### Marble Sarcophagi of Roman Dalmatia Material -Provenance - Workmanship

### Koch, Guntram

*Source / Izvornik:* ASMOSIA XI, Interdisciplinary Studies on Ancient Stone, Proceedings of the XI International Conference of ASMOSIA, 2018, 809 - 825

Conference paper / Rad u zborniku

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

https://doi.org/10.31534/XI.asmosia.2015/08.01

Permanent link / Trajna poveznica: https://urn.nsk.hr/urn:nbn:hr:123:934527

Rights / Prava: In copyright/Zaštićeno autorskim pravom.

Download date / Datum preuzimanja: 2024-04-26



Repository / Repozitorij:

<u>FCEAG Repository - Repository of the Faculty of Civil</u> <u>Engineering, Architecture and Geodesy, University</u> <u>of Split</u>







# 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

### MARBLE SARCOPHAGI OF ROMAN DALMATIA MATERIAL – PROVENANCE – WORKMANSHIP<sup>1</sup>

#### **Guntram Koch**

Christlich Archäologisches Seminar, Marburg, Germany (kochg@staff.uni-marburg.de)

#### Abstract

The sarcophagi of the Roman province of Dalmatia are very interesting. They comprise: 1. imports of completely executed marble sarcophagi from the three centres of production (Rome, Athens and Dokimeion), 2. sarcophagi executed locally from imported roughly cut chests and lids made of marble from Proconnesus, 3. sarcophagi executed from half-finished examples from Proconnesus, with various decorations, and 4. local sarcophagi made of local limestone, with different representations. The new finds of 2007 in Salona, e.g., a sarcophagus with Erotes, fragments of huge garland sarcophagi, a well carved lid of the "mixed" type and a huge roof-like lid, all made of marble from Proconnesus, cast new light on the art of sculpture in Dalmatia in the 2<sup>nd</sup> and 3<sup>rd</sup> century AD. In addition, the marble sarcophagi from Dalmatia enrich our knowledge about the production of marble sarcophagi on the island of Proconnesus in general.

### Keywords

Dalmatia, Roman province, marble, commerce, sarcophagi, Roman

In Roman imperial times many people who could afford it spent a lot of money on their graves, on gardens with houses or small temples, funerary statues and busts, grave reliefs, altars, ash urns, ostothecae and so

Hearty thanks are due to the organizers of the meeting in Split, above all to Prof. Dr. Katja Marasović and her collaborators. Together with our friends Maja and Nenad Cambi they made our stay in Split again highly enjoyable. RUSSELL 2013 will not be cited here, even if several sarcophagi from Dalmatia and Salona are mentioned; but in all the passages dealing with Roman sarcophagi there seems to be nothing new; there are repetitions of many out of date views; much of the literature and material published in the last half century are unknown to the author; the distribution maps (171-174, fig. 5.4-6) are totally out of date, and many times he obviously does not have any well founded idea about Roman sarcophagi. on, and, last not least, sarcophagi.<sup>2</sup> Extant are some sarcophagi from the late 1<sup>st</sup> century BC and 1<sup>st</sup> century AD;<sup>3</sup> the main group started in the early 2<sup>nd</sup> century, while in the late 3<sup>rd</sup> and early 4<sup>th</sup> century there was a change from pagan to Christian themes.<sup>4</sup>

Various materials were used for sarcophagi: wood, lead, terracotta and various kinds of stone, depending on the region, i.e., limestone, sandstone, granite, volcanic stone, and the everywhere much in demand marble.<sup>5</sup> In Dalmatia marble was not found, but limestone was used for a large number of locally made sarcophagi.<sup>6</sup> Persons who did want a marble sarcophagus had, in general, two possibilities. First: they could order a sarcophagus with completely executed reliefs, imported from one of the three centres of production, or – the second possibility – they could buy or order

- a roughly cut chest and lid ("Rohling") or

- a half-finished sarcophagus ("Halbfabrikat") from one of the marble quarries elsewhere in the Empire.

Concerning the first possibility, the three centres of production in the 2<sup>nd</sup> and 3<sup>rd</sup> century AD were Rome, Athens and Dokimeion.<sup>7</sup> Rome used not only marble from Carrara (Luna – Luni),<sup>8</sup> but also from Pentelikon, Thasos, Proconnesus and other quarries even further

- BRANDENBURG 1978; HERDEJÜRGEN 1981;
   KOCH, SICHTERMANN 1982, 36-41; KOCH 1993,
   62-66; AMBROGI 1990; AMBROGI 2008; KOCH 2010, 37. 77 F.; CANDILIO, BERTINETTI 2012;
   PALMENTIERI 2013; GASPARRI 2013.
- 4 KOCH, SICHTERMANN 1982, 258 F.; KOCH 2000.
- 5 KOCH, SICHTERMANN 1982, 20-23; KOCH 1993, 11-17.
- 6 KOCH, SICHTERMANN 1982, 314-322; CAMBI 2010 (many pieces).
- KOCH, SICHTERMANN 1982, 35-275, 366-475, 497 509; KOCH 1993, 62-122; KOCH 2010, 38-46, 78-81.
- 8 Marble from Luni Carrara, e.g.: WALKER, MAT-THEWS 1990; KEUREN 2011, 149-187, esp. 155-158.

Overviews are given, e.g., by: TOYNBEE 1971;
 BOSCHUNG 1981; HESBERG 1982; KLEINER 1987;
 SINN 1987; KOCH 2010, 67-71, 94-97 (ostothecae).

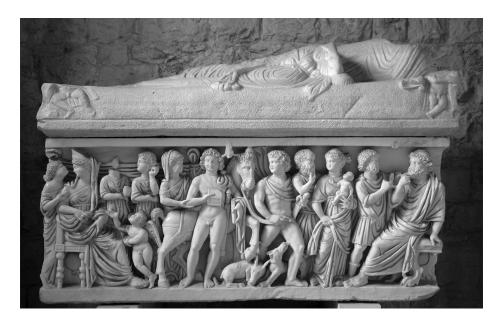


Fig. 1. Split, AM, Inv. 129 D: Hippolytos sarcophagus made in Rome from Proconnesian marble (photo: G. Koch)

away;<sup>9</sup> in Athens, marble from Pentelikon was used,<sup>10</sup> and in Dokimeion, marble from the quarries in its surroundings, the *marmor Phrygium*, *marmor Synnadicum* or *marmor Docimium*.<sup>11</sup>

From these centres, sarcophagi were exported, to different regions and in various numbers. From Rome about 6,000 pieces are preserved, of which about 200 were exported, above all to the west, but also, in some examples, to the east.<sup>12</sup>

From Athens, about 1,500 pieces are preserved, about 1,000 of them having been exported, maybe even as far as to Britannia in the north-west and to Africa in the south-west, to Myrmekeion on the Crimea in the north-east and Palaestina, Arabia and Alexandria in the south-east.<sup>13</sup>

- 9 Some remarks on the situation in Rome: STOWELL PEARSON, HERZ 1992; KOCH 1993, 13 f. with n. 53-58; KEUREN 2011, 149-187.
- 10 KOCH, SICHTERMANN 1982, 374; KOCH 1993, 12 with n. 50-52.
- 11 KOCH, SICHTERMANN 1982, 498; KOCH 1993, 12 with n. 45-49.
- 12 KOCH 1977 (with a list of the exports); KOCH, SICHTERMANN 1982, 267-272 (with a distribution map); KOCH 1989, 163-168; KOCH 1993, 94 f. with n. 419-420; KOCH 2006 (with an updated list of the exports to the eastern part of the empire); KOCH 2008, 2 (with an updated list of the exports to northern Africa); LAUBE 2012, 317 no. 171 (Alexandria).
- KOCH, SICHTERMANN 1982, 461-470 (with a list of the exports and a distribution map); KOCH 1982, 167-186; KOCH 1989, 183-209; KOCH 1993, 111 f. with n. 453-462 (there are new finds in several regions, e.g. in Ephesos, Pamphylia, Tyrus; some are mentioned in

Extant from Dokimeion are about 600 pieces, about 60 of which were exported outside of Asia Minor, about 40 of them to Rome and 20 to other regions.<sup>14</sup>

In Dalmatia there are few imports from Rome.<sup>15</sup> Excellently preserved is the Hippolytos sarcophagus from Salona (Fig. 1),<sup>16</sup> while all the other pieces are more or less small fragments. The Hippolytos sarcophagus, including some of the pieces, preserved only in fragments, was produced in a period in which Attic sarcophagi were no longer available, that is, the late 3<sup>rd</sup> and early <sup>4th</sup> century AD.

