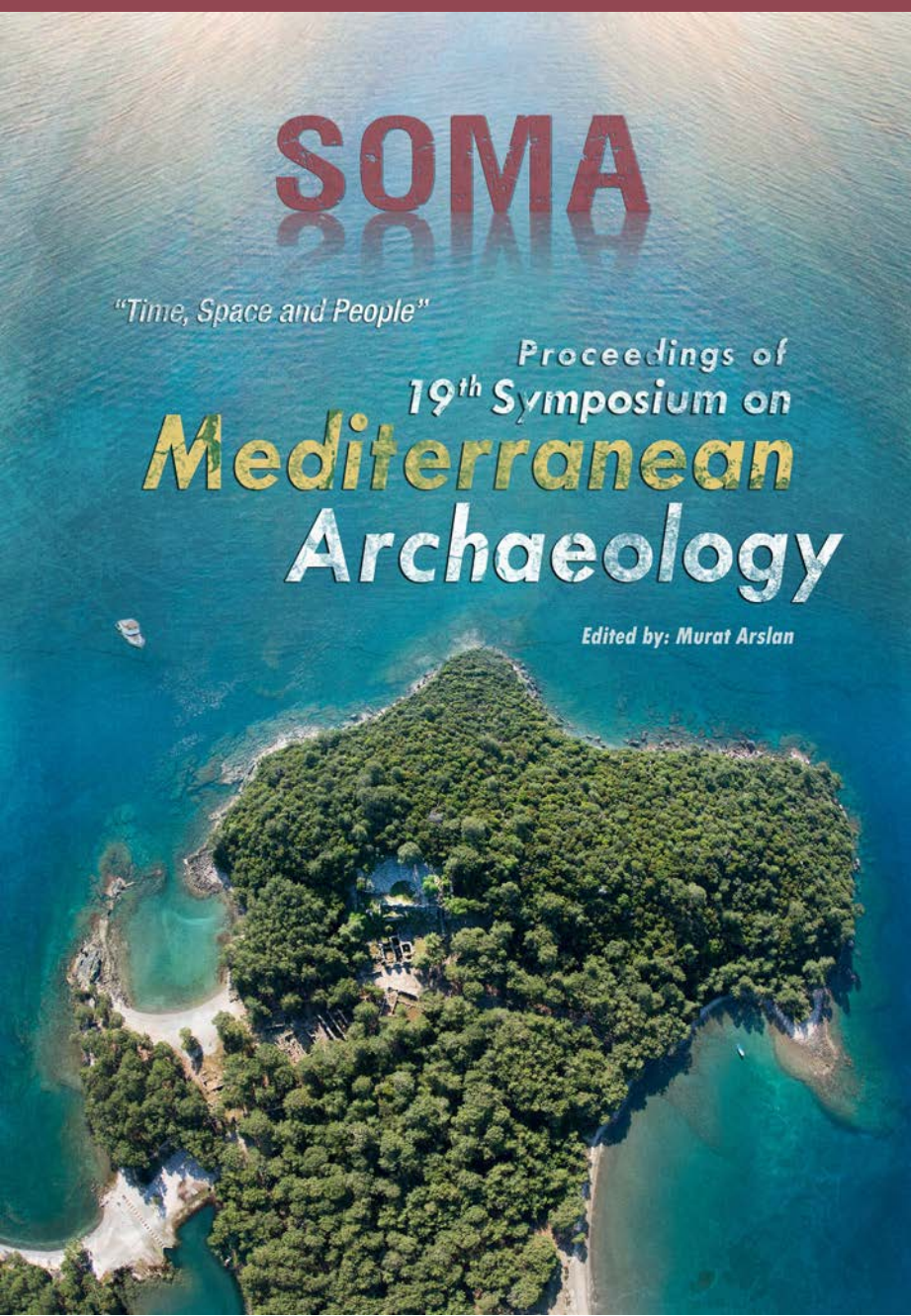


SOMA 2015

Time, Space and People

Proceedings of the 19th Symposium
on Mediterranean Archaeology

edited by
Murat Arslan



Access Archaeology



About Access Archaeology

Access Archaeology offers a different publishing model for specialist academic material that might traditionally prove commercially unviable, perhaps due to its sheer extent or volume of colour content, or simply due to its relatively niche field of interest.

