In the nearby so called "Priest's apartments" Gnirs noted "numerous marble slabs of different types and colours indicate that the walls had incrustations."<sup>21</sup>

Close by was a portico (150 m long by 10 m wide) with semi-circular and rectangular niches that were once decorated with sculptures. It is here that the marble fragments of a head probably belong.<sup>22</sup> Today only the positions of their pedestals, once coated with marble slabs, are visible.<sup>23</sup>

#### The thermal area

A full range of porticos and cryptoporticus allowed for a pleasant walk, sheltered from the elements, from the villa located on the terraces on the south side of the bay to the buildings located on the northern coast, which included the baths, or thermae. The baths consisted of a series of functionally arranged rooms. Along with the apoditerium, or the dressing room, there was the frigidarium, tepidarium, caldarium, and the laconicum. The bath

21 GNIRS 1904, 141.

22 GNIRS 1904, 139.

23 GNIRS 1908, 172-173.

complex was adorned with a monumental façade that rose above the semicircular beach area.<sup>24</sup> The thermae were also richly decorated with mosaics, fresco paintings, stucco decorations and marble slabs.

In hall G Gnirs states: "a large amount of fragments of thin plates of precious kinds of marble were found in this room. These include yellow *giallo africano* (Fig. 7) with bright veins and the colourful *pavonazzetto* (Fig. 8), as well as white marble profiles that originate from incrusted parts of the hall."<sup>25</sup>

The fragments of giallo antico (Fig. 7) are the thinnest of the marble fragments found. It is thus possible that they formed part of the wall revetment, even with elaborated designs.

The description of the *caldarium* MN is:"Finds of marble fragments that coated the bathtub, while the opening for the heating was coated with large basalt blocks. A mosaic was composed of small marble tiles (dim. 1 cm) with a motif of a black meander on a white background."<sup>26</sup>

26 GNIRS 1915, 139.

<sup>24</sup> GNIRS 1915, 131-145.

<sup>25</sup> GNIRS 1915, 142.



Fig. 9. Cube made of cipollino verde



Fig. 10. Molded block and plinth in fine grained white marble



Fig. 11. Small column of africano marble; a twin is stored at the Archaeological Museum of Istria in Pula



Fig. 12. Two parts of a thick hexagonal floor slab



Fig. 13. Floor slabs of rosso antico marble



Fig. 14. Rectangular marble slabs, probably floor slabs

In the villa complex there are two *balnea*, but the existence of a separate thermal complex is rare in the villas of the X Regio<sup>27</sup>, and this further confirms the luxurious fitting out of the villa.

#### Other marbles found in the complex

All the mentioned marbles from the villa were identified in the different parts of the complex with the help of Gnirs' notes. However, in the stores of the museum in Brijuni National Park there are many other marble fragments coming from Verige Bay. It has not been possible to determine where these marbles were used in the villa. The different types of marble that could be identified are: cipollino verde, giallo antico, bardiglio marble, Africano, breccia corallina, Proconnesian marble, rosso antico, breccia di settebasi, marmo portasanta, pavonazzetto marble, rosso di Verona marble and white, fine grained marbles<sup>28</sup>.

Today the decorative marbles that remain of the villa complex are smaller architectural decorations like a cube (maybe a base) of cipollino verde (Fig. 9), a moulded block of white marble and moulded cornices (Fig. 10). A small column of Africano marble (Fig. 11) is a very nice example of the richness of the decorations. Two fragments of Proconnesian marble (Fig. 12) which were originally of hexagonal shape, with the side length



Fig. 15. Thin slabs of elaborate design, marmo africano

of 10 cm. These are *opus sectile* tiles, probably part of a small module with hexagonal tiles.<sup>29</sup> There are other remains that point to the existence of *opus sectile* and wall revetment decorations. Some marble slabs due to their thickness (of up to 6.7 cm) (Fig. 8) were probably used as floor slabs (Figs. 13, 14). Others just 0.5 cm thick (Fig. 15) were more probably used as wall revetment. Just a small number of slabs remain, and their shapes indicate elaborate designs made of marble.

<sup>27</sup> DE FRANCESCHINI 1998, 675.

<sup>28</sup> LAZZARINI 2004, 74-100; PENSABENE 1998.

<sup>29</sup> GUIDOBALDI 1993, 171-251.

Although the amount of coloured marble fragments found at the Verige Bay villa is not large, it must be noted that some of the most important types of coloured marble have been recognized. The spoliation of ancient marbles is a well known act, for the production of lime as well as for reutilisation in other buildings. It is thus concluded that the amount of marble at the villa was surely important at the time of the flourishing of the site. So the results of this re elaboration of the Gnirs findings provide new information on the circulation of marbles and in particular of coloured marbles in the north Adriatic region.