Two tiny fragments are the only remains of two large and richly decorated columnar sarcophagi from Dokimeion, one a part of a kline-like lid and the other the upper edge of a chest (Figs. 2-3).<sup>17</sup> A third fragment, which was previously thought to be part of an imported sarcophagus from Dokimeion, once in Knin, cannot be an original from Dokimeion, but must be a product of the "late antique group" from Rome.<sup>18</sup>

> KOCH 1993, KOCH 2012, 3 and 2015, 1). – Britannia: ROOK *et al.* 1984. – Africa: KOCH 1983. – Alexandria (or Aegyptus): LAUBE 2012, 316 no. 170.

- 14 KOCH, SICHTERMANN 1982, 507-509; KOCH 1982, 186-194; KOCH 1989, 169-175; KOCH 1993, 121 with n. 487-489; KOCH 2010, 44-46. 80 f.
- 15 CAMBI 1977: 11 pieces; a fragment of an acroterion of a lid in the garden of the Archaeological Museum in Split seems to be also an import from Rome (height 0.22, length 0.32 m); CAMBI 2013, 93 fig. 70.
- Split, AM, Inv. 129 D: KOCH 1984; KOCH 2013, 104.115. 136 fig. 32.
- 17 CAMBI 2005, 137 fig. 200-201.
- 18 KOCH 2013, 103 f. 123 fig. 2 (with older lit.).



Fig. 2-3. Split, AM: fragment of a columnar sarcophagus imported from Dokimeion (photo: N. Cambi)

In contrast to the fate of imports from Rome and Dokimeion, an extremely large number of Attic sarcophagi are preserved in Dalmatia, above all in Salona. In 1988 109 pieces were published.<sup>19</sup> Later on even more were identified, and there are some new finds; thus we have now about 130.<sup>20</sup> Unfortunately there are only two examples – out of the 130 – which are completely preserved. Of these two, one, a Meleager sarcophagus, is much damaged (Fig. 4),<sup>21</sup> while the other, with very rare decorations showing Erotes collecting grapes in flat relief, is extremely well preserved. (Fig. 5),<sup>22</sup> and from a third a bit more than a half is preserved.<sup>23</sup> All the other fragments are more or less small pieces, remains of large sarcophagi, which were smashed to pieces for burning into lime, and only some fragments of them survived by chance.

- 19 CAMBI 1988; CAMBI 2013, 93 fig. 71-73.
- 20 CAMBI 1993; CAMBI 2000, 1; CAMBI 2000, 2; RENDIĆ-MIOČEVIĆ 2004; CAMBI 2007. *Cf.* the fragments in Pietas Iulia (Pula; regio X): CAMBI 2009.
- 21 CAMBI 2005, 149 fig. 221; CAMBI 2013, 93 fig. 74.
- 22 CAMBI 1993, 77-90 pl. 29-33; CAMBI 2005, 153 fig. 226.
- 23 CAMBI 1988, 99-105 no. 1 pl. 1-5; CAMBI 2005, 148-150 (further lit. in n. 548-554).

There are now about 130 Attic pieces – but how large was the number of imported Attic sarcophagi originally? There are many hints that today less than 2% of the original production or – in the case of Dalmatia – the original imports are preserved.<sup>24</sup> That means that, from 7,000 to 10,000 Attic sarcophagi might have been imported to Dalmatia, mostly to Salona, in the period from about 140/50 to 250/60 AD, that means, on average, 60 to 90 pieces every year.

The second way in which customers in Dalmatia could obtain a marble sarcophagus was to import a roughly cut chest and lid or a half finished sarcophagus. In both cases it was intended that sculptors in local workshops should finish the imported pieces. But in many cases the sarcophagi were used in the condition in which they had been imported.<sup>25</sup> In other cases the local sculptors smoothed the surface a little bit and cut some details, but did not finish the whole sarcophagus.<sup>26</sup> Sometimes

26 e.g. KOCH 2013, 133 fig. 24.

<sup>24</sup> Some considerations of that problem e.g.: KOCH 2012, 3; KOCH 2015, 2 (with further lit.). – The totally different claim of RUSSELL 2011, 127 f., is written without any proofs and assertions, and obviously without any knowledge of the material.

<sup>25</sup> e.g. KOCH 2013, 132 fig. 23; KOCH 2015,2, 369 fig. 14.

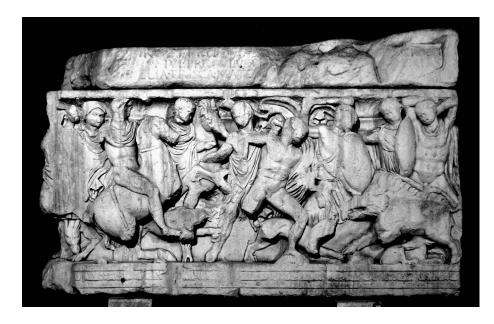


Fig. 4. Split, AM, Inv. A 1076/D 121: Meleager sarcophagus imported from Athens (photo: G. Koch)



Fig. 5. Split, AM: Erotes sarcophagus imported from Athens (photo: G. Koch)

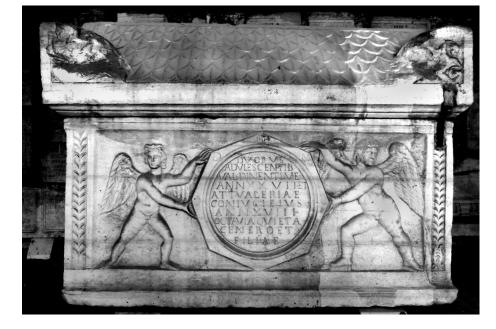


Fig. 6. Split, AM, Inv. 1634 A: sarcophagus with Erotes holding an octagonal tabula made of Proconnesian marble (photo: G. Koch)

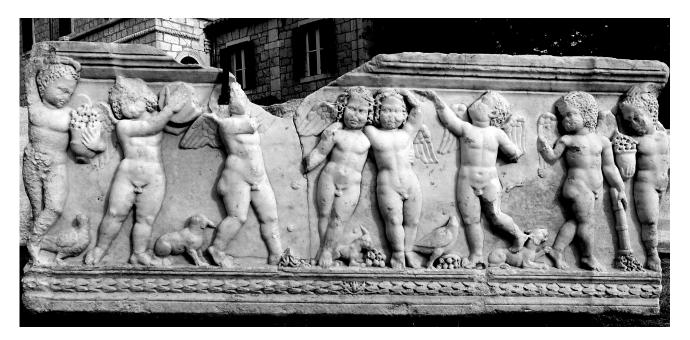


Fig. 7. Salona - Manastirine: sarcophagus with Erotes, presumably made of Proconnesian marble (photo: G. Koch)

the chest was more or less finished, but the lid remained in quarry condition.<sup>27</sup>

Roughly cut chests and lids were produced for export on the islands of Thasos and Proconnesus. Examples from Thasos can be found, for example, in Rome, Campania and Thessaloniki, where the reliefs were executed.<sup>28</sup> In Dalmatia such examples have not yet been identified. A huge number of roughly cut chests and lids were produced on the island of Proconnesus and exported to many regions of the Roman Empire, in various numbers.<sup>29</sup> Perhaps a roughly cut chest and a lid from Proconnesus were used for a sarcophagus with the representation of two Erotes holding an octagonal tabula, with pilasters at the sides. The decoration of the front, the tiles on the lid and the figures on the acroteria were all executed in Salona by local sculptors (Fig. 6).<sup>30</sup>

30 CAMBI 2010, 126 f. no. 150 pl. 87.

used a roughly cut chest from Proconnesus (Fig. 7).<sup>31</sup> It was carved in a local workshop at Salona, and is a rather good copy of an imported Attic sarcophagus. The work-manship is closely connected with original Attic works; this would tend to suggest it might have been made by sculptors who came from Athens to Salona in the later 2<sup>nd</sup> century AD.<sup>32</sup> Such sculptors can be recognized, e.g., in Sparta, Nikopolis, Beroia, Thessaloniki, Crete, Aphrodisias, Tyana, Cilicia, Syria, Rome and other sites.