All *Access Archaeology* publications are available in open-access e-pdf format and in (on-demand) print format. The open-access model supports dissemination in areas of the world where budgets are more severely limited, and also allows individual academics from all over the world the chance to access the material privately, rather than relying solely on their university or public library. Print copies, nevertheless, remain available to individuals and institutions who need or prefer them.

The material is professionally refereed, but not peer reviewed. Copy-editing takes place prior to submission of the work for publication and is the responsibility of the author. Academics who are able to supply print-ready material are not charged any fee to publish (including making the material available in open-access). In some instances the material is type-set in-house and in these cases a small charge is passed on for layout work.

This model works for us as a publisher because we are able to publish specialist work with relatively little editorial investment. Our core effort goes into promoting the material, both in open-access and print, where *Access Archaeology* books get the same level of attention as our core peer-reviewed imprint by being included in marketing e-alerts, print catalogues, displays at academic conferences and more, supported by professional distribution worldwide.

Open-access allows for greater dissemination of the academic work than traditional print models, even lithographic printing, could ever hope to support. It is common for a new open-access e-pdf to be downloaded several hundred times in its first month since appearing on our website. Print sales of such specialist material would take years to match this figure, if indeed it ever would.

By printing 'on-demand', meanwhile, (or, as is generally the case, maintaining minimum stock quantities as small as two), we are able to ensure orders for print copies can be fulfilled without having to invest in great quantities of stock in advance. The quality of such printing has moved forward radically, even in the last few years, vastly increasing the fidelity of images (highly important in archaeology) and making colour printing more economical.

Access Archaeology is a vehicle that allows us to publish useful research, be it a PhD thesis, a catalogue of archaeological material or data, in a model that does not cost more than the income it generates.

This model may well evolve over time, but its ambition will always remain to publish archaeological material that would prove commercially unviable in traditional publishing models, without passing the expense on to the academic (author or reader).



SOMA 2015

Time, Space and People

**Proceedings of the 19th Symposium
on Mediterranean Archaeology**

edited by

Murat Arslan

Access Archaeology



Archaeopress Publishing Ltd

Gordon House
276 Banbury Road
Oxford OX2 7ED

www.archaeopress.com

ISBN 978 1 78491 851 4
ISBN 978 1 78491 852 1 (e-Pdf)

© Archaeopress and the individual authors 2018

All rights reserved. No part of this book may be reproduced or transmitted, in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of the copyright owners.

Proceedings Book of the 19th Symposium on Mediterranean Archaeology

"Time, Space and People"

Symposium Aims and Goals

The nineteenth annual meeting of the Symposium on Mediterranean Archaeology (SOMA) was held in Kemer/Antalya (Turkey) from the 12th to the 14th of November 2015. As it has been in the past, this symposium will continue to provide an important opportunity for scholars and researchers to come together and discuss their works in a friendly and supportive atmosphere. Our spectrum is growing wider due to the increased importance and knowledge of interdisciplinary works in today's scientific era.

Sempozyumun Amacı

Akdeniz Arkeolojisi Sempozyumu'nun (SOMA) on dokuzuncu buluşması 12-14 Kasım 2015 tarihleri arasında Kemer, Antalya'da (Türkiye) gerçekleşmiştir. Geçmişte olduğu gibi, bu sempozyum akademisyenler ve araştırmacıların bir araya gelmesi ve çalışmalarını dostane ve destekleyici bir atmosfer içerisinde tartışmaları açısından önemli bir fırsat sağlamaya devam edecektir. Bugünün bilimsel çağında disiplinlerarası çalışmaların artan önemi ve bilgisine bağlı olarak vizyonumuz genişlemektedir.

Scientific Committee

Prof. Dr. Murat Arslan, *Akdeniz University*
Prof. Dr. Osman Eravşar, *Akdeniz University*
Prof. Dr. Pietro Militello, *Catania University*
Dr. Blazej Stanislawski, *GAMA*
Prof. Dr. Asuman Baldiran, *Selçuk University*

Bilimsel Danışma Kurulu

Prof. Dr. Sławomir Moździoch, *Polish Academy of Sciences*
Assist. Prof. Dr. Hakan Öñiz, *Selçuk University*
Assist. Prof. Dr. Nihal Tüner Önen, *Akdeniz University*
Dr. Lihi Habas, *The Hebrew University of Jerusalem*
Dr. Michele Stephanile, *GAMA*