#### LIST OF ABBREVIATIONS

APreg – Arheološki pregled, Beograd, Ljubljana

Izdanja HAD-a – Izdanja Hrvatskog arheološkog društva, Zagreb

JAK – Jahrbuch für Altertumskunde, Wien

JÖAI – Jahreshefte des Österreichischen Archäologischen Instituts, Wien

MZK – Mitteilungen der K.K. Zentralkommission für Denkmalpflege, Wien

Obavijesti HAD-a - Obavijesti Hrvatskog arheološkog društva, Zagreb

VAMZ – Vjesnik Arheološkog muzeja u Zagrebu, Zagreb

#### BIBLIOGRAPHY

- AOYAGI M., ANGELELLI C., IMAI FUJISAWA S. 2003: "Lo scavo della villa romana in loc. Cazanello, presso Tarquinia. Nota preliminare", Rendiconti della Pontificia academia romana di archeologia, vol LXXV, 187-244.
- AOYAGI M., ANGELELLI C. 2005: "Sectilia pavimenta e mosaici dalla villa romana di Cazzanello (Tarquinia, VT)", in Actes de IX Colloque de l'Association Internationale pour l'Étude de la Mosaïque Antique (AIEMA), Roma, 339-352.
- BEGOVIĆ-DVORŽAK V. 1990: "Antička vila u uvali Verige na Brijunima (Roman Villa in Verige Bay, Brijuni Islands)", VAMZ 23, 97-110.
- BEGOVIĆ-DVORŽAK V. 1993: "Rezidencijalni kompleks u uvali Verige na Brijunima – Hramovi", VAMZ 26-27, 25-45.
- BEGOVIĆ-DVORŽAK V. 1995: "Rezidencijalni kompleks u uvali Verige na Brijunima: primjer ekstrovertirane maritimne vile harmonično uklopljene u krajolik", Histria antiqua 1, 47-54.

- BEGOVIĆ-DVORŽAK V. 1997: "Utvrđivanje cjelovitog areala ranocarskog rezidencijalnog kompleksa u Uvali Verige na Brijunima", Izdanja HAD-a 18, 85-96.
- DE FRANCESCHINI M. 1998: "Un esempio della villa marittima", in Le ville romane della X.regio, (Venetie et Histria), Catalogo e carta archeologica dell'insediamento romano nel territorio, dell'età repubblicana al tardo impero, Roma, 618-676.
- GIRARDI-JURKIĆ V., DŽIN K. 2001: Voda kao izvor života antičke Pule (Water as a Source of Life in Ancient Pula), izložba/Exibition, Katalog 61, Arheološki muzej Istre, Pula, 1-40.
- GNIRS A. 1902: "Bauliche Überreste aus den römischen Ansiedlung von Val Catena auf Brioni grande", MZK 28, 44-48.
- GNIRS A. 1904: "Antike Funde aus Pola und Umgebung, I. Vorläufiger Bericht über die Ausgrabungen in Val Catena auf Brioni grande", JÖAI 7, 131-146.
- GNIRS A. 1906: "Forschungen im südlichen Istrien, I. Ausgrabungen in Val Catena auf Brioni grande", JÖAI 9, 29-48.
- GNIRS A. 1907: "Forschungen in Istrien, I. Grabungen in Val Catena auf Brioni grande", JÖAI 10, 43-58.
- GNIRS A. 1908: "Forschungen im südlichen Istrien: I. Grabungen in Val Catena auf Brioni grande, II". JÖAI 11, 167-186.
- GNIRS A. 1908a: "Istrische Beispiele für Formen der antik-römischen villa rustica", JAK 2, 124-143.
- GNIRS A. 1915: "Forschungen über antiken villenbau in Südistrien, I. Die Grabung in der antiken Villenanlage von Val Catena", JÖAI 18, 99-163.
- GNIRS A. 1930: "Paralipomena aus Istrien und Aquileia", JÖAI 26, 177-190.
- GUIDOBALDI F. 1993: "Pavimenti in opus sectile di Roma e dell'area romana: propose per una classificazione e criteri di datazione" in Marmi antichi, problemi d'impiego, di restauro e d'identificazione, Roma, 177-251.
- JURIŠIĆ M. 1991: "Istraživanja podmorskih arheoloških lokaliteta u Hrvatskoj tijekom 1990. godine", Obavijesti HAD-a 23/1, 26-28.
- JURIŠIĆ M., ORLIĆ M. 1987: "Brijuni, Uvala Verige; Antička luka (Roman Harbour)", APreg 28, 98-99.
- LAZZARINI L. 2004: Pietre e marmi antichi, Padova, 2004, 74-100.
- PENSABENE P. (ed.) 1998: Marmi antichi II, Roma, 1998.
- PENSABENE P., BRUNO M. 1998: Il marmo e il colore, Roma, 1998.