Marble from the quarries of Pentelikon was used, for instance, for some sarcophagi in Rome, Beroia, Thessaloniki, Nikopolis and perhaps even in the province of Roman Syria. In Rome imported blocks of this marble were obviously used or re-used, even for sarcophagi with typical city-Roman decorations and representations.<sup>33</sup> But examples in Thessaloniki, Beroia, Nikopolis and Syria may have been roughly cut chests and lids, which were finished in local workshops.<sup>34</sup> Obviously the

- 31 CAMBI 2013, 94, fig. 76.
- 32 KOCH 2012, 1; KOCH 2015, 2, 16 f.; KOCH (in print).

<sup>27</sup> e.g. CAMBI 2010, 128 no. 156 pl. 90 f.; KOCH 2013, 149 fig. 48-49.

HERRMANN 1990; KOCH 1993, 14 with n. 60-64;
 WURCH-KOZELJ, KOZELJ 1995, 39-47; HERRMANN,
 NEWMAN 1995; HERRMANN 1999; WURCH-KOZELJ, KOZELJ 2009; KEUREN 2011, 149-187 esp. 164-166.

e.g. ASGARI 1978; KOCH, SICHTERMANN 1982,
 484-492; WALKER 1985; KOCH 1993, 15 (with n. 71-73); KEUREN 2011, 149-187, esp. 159-162; KOCH 2013; 110-118.

 <sup>33</sup> KOCH, SICHTERMANN 1982, 374 with n. 5; KOCH
 1993, 12 f. with n. 50-52; KEUREN 2011, 149-187, esp.
 163 f.

Thessaloniki: KOCH, SICHTERMANN 1982, 350 with
 n. 57-60; s. also "Register" 666; PAPAGIANNE 2007; PA PAGIANNE 2008; STEFANIDOU-TIVERIOU 2014,
 50-54. 149-155 (Y. MANIATIS, D. TAMBAKOPOU LOS). 255-257 Nr. 175. 176 pl. 82-83., Beroia: KOCH,
 SICHTERMANN 1982, 347 pl. 373; STEFANIDOU-TI VERIOU 2001, 117 f. 120 f. pl. 30, 1. 3., KOCH (in print).

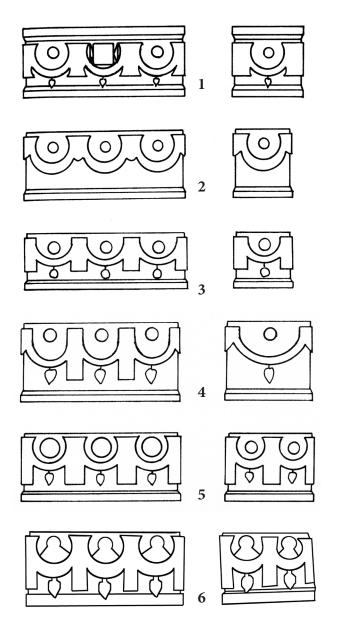


Fig. 8. Half-finished sarcophagi produced in Asia Minor: 1. Proconnesus – 2. Ephesos – 3. Hermos valley – 4. Caria – 5. Aphrodisias – 6. Hierapolis (drawing: H. Koch)

sculptors were, at least in part, Athenians, who went to the mentioned sites and produced *in situ* atticising sarcophagi for local customers using imported roughly cut chests and lids of Pentelic marble.<sup>35</sup> But unfortunately, no such roughly cut piece has been found in the quarries at Pentelikon, on the way down to Athens or in Athens. In Rome sarcophagi made of marble from Paros were also detected.<sup>36</sup> It would seem that the sculptors used or – more probably – re-used blocks of this precious material only for outstanding objects. In Dalmatia we have had no finds in which marble from Pentelikon, Paros and Luna<sup>37</sup> was used for local sarcophagi.

Half-finished sarcophagi were produced in presumably six marble quarries in Asia Minor (Fig. 8).<sup>38</sup> Pieces from the Hermos valley, Hierapolis and Aphrodisias were not exported. But from Ephesos, Caria and above all from Proconnesus half-finished examples were exported over great distances.

Half-finished garland sarcophagi from Ephesos were exported to Aquileia, Rome and southern Italy.<sup>39</sup> In Augusta in Cilicia and in Berytus, e.g., garland sarcophagi were found, which seem to have been executed in local workshops that used half-finished examples from Ephesos.<sup>40</sup> In Dalmatia we have as yet been unable to identify a half-finished piece from Ephesos.

From Caria a very small number of half-finished garland sarcophagi were exported, to Adana, Laodikeia and Tyrus in Syria and to Alexandria, perhaps to Gallia too, but not to Dalmatia.<sup>41</sup>

On Proconnesus a huge number of half-finished sarcophagi and lids were produced, in various shapes

- Even in Rome the percentage of Luna marble is relatively small, e.g.: KOCH 1993, 13 with n. 54-56 (pieces at London, Baltimore and New York); KEUREN 2011, 155-158 and *passim* (of the analysed 25 pieces in the MNR at Rome 14 are made of Proconnesian, 7 of Carrara and 4 of Pentelic marble).
- ASGARI 1977; KOCH, SICHTERMANN 1982, 484 497 fig. 9; KOCH 1993, 162-168 with n. 649-662; KOCH 2010, 51-55. 83 fig. 18-22.
- 39 ASGARI 1977, 335-343 and *passim*; KOCH, SICHTER-MANN 1982, 492-494 fig. 13; KOCH 1993, 165 f. with n. 654-656; KOCH 2010, 51-55 fig. 18, 2; 21.
- 40 ASGARI 1977, 340 fig. 25; KOCH, SICHTERMANN 1982, 493. 552 pl. 542 (Augusta, in Adana; it is still a problem, where it has been carved); KOCH 1989, 182 (Berytus).
- ASGARI 1977, 343-345; KOCH, SICHTERMANN 41 1982, 494 f. fig. 15; KOCH 2010, 51-55 fig. 18,4., Adana: ASGARI 1977, 344 fig. 31; 358. 360; KOCH, SICHTERMANN 1982, 495. 552 with n. 18., Laodikeia (Tartous, Museum): KOCH - SICHTERMANN 1982, 495. 567 pl. 572; KOCH 1989, 181 f. fig. 27., Tyrus: KOCH 2015, 2, 151, fig. 15., Alexandria: ASGARI 1977, 343 f. fig. 32; 360; KOCH, SICHTERMANN 1982, 494 with n. 81., Lyon: DARBLADE-AUDOIN 2006, 176 no. AI.029 pl. 202, 1 (there is only an old drawing of the fragment in existence; therefore it is difficult to decide, if the piece was imported half-finished or - more likely - fully executed; the same problem exists with a large fragment in Modena, which perhaps came from Caria: KOCH, SICHTERMANN 1982, 492 with n. 65).

<sup>35</sup> See n. 34.

<sup>36</sup> KEUREN 2011, 168 f. with n.70.