Prof. Dr. Kadir Pektaş, *Medeniyet University*

Organizing Committee

Dr. Blazej Stanislawski, *GAMA*
Dr. Mehmet Kürkcü, *Archaeologist*
Res. Assist. Fatih Yılmaz, *Akdeniz University*
Ceyda Öztosun, *Selçuk University*

Düzenleme Kurulu

Dr. Murat Karademir, *Selçuk University*
Res. Assist. Aykan Akçay, *Akdeniz University*
Lect. T. Mikail P. Duggan, *Akdeniz University*
Günay Dönmez, *Selçuk University*

Prepared for publication by

Res. Assist. Elif Alten-Güler

Yayına Hazırlayan

Phd. Şenkal Kileci

Redactor | Redaksiyon

Lect. T. Mikail P. Duggan

Cover Design | Cover Design

Res. Assist. Aykan Akçay

Cover Image | Kapak Resmi

Phaselis

Dergide yayımlanan makalelerin sorumluluğu yazarlarına aittir.
Authors are responsible for the content of their work.

TABLE OF CONTENTS

Agata KUBALA	
Representations of Animals on So-Called Neo-Hittite Seals	1
Alper ZAFER - Ahmet ASLAN	
Bronze Age Stone Anchors by the Cilicia Coast, Turkey / 2015	13
Ahmet DENKER – Hakan ÖNİZ	
Reconstruction of the Lost Great Temples of Ionia	19
Mateo GONZÁLEZ VÁZQUEZ	
<i>Conditoria Frugum Occulta: A Comparison of Subsistence Strategies in Aboriginal North America and Iron Age Iberia</i>	27
Michele SCALICI	
A New Way of Drinking: The Distribution of the Krater Form in the North-Lucanian District	35
Lucia NOVAKOVA	
Changes and Developments in Burial Customs: Tracing the Civic Elite in Western Anatolia	45
Petra JANOUCHOVÁ – Barbora WEISSOVÁ	
The Use of Writing in a Funerary Context in Classical and Hellenistic Thrace	59
Erdener PEHLIVAN – Asuman BALDIRAN	
Two Graves from the Isauria Region: A Rock Sarcophagus and a Rock Ostothek	75
Kenan BEŞALTI	
The Underwater Study of Magydos Harbour	85
Mateusz ŻMUDZIŃSKI	
The Romans and Salt. Notes on its Production and Trade	91
Baki KOYUNCU – Alper GÖKÇE – Pejman PANAHİ	
The Use of the Unity Game Engine in the Reconstruction of an Archeological Site	95
Krzysztof JAKUBIAK – Maria WARDZYŃSKA	
Marina el Alamein: A Highly Mysterious, Multicultural Town?	105
Lihi HABAS	
Daily Life in the Framework of Time and Place in the Mosaic Pavements of the Churches of Transjordan	119
Coşkun ÖZDEMİR	
An Example of the Lives of the Prophets in Illustrated Manuscripts: <i>Cami'u't-Tavarikh</i> (Edinburgh Lib., OR. Ms. 20)	143

Zeynep Emel EKİM	
Documents in the Prime Ministerial Ottoman Archives: Concerning the Seal Boxes (Kozaklar) and Cases Sent to the King of Poland in International Diplomacy	155
Berna ÇAĞLAR	
The Development of Woodcut Printing in Anatolia and a Comparison of Compositional Characteristics	165
Okay SÜTÇÜOĞLU	
From Antiquity to the 20 th Century: Cedar Transportation in the Region of Finike	173
Deniz HEPDİNÇ HASGÜLER – Serap ÖZDEMİR	
Conservation of Furniture Belonging to Atatürk During the War of Independence in “Atatürk’s House and Railway Museum”	183

THE UNDERWATER STUDY OF MAGYDOS HARBOUR

MAGYDOS LIMANI SUALTI ÇALIŞMASI

KENAN BEŞALTI*

Abstract: Ships often followed coastlines in the period from antiquity to the use of the compass. This was frequently the case for reasons of trade, ship size and access to water supply. It can be thought that this practice caused a denser pattern of coastal settlements and the greater use of harbours with this quantity of coastal traffic. The structures of a harbour, which can be evaluated as a complex, have been physically destroyed over the course of time, through earthquakes, coastal change and human interventions and today we have what has remained underwater. Only parts of the harbor of the ancient city of Magydos, one of the most important coastal settlements of Pamphylia, due to the above mentioned problems, remains underwater today with the remains onshore subjected to repeated modern interventions. However, underwater investigations were undertaken in 2013 to establish the parts remaining underwater of this important harbour and some important discoveries were made.