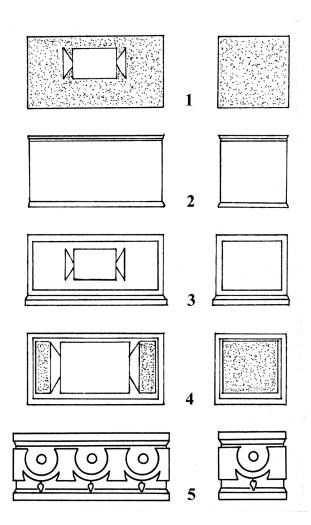


Fig. 9. Half-finished sarcophagi produced on Proconnesus (drawing: H. Koch)

and with different decorations (Figs. 9-10).<sup>42</sup> In Salona a chest with a projecting base and a large tabula ansata made of Proconnesian marble have been found (Fig. 11),<sup>43</sup> as well as a chest and fragments with a projecting base, a tabula ansata and parts at the left and right side, which were only roughly cut in the quarry and executed in Salona.<sup>44</sup> Both decorations are otherwise unknown in marble, but there are parallels in the local production of limestone sarcophagi typical for Dalmatia.<sup>45</sup>

- 42 ASGARI 1977, 329-335 and *passim* (a map with the distribution in Asia Minor p. 355 fig. 53); KOCH, SICHTERMANN 1982, 484-492; ASGARI 1990; KOCH 1993, 163-165; KOCH 2010, 51-55 fig. 18, 1; 19-20. 22. 28; KOCH 2013, 110-118 fig. 20-31.
- 43 CAMBI 2010, 107 no. 52 pl. 32, 1; KOCH 2013, 117. 141 fig. 44; CAMBI 2013, 93 fig. 64.
- 44 CAMBI 2010, 104 no. 36 pl. 23, 2; 114 no. 88 pl. 50; CAMBI 2013, 93 fig. 67.
- 45 CAMBI 2010, pl. 26, 1; 28, 2; 37, 1 (and several others).

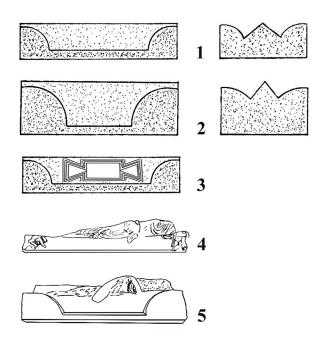


Fig. 10. Half-finished sarcophagus lids produced on Proconnesus: 1. roof-like lid,  $2^{nd}$  c. AD – 2. roof-like lid,  $3^{rd}$  c. AD – 3. roof-like lid with *tabula ansata* – 4. kline-lid – 5. lid of the "mixed" type (drawing: H. Koch)

Until a few years ago – which was very strange –in Dalmatia no half-finished garland sarcophagus with a roof-like lid from Proconnesus was known, while elsewhere this type is preserved in hundreds of examples (Fig. 12).<sup>46</sup> It is widespread from the Crimea, Moesia Inferior, Thracia, the northern, western and southern coast of Asia Minor, Syria, Palaestina, Kyrenaika to Macedonia in the east, and in exceptions there are pieces in southern Italy and Gallia in the west.<sup>47</sup>

But in 2007 in Salona several fragments of at least one – perhaps two or even more – garland sarcophagi were found, obviously made of marble from Proconnesus, presumably executed in Salona from imported half-finished garland sarcophagi (Fig. 13).<sup>48</sup> This piece – or these pieces – is/are unique. Half-finished garland-sarcophagi from Proconnesus usually have a length of about 2 m to 2.20 m, a height of about 1 m and a depth of about

48 Salona – Manastirine: unpubl.

ASGARI 1977, 329-335 and *passim*; KOCH, SICHTER-MANN 1982, 488 fig. 11; KOCH 2013, 111-113 fig. 20-22; KOCH 2015, 2, 366 fig. 11.

<sup>47</sup> KOCH, SICHTERMANN 1982, 489-492; KOCH 1993, 163-165; KOCH 2013, 110-122; KOCH 2015, 3, 365-370., Crimea: IVANOVA 1976, 143 f. nr. 453-454 fig. 196-197; KOCH 2013, 110 n. 54., Southern Italy: TO-DISCO 1994; KOCH 2013, 110 n. 54., Gallia: GAGG-ADIS-ROBIN 2005, 232 f. nr. 80; KOCH 2012, 2, 103 pl. 50, 3-4; KOCH 2013, 110 n. 54.



Fig. 11. Solin: sarcophagus made of Proconnesian marble (photo: G. Koch)

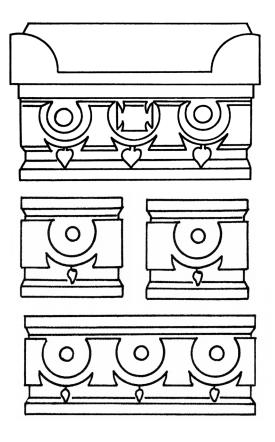


Fig. 12. Half-finished garland sarcophagus typical of Proconnesus (drawing: H. Koch)

1 m. With the fragments from Salona we are not yet sure at this moment, but the height may have been about 1.70 m, the depth also about 1.60 m, and the length about 3 m. As far as is known, there is no other such large half-finished garland-sarcophagus from Proconnesus in the whole Roman Empire. This means that the piece must have been executed on Proconnesus on special order by a rich person from Salona, probably in the first half of the 3<sup>rd</sup> century AD. Also in the local production of Salona the piece is unique, and we do not have any parallel for

816

the workmanship.<sup>49</sup> There must have been a workshop specialized in the execution of half-finished garland-sarcophagi from Proconnesus, and of the large number that must have been produced the fragments found in 2007 are to date the only preserved example/s.

Still lying in the church in Manastirine is a small lid, made of marble from Proconnesus, also a unique piece in the whole production of sarcophagi (Fig. 14).<sup>50</sup> Perhaps it belongs to the chest in the shape of a bathtub, *lenos*, also preserved in Manastirne as a fragment (Fig. 15).<sup>51</sup> These two pieces show that on Proconnesus small lenoi were also prepared, destined for children, and lids with rounded sides in the so-called mixed type, with one or two reclining persons on a roof-like lid. Parallels exist only in Rome, and nowhere in the whole east of the empire.<sup>52</sup> Perhaps it might be possible to identify in Rome too small sarcophagi destined for children, executed from imported half-finished pieces from Proconnesus.

Sarcophagus lids prepared on Proconnesus usually have the shape of a roof, lower in the 2<sup>nd</sup> and higher in the 3<sup>rd</sup> century AD.<sup>53</sup> A well-preserved example, found in Salona in 2007, is, at first sight, an example typical of Proconnesus (Fig. 16). The Erotes and palmettes on the acroteria, the tiles and the Gorgon heads in the pediments were executed in Salona. But the measurements are amazing, the length is 3.07 m, the height 1.22 m. Usually the length is 2 m to 2.20 m – here more than 3

- 51 KOCH 2013, 120 f. 152 fig. 64.
- 52 e.g. KOCH 2013, 121 with n. 106; 152 fig. 65.
- 53 KOCH, SICHTERMANN 1982, 486 fig. 10, 1; KOCH
   2010, 108 fig. 20, 2; KOCH 2013, 136 fig. 31, 1-2;
   KOCH 2015, 3, 365 fig. 10, 1.

<sup>49</sup> Until now tonly one garland sarcophagus from Salona was known; see the text below, with n. 72.

<sup>50</sup> CAMBI 2010, 100 no. 18 pl. 11; KOCH 2013, 151 fig.63; CAMBI (in print) pl. 26, 4.



Fig. 13. Salona – Manastirine: fragment of a huge garland sarcophagus made of Proconnesian marble (photo: G. Koch)



### Fig. 14. Salona – Manastirine: lid of a sarcophagus with reclining figure made of Proconnesian marble (photo: G. Koch)



Fig. 15. Salona – Manastirine: fragment of a small *lenos* made of Proconnesian marble (photo: G. Koch)



Fig. 16. Salona – Manastirine: huge lid of a sarcophagus made of Proconnesian marble (photo: G. Koch)

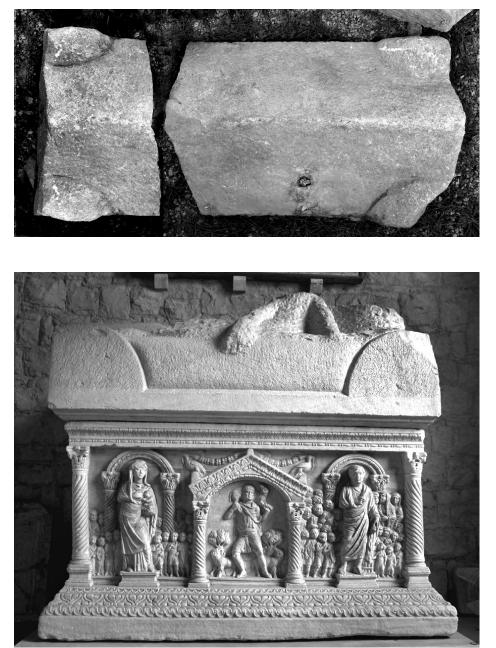


Fig. 17. Salona – Manastirine: lid of a child's sarcophagus made of Proconnesian marble (photo G. Koch)

Fig. 18. Split, AM, Inv. 29 D: "Good Shepherd Sarcophagus" from Salona made of Proconnesian marble (photo: G. Koch)

m. This means that the lid and the lost sarcophagus were especially commissioned in Proconnesus for a customer in Salona. Until now there seems to only one parallel of such a big roof-like lid with its chest from Proconnesus in the whole Roman Empire, in Izmir.<sup>54</sup>

As exceptions, not only huge chests and lids were produced on Proconnesus for export, but also small

pieces, destined for children. One example is the fragment of a lenos and the rounded lid of the mixed type in Manastirine (Figs. 14-15). Also in existence are a few rectangular chests and roof-like lids with acroteria. For instance one is in Izmit (Nikomedia), while one was even imported in Pantikapaion on the Crimea.<sup>55</sup> Two fragments adjoining each other, were found in 2007 in Salona; they may belong to this type, too (Fig. 17).<sup>56</sup> Presumably, a small chest destined for a child must have

56 Salona, Manastirine: KOCH 2013, 121 f. 153 fig. 67.

<sup>54</sup> Izmir, AM, Inv. Inv. 17053; unpublished (chest: height 1.78, length 3.13, depth 1.72 m; fragment of the lid: height 1.60 m). – I thank Dr. N. Asgari for the information, that there are pieces of a comparable size still on Proconnesus, which will be included in her publication.

 <sup>55</sup> KOCH 2008, 1, 170 with n. 34. 36; 180 fig. 5-6; KOCH 2013, 121 f. 154 fig. 68-69. – Two examples are in Tekirdağ, Museum: unpublished.

been carved to order in the quarries on Proconnesus; unfortunately, no piece together with a low roof-like lid is preserved, or yet been found, in Salona.

The lid of the well-known "Good Shepherd Sarcophagus" from Salona was thought to be a unique combination of a roof-like combined with a kline-like lid (Figs. 18-20).<sup>57</sup> But it is possible to identify some more examples of this mixed type in Dalmatia,<sup>58</sup> and one example in Rome can be added,<sup>59</sup> while one piece is still on Proconnesus.<sup>60</sup> Thus we can be sure that this strange shaped lid was produced half-finished on Proconnesus, above all for export to Dalmatia (Fig. 10,5).

The lid of the "Good Shepherd Sarcophagus" was used in the state in which it arrived from Proconnesus. But another half-finished lid of that type, a find of 2007, was executed in Salona by an excellently trained sculptor (Fig. 21).<sup>61</sup> The lid of the "Good Shepherd Sarcophagus" has a length of 2.53 m, while a lid at the south side of the Tusculum in Manastirine has a length of 2.55 m.<sup>62</sup> The third one, which is rather well preserved, is much smaller (2.07 m).<sup>63</sup> But the newly found lid has a length of 2.68 m. Therefore the three big pieces must have been produced on Proconnesus to special order from wealthy customers in Salona. In Salona two of them were executed by skilled artists, who are not known to us by other sarcophagi or other works of sculpture from the town or even the whole of Dalmatia. The artists of the newly found lid and, as far as it seems, also of the "Good Shepherd Sarcophagus" obviously came from Athens and Dokimeion in the later 3rd century AD.64

- 57 Split, AM, Inv. 29 D: KOCH, SICHTERMANN 1982,
  s. "Register" 665, pl. 351; DRESKEN-WEILAND 1998,
  105 f. no. 297 pl. 97; KOCH 2000, 550. 552 fig. 80; s.
  "Register" 659; KOCH 2009, 123 f. 137 fig. 9-10; CAM-BI 2010, 128 no. 156 pl. 90 f.; KOCH 2013, 119-121.
  149 fig. 58-59; KOCH 2015, 3, 370; CAMBI 2013, 95 fig. 82; CAMBI (in print) pl. 26, 5-6; 27, 1.
- 58 MARIN 2002, 16 f. pl. 37; KOCH 2009, 123 f. 138 fig.
  11-12; CAMBI 2010, 97 no. 1 pl. 1; 97; KOCH 2013,
  123. 138 fig. 11-12; KOCH 2015, 3, 370; CAMBI (in print) pl. 25. 26, 1-3.
- 59 SANTA MARIA SCRINARI 1995, 124 fig. 146; KOCH
   2009, 123 f. 138 fig. 14; KOCH 2013, 120. 150 fig. 60;
   KOCH 2015, 3, 370.
- 60 ASGARI 1992; KOCH 2013, 97; KOCH 2015, 3, 370.
- 61 CAMBI 2013, 93 fig. 66.
- 62 CAMBI 2010, 102 f. no. 29 pl. 18 f.; KOCH 2009, 138 fig. 11-12; CAMBI 2013, 93 fig. 65; CAMBI (in print).
- 63 CAMBI 2010, 97 no. 1 pl. 1; 97; CAMBI (in print).
- 64 They seem to be parallels for the "late antique group" of sarcophagi in Rome: KOCH, SICHTERMANN 1982,

The Hippolytos sarcophagus was produced in Rome about 300 AD, using a roughly cut piece from Proconnesus, and after that exported to Salona (Fig. 1).<sup>65</sup> It has a kline-like lid, half-finished, whereas the chest is excellently finished. There are some hints, that this type of lid was also prepared in the quarries of Proconnesus, as examples from Viminacium in Moesia Superior, Tyrus or Rome may show (Fig. 10, 4).<sup>66</sup>

Among the finds of 2007 in Salona are fragments of the base of a huge architectural sarcophagus, comparable to the "Good Shepherd Sarcophagus". The marble is obviously Proconnesian, and it seems that at least parts are unfinished. <sup>67</sup> Typical of Salona is a small group of sarcophagi with an architectural decoration, of which there are no close parallels in any other region of the Roman Empire.68 The "Good Shepherd Sarcophagus" is the richest sarcophagus from the whole of the Roman Empire, and is absolutely unique. All sarcophagi in Salona with architectural decoration seem to be made from marble from Proconnesus. Especially on Proconnesus, half-finished sarcophagi with a special architectural decoration were produced for northern Italy, for example, found only in that region and different from the examples in Salona.<sup>69</sup> That means, that - or so it would seem - on Proconnesus sarcophagi with architectural decoration prepared especially for Dalmatia were also produced, obviously of two or three or even more different types.<sup>70</sup>

Nearly all marble sarcophagi in Dalmatia can be distributed to one of the categories already known, even if several pieces are unusual or even outstanding. It is possible to discern pieces that were imported with completely executed reliefs and pieces that were carved in Dalmatia. Examples with completely executed reliefs came from Rome, Athens and Dokimeion. All the roughly

- 65 See above note 16.
- KOCH, SICHTERMANN 1982 pl. 185. 207. 213; KOCH
   1993, 77 fig. 47; KOCH 2009, 124-126. 139 fig. 16. 18;
   KOCH 2013, 114-116. 134-136 fig. 27-30. 31, 4; 32.
- 67 Salona Manastirine: unpublished (preserved height ca. 0.55, length ca. 3.00, depth 1.63 m).
- 68 CAMBI 2010, 29 fig. 18; 266 pl. 13-15. 16, 1-2; 88, 1; 8991. 101, 2; 103. 109, 2 (?); 112; CAMBI 2013, 95 fig. 83.
- 69 GABELMANN 1973; KOCH, SICHTERMANN 1982,
   283-288 fig. 5; KOCH 1993, 125-128; CAMBI 2010, 29
   fig. 19.
- 70 CAMBI 2010, 29 fig. 18, could discern five different types; it is not sure, if for all of them were produced half finished pieces on Proconnesus.