Keywords: Magydos • Karpuzkaldıran • Pamphylia • Ancient Harbours • Breakwater • Underwater • Archaeology

Öz: Antikçağlardan pusuların kullanımına kadar geçen sürede gemiler kıyıları takip ediyordu. Bu, çoğunlukla; ticaretin, gemi boyutunun ve su kaynağının neden olduğu durumdu. Kıyı trafik miktarı ile limanların daha fazla kullanımı ve daha sık kıyı yerleşimlerine yol açmış olduğu düşünülebilir. Bir kompleks olarak değerlendirilebilen liman direkleri fiziksel olarak, zamanla depremler, kıyı değişiklikleri, insan müdahaleleri ve de bugün hala su altında kalan şeyleri yok etti. Pamphylia'nın en önemli kıyı yerleşimlerinden birisi olan Magydos antik kent limanı, yukarıdaki problemlerden dolayı bugün sualtında kısmen kalmıştır. Sahildeki bölümü ise modern müdahalelere maruz kalmıştır. Zira, sualtı araştırmaları, bu önemli limanın sualtında kalan kısmının tespit etmek için 2013'te girildi ve bazı önemli keşifler yapıldı.

Anahtar Kelimeler: Magydos • Karpuzkaldıran • Pamphylia • Antik Limanlar • Dalgakıran • Sualtı • Arkeoloji

The Mediterranean shores of Anatolia formed a passage way joining the East to the West for seamen who sailed ships than could not easily face difficult sea conditions because the technologies of building ship was very weak in antiquity. Most of the ships which travelled in the Mediterranean at that time were small cargo ships which made the trip along the coastline¹. Many harbour cities were built on the Anatolia coastline along the route followed by these ships. Harbours were one of the areas which experienced the most direct interaction between cultures and they were necessary loading and unloading places for goods, in providing the daily needs of large populations. The ancient city of Magydos, situated at the border of Muratpaşa in Antalya and today largely within the area of the Karpuzkaldıran Military Camp, was an important harbour city of the period.

Information about the city survives in the ancient historical sources. The earliest information

* Selcuk University, Division of Underwater Archaeology, Konya. kenanbesalti@hotmail.com

¹ Casson 2002, 138. See also contra Casson (1974), at D. L. Davis, *Commercial Navigation in the Greek and Roman World*. Unpublished Doctoral Dissertation, The University of Texas. Austin 2009, viii, 'My research concludes that both coastal and open-sea sailing were matters of routine in the commercial sector, that commercial seafarers did indeed sail at night and employ the stars to deduce navigational information, that winter sailing was a widespread practice, and that crews employed navigational strategies to weather storms, usually successfully.'

from this record states: "...and if you go up (to the North), you meet the city and Harbour of Phaselis (it is a gulf) and the city of Idyros, Lyrnateia island, Olbia, the rivers of Magydos and Katarraktes, the city of Perge and the temple of Artemis" which belongs to the work of Pseudo-Skylaks, which includes some information dating from the 4th century B.C.² In addition, although Strabon, who gave information about the region, mentions both the Katarraktes River and the Kestros River in his *Geographica* (XIV.4), he relates nothing about Magydos, between these two rivers. This presents another problem, as we have record of this city from Ptolemaios and it is also recorded in the *Stadiasmus Maris Magni*³. The Ancient City of Magydos which minted coins under its own name from the 2nd century B.C.⁴ was one of the six important cities of Pamphylia. These six important cities were Magydos, Attelia, Sillyon, Aspendos, Perge and Side⁵.

Captain Francis Beaufort, visited the city's ruins in 1811, listed the remains. He mentioned the harbour, an aqueduct⁶, a quay, a stoa and an agora⁷. A study was made by the Museum of Antalya in the 1970's. In this study, the remains of ancient city were indicated and it records that there were public baths, aqueducts, the remains of the city wall, the remains of a depot and other remains of building. It was agreed that it is necessary to protect the remains of the ancient city, including all these visible remains in 1977, and the 1st degree archaeological site boundaries were determined in 2008⁸. The remains of the ancient city, at present are situated within the facilities of the Ministry of National Defense.

A stone inscription was found in the excavation of the Saint Ioannes Church in 1976. After studying it, it was understood to concern the Customs Law of Roman province of Asia. In this inscription the harbour of Magydos was named as an official customs harbour together with harbours of Attelia, Aspendos, Perge, Phaselis and Side⁹.

Purpose

The aim of this study was to conduct an underwater survey of the harbour of Magydos, a ancient city whose name is recorded in both ancient and modern sources and to evaluate the results of this survey. The fact that no underwater research has been conducted in the area to date made this research.

Method

In 2013, dives were conducted in the area with the permission of the Ministry of Culture, by Dr. Hakan Öñiz and his team from Selçuk University. The aim of these dives was to determine the remaining parts underwater of the harbour of Magydos. With this aim, one ship, one sonar scanner boat and scuba equipment was used. In addition, equipment such as an underwater camera, measures, drawing board and an arrow direction were used. Dives were conducted by at least two divers using the "U searching Method"¹⁰. The coordinates which were taken as UTM 6 degree ED datum were applied to digital maps with the help of floats on the surface.

² Arslan 2012, 251.

³ Adak- Atvur 1999, 65.

⁴ Adak- Atvur 1999, 59.

⁵ Demirtaş 2014, 235.

⁶ Beaufort 2002, 139.

⁷ Hellenkemper- Hild 2004, 702.

⁸ Regional Council of Protection of Cultural and Natural Monuments: dated, 27.03.2008, no 2279.

⁹ Tākmer 2013, 143.

¹⁰ Öñiz - Başgelen 2009, 95.

Evidence

In the course of these dives, firstly, the remains of two breakwaters belonging to the Magydos Harbour were found. One was about 220 meters long and the other about 340 meters in length. It was found that the large stone blocks which had been employed in the construction of these breakwaters had been destroyed or were eroded and damaged. It was further understood that these breakwaters constructed with large stone blocks were tied together with the rock outcrops on the seabed, designed to anchor these man-made constructions in place (Fig. 1). When the remains of these breakwaters were followed underwater, it was found that the entrance to Magydos harbour faced west. The pieces of amphoras which were found in dives in the area show the harbour was employed for commercial purposes (Fig. 2). In addition, pieces of clay waterpipe were found in dives (Fig. 3). The city of Magydos is 1 kilometer from the Katarraktes River to the West and 10 kilometers from the Kestros River to the East and there are also the remains of an aquaduct. From this location and these remains, it can be suggested that in antiquity fresh water was taken by means of aquaducts from the Kestros and Katarraktes Rivers and this fresh water was supplied through clay pipes to the ships in the harbour.

Captain Francis Beaufort walked around the ruins of the city and he mentioned the pieces of columns which he saw in the city. There are the remains of a building on the promontory to the South of the city but these building remains have largely been destroyed. From observation, these walls are thick and there is almost no passage between them. There are no other remains around this building, which was constructed upon hard rock. Further, this building is far away from the other remains of the city. There is the possibility that these building remains on this promontory are the surviving remains of the lighthouse of Magydos Harbour.

Conclusions

The coastline between eastern Antalya and Syria, upon which Magydos stands, was in antiquity generally more 50 cm above the current sea level, unlike the coastline to the west of Antalya. The reason for this difference along this coastline is the 6000 years old vertical regional earthquakes (that result in seismic alteration to the elevation above sea level of the coastline)¹¹. The city is known to have experienced earthquakes at various times. Magydos and its harbour can have been affected from the numerous earthquakes in this region, including those between the years 141-144 A.D.¹².

The only antique source we could obtain providing some technical information relating to harbour construction was the study "*De Architectura*", written by Vitruvius in the 1st century B.C.. In the XII. book, there is some technical information concerning the topographical selection of locations for breakwater and for shipyards and the correct mixture of mortar to be used to produce strong mortar for underwater construction *etc.*¹³.

The port at Magydos has largely the characteristics of an artificial harbour. Although it was created, benefitting from a mainland port, it can be said that the capacity of the harbour, because of the artificial breakwaters, extended over an area of approximately 77000 square-meters, which is quite large. In consequence, we calculate that the capacity of Magydos Harbour and suggest that 42 commercial

¹¹ Fouache *et al.* 1999, 94.

¹² Karagöz 2005, 38.

¹³ Aslan 2011, 22.