<sup>152. 258</sup> f. 266. 474 f.; KOCH 1993, 76. 78. 94. 96. 110. 120; KOCH 2000, 259 with note 40; 346 f. with note 144-147; 418 f. with note 119.

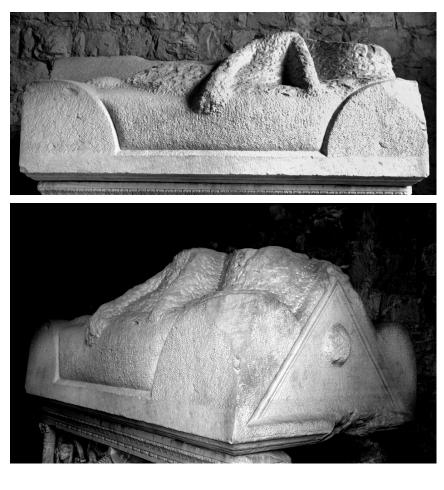


Fig. 19-20. Lid of the sarcophagus of fig. 18 (photo: G. Koch)



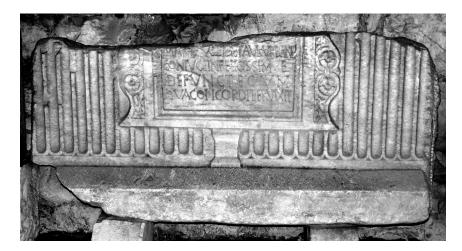


Fig. 21. Salona – Manastirine: lid of a sarcophagus of the "mixed" type, made of Proconnesian marble (photo: G. Koch)

Fig. 22. Split, AM, Inv. 782 A: fragment of a sarcophagus with strigils and tabula made of Proconnesian marble (photo: G. Koch)



Fig. 23-24. Split, AM: fragments of the sarcophagus of Lucius Artorius Castus made of Proconnesian marble (photo: N. Cambi)

cut chests and lids that were finished in local workshops in Dalmatia came from Proconnesus. The half-finished sarcophagi, of various types, that were carved in local workshops, came also from Proconnesus. Two problems remain open. The first are the fragments with vertical strigiles, obviously made of marble from Proconnesus (Figs. 22-24):<sup>71</sup> were roughly cut chests used, and was the decoration carved in Salona? Or were half-finished chests produced for this type too on Proconnesus?

The second problem is a relatively large fragment of a child's sarcophagus, which, among the nearly 200 local sarcophagi in Dalmatia, is the only one to be decorated with garlands (Figs. 25-26).<sup>72</sup> Obviously the front was decorated with two garlands, each supported by two Erotes, and at the only preserved left small side

72 CAMBI 2010, no. 141 pl. 82.

is a garland hanging on pilasters. The decoration of the front is unique not only in Salona, but in the whole of the Roman Empire.<sup>73</sup> But the motif of the small side is not uncommon in Dalmatia.<sup>74</sup> The marble has not yet been analysed. At this moment one can only say that the piece cannot be an import from one of the centres of production or from one of the provinces, and also, that it was not executed from an imported half-finished chest. It must have been carved in Salona, that is, in a workshop previously unknown to us, which was active in the second half of the 2<sup>nd</sup> century AD (if one compares city-Roman sarcophagi, one could suggest a date of about 170 AD).

### Summary

Concerning the sarcophagi – and only this group of sculptures is dealt with in this paper – the Roman province of Dalmatia is highly interesting. There are:

- imports of completely executed marble sarcophagi from the three centres of production,

- sarcophagi executed locally from imported roughly cut chests and lids made of marble,

- sarcophagi executed from half-finished examples from Proconnesus, with various decorations and

- local sarcophagi made of local limestone, with different representations, in a large number.

The new finds of 2007 throw totally new light on the art of sculpture in Dalmatia in the 2<sup>nd</sup> and 3<sup>rd</sup> century AD. This is demonstrated, for instance, by the sarcophagus with Erotes, the fragments of huge garland sarcophagi, the well carved lid of the mixed type and the huge roof-like lid. These pieces show that in Salona there were some excellently trained sculptors, who could work with marble from Proconnesus, who could produce works of good quality, with unusual representations and decorations and in outstanding sizes, all according to commissions from wealthy customers in Salona. The locally produced marble sarcophagi in Salona can give a further hint, that most - or (nearly) all - pieces were carved to special order. Therefore the situation was the same in Dalmatia as it was in Dokimeion, Athens, Rome and most of the provinces. Sarcophagi were made - as a rule - to special order, not to stock.

In addition Salona and Dalmatia are highly interesting for another aspect, that is, concerning the production of sarcophagi in the quarries on the island of Proconnesus. It is difficult to understand, how it might have worked, but there must have been some amazing

74 CAMBI 2010, pl. 12, 2-3; 20, 2; 49.

<sup>CAMBI 2010, 104 no. 37 pl. 24, 1; 122-125 no. 129.
130. 140 pl. 75, 2; 76, 1; 81, 3; CAMBI 2013, 93 fig. 69;
CAMBI 2014, 32 f. fig. 8-9.,</sup> *Cf.* the examples made of limestone: CAMBI 2010, 130 no. 164 pl. 95; 134 no. 181 pl. 106; CAMBI 2013, fig. 68.

<sup>73</sup> Unfortunately the projecting part at the right of the column could not yet be identified.



Fig. 25-26. Split, AM (without inv.): fragment of a child's sarcophagus made of marble (photo: G. Koch)

connections between Salona and Proconnesus, making it possible to order pieces in special sizes – normal, huge, small – with special shapes, for example lids of the 'mixed' type, even with rounded sides for children's sarcophagi, and with various half-finished decorations, a large tabula ansata, a tabula with roughly cut fields at the sides, an architectural decoration with one or three arcades and so on. Thus the marble sarcophagi from Dalmatia enrich our knowledge about the production of marble sarcophagi on Proconnesus in general.

### REFERENCES

- AMBROGI A. 1990: "Sarcofagi e urne con ghirlande della prima età imperiale", RM 97, 163-196.
- AMBROGI A. *et al.* 2008: Sculture antiche nell'Abbazia di Grottaferrata, Roma, 182-184, no. 101-102.
- ASGARI N. 1977: "Die Halbfabrikate kleinasiatischer Girlandensarkophage und ihre Herkunft", AA 1977, 329-380.
- ASGARI N. 1978: "Roman and early Byzantine marble quarries of Proconnesus", in Proceedings of the X International Congress of Classical Archaeology, Ankara – Izmir 1973, Ankara, 467-480.
- ASGARI N. 1990: "Objects de marbre finis, semi-finis et inachevés du Proconnèse", in M. WALKENS (ed.): Pierre éternelle du Nil au Rhin: Carriers et préfabrication, Bruxelles, 106-126.
- ASGARI N. 1992: "Prokonnesos: 1991 Çalişmalari", Araştirma Sonuçlari Toplantisi 10, 487-509, esp. 491 f. 506 fig. 18-19.
- BOSCHUNG D. 1981: Antike Grabaltäre aus den Nekropolen Roms, Bern.
- BRANDENBURG H. 1978: "Der Beginn der stadtrömischen Sarkophagproduktion der Kaiserzeit", JdI 93, 277-377.
- CAMBI N. 1977: "Die stadtrömischen Sarkophage in Dalmatien", AA 1977, 444-459.
- CAMBI N. 1988: Atički Sarkofazi u Dalmaciji, Split.
- CAMBI N. 1993: "New Attic Sarcophagi in Dalmatia", in G. KOCH (ed.): Grabeskunst der römischen Kaiserzeit, Mainz, 77-90 pl. 29-35.
- CAMBI N. 2000, 1: "Ulomci antičkih sarkofaga s Koločepa", in A. MILOŠEVIĆ (ed.): Oltarna ograda s Koločepa, Split, 5-8 fig. 2-3.
- CAMBI N. 2000, 2: "A Strange Sarcophagus Fragment in the Archaeological Museum Split", in T. MAT-TERN (ed.): Munus. Festschrift H. Wiegartz, Münster, 67-70 pl. 15.
- CAMBI N. 2005: Kiparstvo rimske Dalmacije The Sculpture of the Roman Province of Dalmatia, Split.
- CAMBI N. 2007: "Neue attische Sarkophag-Fragmente aus Dalmatien", in G. KOCH (ed.): Akten des Symposiums des Sarkophag-Corpus, Marburg, 2.-7. Juli 2001, Sarkophag-Studien 3, Mainz, 165-171 pl. 56-59.
- CAMBI N. 2009: "Fragmenti atičkog sarkofaga iz Pule (Fragments of an Attic Sarcophagus from Pula)", HistriaAnt 18, 1, 305-308.
- CAMBI N. 2010: Sarkofazi lokalne produkcije u rimskoj Dalmaciji (od II. do IV. stoljeća) – Die Sarkophage der lokalen Werkstätten im römischen Dalmatien (2. bis 4. Jh. n.Chr.), Split.

- CAMBI N. 2013: "Pregled razvoja nadgrobobnih spomenika u Dalmaciji – A review of the development of the funerary monument in Dalmatia", in N.
  CAMBI, G. KOCH (eds.): Sepulkralna skulptura zapadnog Ilirika i susjednih oblasti u doba Rimskog Carstva – Funerary Sculpture of the Western Illyricum and Neighbouring Regions of the Roman Empire. Zbornik radova s medunarodnog simpozija održanog od 27. do 30. rujna 2009, Split, Split 2013, 17-99.
- CAMBI N. 2014: "Lucije Artorije Kast: Njegovi grobišni areal i sarkofag u Postrani (Sveti Martin) kod Splita – Lucius Artorius Castus ' Mausoleum and Sarcophagus at Podstrana near Split", in N. CAM-BI, J. MATTHEWS (eds.): Lucius Artorius Castus and the King Arthur Legend. Proceedings of the International Scholarly Conference from 30<sup>th</sup> of March to 2<sup>nd</sup> of April 2012 – Lucije Artorije Kast. Zbornik radova s međunarodnog znanstvenog skupa održanog u Podstrani od 30. ožujka do 2. travnja 2012, Split, 29-40.
- CAMBI N. (in print): "Sarkophag-Deckel aus prokonnesischem Marmor im "gemischten" Typus", in G. KOCH (ed.): Akten des Symposiums des Sarkophag-Corpus, Marburg.
- CANDILIO D., BERTINETTI M. 2012: "Tutela, conservazione e restauro del sarcofago di Palazzo Baldassini", Bolletino di Archaeologia on line 3, 3-4, 146-152.
- DARBLADE-AUDOIN M.-P. 2006: Lyon. Nouvel Espérandieu, vol. II, Paris.
- DRESKEN-WEILAND J. 1998: Repertorium der christlich-antiken Sarkophage II. Italien mit einem Nachtrag Rom und Ostia, Dalmatien, Museen der Welt, Mainz.
- GABELMANN H. 1973: "Die Werkstattgruppen der oberitalischen Sarkophage", BJb Beih. 34, Bonn.
- GAGGADIS-ROBIN V. 2005: Les sarcophages païens du musée de l'Arles antique, Arles.
- GASPARRI C. 2013: "Un nuovo sarcofago con Nekya tipo Villa Giulia", RM 119, 201-220.
- HERDEJÜRGEN H. 1981: "Frühkaiserzeitliche Sarkophage in Griechenland", JdI 96, 413-435.
- HERRMANN J. J. 1990: "Thasos and the Ancient Marble Trade: Evidence from American Museums", in: J. WALSH (ed.): Marble. Art Historical and Scientific Perspectives on Ancient Sculpture. Papers Delivered at a Symposium Organized by the Departments of Antiquities and Antiquities Conservation and Held at the J. Paul Getty Museum April 28-30, 1988, Malibu, 73-100.

- HERRMANN J. J. 1999: "The exportation of dolomite marble from Thasos", in C. KOUKOULE-CHRY-SANTHAKE, R. ÉTIENNE (eds.): Thasos. Protes yles kai technologia apo tous proïstorikous chronous os semera – Thasos. Matières premières et technologie de la préhistoire à nos jours, Paris, 57-74.
- HERRMANN J. J., NEWMAN R. 1995: "The exportation of dolomite sculptural marble from Thasos: evidence from Mediterranean and other collections", in ASMOSIA III, 73-86.

VON HESBERG H. 1982: Römische Grabbauten, Darmstadt.

- IVANOVA A. P. 1976: Anticnaja Skulptura Chersonesa, Kiew.
- VAN KEUREN F. 2011 : "Multimethod Analyses of Roman Sarcophagi in the Museo Nazionale Romano, Rome", in J. ELSNER, J. HUSKINSON (eds.): Life, Death and Representation. Some New Work on Roman Sarcophagi, Millennium Studies 29, Berlin, 149-187.
- KLEINER D. E. E. 1987: Roman Imperial Funerary Altars with Portraits, Rome.
- KOCH G. 1977: "Ein Endymionsarkophag in Arles", BJb 177, 245-270.
- KOCH G. 1982: "Östliche Sarkophage in Rom", BJb 182, 167-208.
- KOCH G. 1983: "Ein attischer Meleagersarkophag aus Arethousa in Syrien", DaM 1, 137-148, esp. 145 pl. 35d.
- KOCH G. 1984: "Hippolytossarkophag in Split", Disputationes Salonitanae II, VjesDal 77, 1984 (1986), 151-159.
- KOCH G. 1989: "Der Import kaiserzeitlicher Sarkophage in den Provinzen Syria, Palaestina und Arabia", BJb 189, 161-211.
- KOCH G. 1993: Sarkophage der römischen Kaiserzeit, Darmstadt.
- KOCH G. 2000: Frühchristliche Sarkophage, HdArch, München.
- KOCH G. 2006: "Zu einem Sarkophag-Fragment in Frankfurt", in H. von STEUBEN *et al.* (ed.): Mouseion. Beiträge zur antiken Plastik. Festschrift zu Ehren von P.C. Bol, Möhnesee, 411-421.
- KOCH G. 2008,1: "Kinder-Sarkophage der römischen Kaiserzeit in Kleinasien", Adalya 11, 165-187.
- KOCH G. 2008,2: "Ein Jahreszeiten-Sarkophag aus Nordafrika", in G. FRANEK *et al.* (ed.): Thiasos. Festschrift für E. Pochmarski zum 65. Geburtstag, Wien, 457-466.
- KOCH G. 2010: Türkiye 'deki Roma Imperatorluk Dönemi Lahitleri – Sarkophage der Römischen Kaiserzeit in der Türkei, Istanbul.