Fig.1



Fig.2



Fig.3

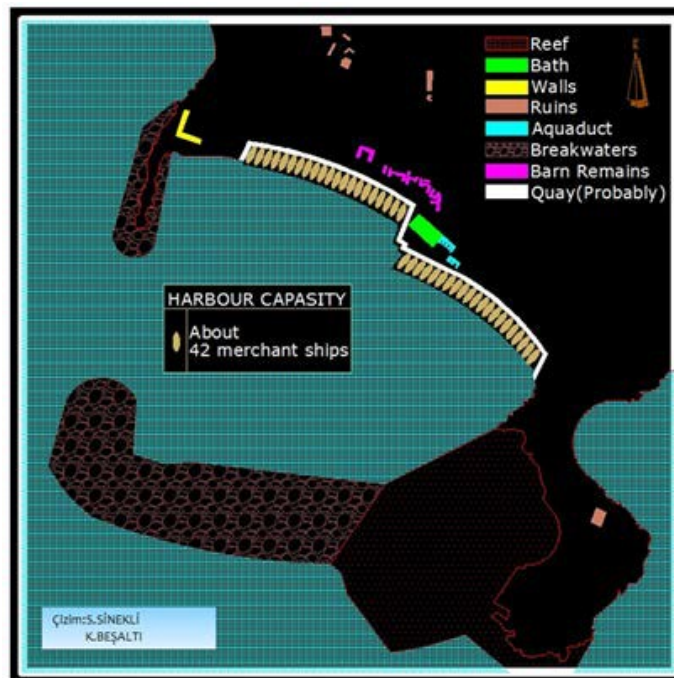


Fig.4

vessels of an average size could harbour at Magydos at the same time (Fig. 4). Also, 50 warships of the trireme type could be in to the harbour at the same time.

An artificial harbour of this size should date from an earlier period than Attelia but it seems possible that a new large harbour was built so close, after the harbour of Attelia had been built¹⁴. The ruins of structures such as baths, fountains, warehouses, etc. which are understood to have existed on the coast by the harbour indicate this harbour was quite active and had a large volume of maritime traffic. It is not therefore surprising that such a large scale port was a regional harbour. Despite the above, this research was insufficient to fully understand the history of Magydos and its harbour. If more extensive studies were to be conducted, both on the land and underwater, then this harbour-city could be more fully understood.

BIBLIOGRAPHY

- Adak - Atvur 1999 M. Adak - O. Atvur, "Epigraphische Mitteilungen aus Antalya II. Die Pamphyliische Hafenstadt Magydos im Lichte alter und Neuer Zeugnisse". *Epigraphica Anatolica* 31 (1999) 53-68.
- Arslan 2012 M. Arslan, "Pseudo-Skylaks, Periplus". *MJH* II (2012) 239-257.
- Aslan 2011 E. Aslan, Kekova Bölgesi Limanları. Yayınlanmamış Doktora Tezi, Selçuk Üniversitesi, Konya 2011.
- Bean 1997 G. Bean, *Eskiçağda Güney Kıyıları*. İstanbul 1997.
- Beaufort 2002 F. Beaufort, *Karamanya*. Antalya 2002.
- Casson 1974 D. L. Davis, *Commercial Navigation in the Greek and Roman World*. Unpublished Doctoral Dissertation. The University of Texas, Austin 2009.
- Casson 2002 L. Casson, *Antik Çağda Denizcilik ve Gemiler*. İstanbul 2002.
- Demirtaş 2014 N. Demirtaş, "Pamphylia Bölgesi Şehir Sikkeleri Üzerindeki Hermes Tasvirleri". *The Journal of Academic Social Science* 8 (2014) 233-245.
- Fouache et al. 1999 E. Fouache, P. Sibella, R. Dalongeville, "Holocene Variations of the Shoreline Between Antalya and Andriake (Turkey)". *IJNA* 28/4 (1999) 305-318.
- Hellenkemper - Hild 2004 H. Hellenkemper - F. Hild, *Likien und Pamphylien*. Wien 2004.
- Karagöz 2005 Ş. Karagöz, *Eskiçağda Depremler*. İstanbul 2005.
- Öniz - Başgelen 2009 H. Öniz - N. Başgelen, *Temel Sualtı Arkeolojisi*. İstanbul 2009.
- Strabon Strabon, *Antik Anadolu Coğrafyası Kitap XII, XIII, XIV*. Trans.: A. Pekman, İstanbul 1993.
- Takmer 2013 B. Takmer, "Asia Eyaleti Gümrük Yasası". *Eskiçağ Yazıtları* 4 (2013).
- Vitruvius Vitruvius, *Mimarlık Üzerine On Kitap*. Trans.: S. Güven, Ankara 1990.

¹⁴ Bean 1997, 34.