- KOCH G. 2012, 1: "Einige allgemeine Überlegungen zur Problematik "Original – Kopie" bei den kaiserzeitlichen Sarkophagen", in: G. KOCH, F. BARATTE (eds.): Akten des Symposiums "Sarkophage der Römischen Kaiserzeit: Produktion in den Zentren – Kopien in den Provinzen" – "Les sarcophages romains: centres et périphéries", Paris, 2. – 5. Nov. 2005. Sarkophag-Studien 6, Ruhpolding, 1-14.
- KOCH G. 2012, 2: "Zu einigen kaiserzeitlichen Sarkophagen in Arles: Sind sie Importe aus Rom, Athen und Kleinasien oder lokale Arbeiten?", in KOCH, BARATTE *op. cit.* 95-110.
- KOCH G. 2012,3: "Οι αττικές σαρκοφάγοι και η σημασία τους για την τέχνη της αυτοκρατορικής εποχής", in T. STEPHANIDOU-TIBERIOU et al. (ed.):
  Κλασική παράδοση και νεωτερικά στοιχεία στην πλαστική της ρωμαϊκής Ελλάδας, Πρακτικά Διεθνούς Συνεδρίου, Θεσσαλονίκη, 7-9 Μαΐου 2009, Thessaloniki, 35-56.
- KOCH G. 2013: "Sarcophagi of Roman Imperial Times in the Provinces of the Balkans: Imports, Local Copies and Imitations, Native Traditions", in N. CAMBI, G. KOCH (ed.): Sepulkralna skulptura zapadnog Ilirika i susjednih oblasti u doba Rimskog Carstva. Zbornik radova s međunarodnog simpozija održanog od 27. do 30. rujna 2009. Split – Funerary Sculpture of the Western Illyricum and Neighbouring Regions of the Roman Empire. Proceedings of theInternational Scholarly Conference Held in Split from September 27<sup>th</sup> to the 30<sup>th</sup>, 2009, Split, 101-156.
- KOCH G. 2015,1: "Die attischen Sarkophage und ihre Bedeutung für die Kunst der römischen Kaiserzeit, in B. POROD, G. KOINER (ed.): Römische Sarkophage. Akten des Internationalen Werkstattgesprächs, 11. – 13. Oktober 2012 (Graz). Schild von Steier, Beiheft 5, Graz, 8-24.
- KOCH G. 2015,2: "Einige Überlegungen zum Verhältnis der erhaltenen kaiserzeitlichen Sarkophage zur ursprünglichen Produktion", in B. POROD,G. KOINER (ed.): Römische Sarkophage. Akten des Internationalen Werkstattgesprächs, 11. 13. Oktober 2012 (Graz). Schild von Steier, Beiheft 5, Graz, 144-162.
- KOCH G. 2015,3: "Some Considerations on the Sarcophagi of Roman Imperial Times in the Provinces of the Balkans, especially Moesia Inferior", in C.-G. ALEXANDRESCU (ed.): Cult and Votive Monuments in the Roman Provinces. Proceedings of the 13<sup>th</sup> International Colloquiuim on Roman Provincial Art, Bucharest Alba Iulia Constanta, 27<sup>th</sup> of May 3<sup>rd</sup> of June 2013, Cluj-Napoca, 359-373.

- OCH G. (in print): "Μια «αττικη» σαρκοφαγος στο Beit ed-Dine (Λιβανος), (An Attic sarcophagus in Beit ed-Dine [Lebanon])", in P. KARANASTASE et al. (ed.): Proceedings of the symposium «Γλυπτική και κοινωνία στη Ρωμαϊκή Ελλάδα: Καλλιτεχνικά προϊόντα, κοινωνικές προβολές», Rethymnon, 26.-28. Sept. 2014 (in print).
- KOCH G., SICHTERMANN H.1982: Römische Sarkophage. Handbuch der Archäologie, München.
- LAUBE I. 2012: Skulptur des Hellenismus und der Kaiserzeit aus Ägypten. Expedition Ernst von Sieglin. Die Sammlungen in Dresden, Stuttgart und Tübingen, München.
- MARIN E. (ed.) 2002: Longae Salonae, Split.
- PALMETIERI A. 2013: "Addenda ai sarcofagi romani della prima età imperiale. Nuovi dati dall'area campana," RM 119, 169-199.
- PAPAGIANNE E. 2007: "Der Eroten-Sarkophag Inv. 1248 des Archäologischen Museums in Thessaloniki", in G. KOCH (ed.): Akten des Symposiums des Sarkophag-Corpus, Marburg, 2.-7. Juli 2001, Sarkophag-Studien 3, Mainz, 187-192, pl. 64. 65, 1-2.
- PAPAGIANNE Ε. 2008: Αττικές σαρκοφάγοι στη Θεσσαλονίκη: οι πρώιμες εισαγωγές και οι επιδράσεις στην τοπική παραγωγή, Εγνατία 12, 179-193, fig. 12-18.
- RENDIĆ-MIOČEVIĆ A. 2004: "Ulomak atičkog sarkofaga iz Bačke na otoku Krku s primorom iz trojanskog rata (Fragment of an attic marble sarcophagus from Bačka on the island of Krk showing a scene from the Trojan wars", Vjesnik Arheološkog Muzeja u Zagrebu 37, 191-203.
- ROCK *et al.* 1984 = ROOK T., WALKER S., DENSTON C. B.: "A Roman Mausoleum and Associated Marble Sarcophagus and Burials from Welwyn, Hertfordshire", Britannnia 15, 143-162.
- RUSSELL B. 2011:"The Roman Sarcophagus `Industry': a Reconsideration", in J. ELSNER, J. HUSKIN-SON (eds.): Life, Death and Representation. Some new work on Roman sarcophagi. Millenium-Studien 29, Berlin 2011, 119-147.
- RUSSELL B. 2013: The Economics of the Roman Stone Trade, Oxford.
- SANTA MARIA SCRINARI V. 1995: Il Laterano Imperiale II. Dagli "horti Domitiae" alla Capella cristiana, Città del Vaticano.

SINN F. 1987: Stadtrömische Marmorurnen, Mainz.

STEFANIDOU-TIVERIOU T. 2001: "Kleinasiatische Einflüsse bei römischen Sarkophagen in Makedonien", in C. REUSSER (ed.): Griechenland in der Kaiserzeit. Neue Funde und Forschungen zu Skulptur, Architektur und Topographie, Kolloquium zum 60. Geburtstag von Prof. Dr. Willers 1998, Bern, 115-123.

- STEFANIDOU-TIVERIOU T. 2014: Die lokalen Sarkophage aus Thessaloniki, Sarkophag-Studien 8, Ruhpolding.
- STOWELL PEARSON L., HERZ N. 1992: "Isotopic Analysis of a Group of Roman Gorgo Sarcophagi", in: M. WAELKENS *et al.* (ed.): Ancient Stones: Quarrying, Trade and Provenance. Interdisciplinary Studies on Stones and Stone Technology in Europe and the Near East from the Prehistoric to the Early Christian Period, Acta Archaeologica Lovanensia, Monographiae 4, Leuven, 283-286.
- TODISCO L. 1994: "Un sarcofago semilavorato di fabbrica proconnesia in Apulia", in L. TODISCO, Scultura antica e reimpiego in Italia meridionale I. Puglia, Basilicata, Campania, Bari 173-185.
- TOYNBEE J. M. C. 1971: Death and Burial in the Roman World, London.
- WALKER S. 1985: "The Marble Quarries of Proconnesos: Isotopic Evidence for the Age of the Quarries and for Lenos-Sarcophagi Carved at Rome", in P. PENSABENE (ed.): Marmi Antichi. Problemi d'Impiego, di Restauro e d'Identificazione, Studi Miscellanei 26, 1981-1983, Roma, 57-68.
- WALKER S. 1990: Catalogue of Roman Sarcophagi in the British Museum, CSIR Great Britain II 2, London.
- WALKER S., MATTHEWS K. 1990: "Stable Isotope Analysis of Carrara Marble: Some Questions for the Archaeologist", in J. WALSH (ed.): Marble. Art Historical and Scientific Perspectives on Ancient Sculpture. Papers Delivered at a Symposium Organized by the Departments of Antiquities and Antiquities Conservation and Held at the J. Paul Getty Museum April 28-30, 1988, Malibu, 125-134.
- WURCH KOZELJ M., KOZELJ T. 1995: "Roman quarries of Apse-Sarcophagi of the second and third centuries", in ASMOSIA III, 39-47.
- WURCH KOZELJ M., KOZELJ T. 2009: "Quelques sarcophages rectangulaires d'époque impériale, des carrières thasiennes aux nécropoles de Thasos", in ASMOSIA VII, BCH suppl. 51, Paris-Athens, 289-307.