

Liburnians and Illyrian Lembs

Iron Age Ships of the Eastern Adriatic

Luka Boršić, Danijel Džino
and Irena Radić Rossi

ARCHAEOPRESS ARCHAEOLOGY



ARCHAEOPRESS PUBLISHING LTD
Summertown Pavilion
18-24 Middle Way
Summertown
Oxford OX2 7LG
www.archaeopress.com

ISBN 978-1-78969-915-9
ISBN 978-1-78969-916-6 (e-Pdf)

© Archaeopress, Luka Boršić, Danijel Džino and Irena Radić Rossi 2021

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.

This book is available direct from Archaeopress or from our website www.archaeopress.com

Contents

Abbreviations.....	v
Primary sources	v
Modern literature	vi
Acknowledgements.....	vii
Preface	ix
1. Introduction.....	1
1.1. Research problems and previous scholarship.....	1
1.2. Overview of the book	3
1.3. Terminology	4
2. Geographical context	6
3. Eastern Adriatic populations in the 1st millennium BC	10
3.1. The Liburni	11
3.2. Other Iron Age Eastern Adriatic indigenous seafaring groups	16
3.3. Greek colonising activities in the eastern Adriatic	18
3.4. Piracy in the eastern Adriatic?	21
3.5. Conclusion.....	24
4. Archaeological and iconographic evidence in protohistoric eastern Adriatic	26
4.1. Underwater finds.....	26
4.1.1. Zambratija near Savudrija.....	27
4.1.2. Pula	29
4.1.3. Caska on the island of Pag.....	32
4.1.4. Zaton near Nin	38
4.2. Iconography.....	42
4.2.1. Grievances from the Ilijak burial mound on Glasinac.....	42
4.2.2. The images of ships from the Daunian Stellae.....	44
4.2.3. Situla from Nesactium	45
4.2.4. Belt buckle from Prozor.....	46
4.2.5. Relief from Varvaria (Bribirska glavica)	49
4.2.6. South Adriatic coinage	50
4.3. Protohistoric archaeological and iconographical sources for eastern Adriatic ships...53	
5. Written Sources on Lembs And Liburnians from the 4th c. BC to Late Antiquity.....	59
5.1. Introduction	59
5.2. Lemb	61
5.2.1. Ancient Greek sources	61
5.2.2. Latin sources	106
5.3. Liburnian.....	139
5.3.1. Ancient Greek sources	139
5.3.2. Latin sources	148

6. Discussion.....173
6.1. Lemb173
6.2. Liburnian.....176
6.3. Etymology178
6.4. Overview of usage of the terms lemb and liburnian in ancient sources from the
4th century BC until Late Antiquity192
6.5. Lemb and liburnian: the same ship?.....193
6.6. Conclusion.....194
Bibliography197
Ancient authors not listed in Chapter 5.....197
Modern sources.....197

List of Figures

Figure 1. Distribution of Iron Age Liburnian hillforts (from Batović 1977).....	12
Figure 2. The city walls of Varvaria-Bribirska glavica (photo: D. Džino).....	13
Figure 3. Aerial photo of Nedinium-Nadin (photo: M. Grgurić).	14
Figure 4. The helmet from the Cape of Jablanac on the island of Cres (from Blečić 2007b, courtesy of the author).	22
Figure 5. The sewn boat of Zambratija (photo: Ph. Groscaux, from Koncani Uhač et al. 2017, courtesy of I. Koncani Uhač.....	28
Figure 6. Drawing of the sewn boat of Zambratija (drawing: V. Dumas, from Boetto et al. 2017, courtesy of I. Koncani Uhač.....	29
Figure 7. The sewn ships of Pula (photo: T. Brajković, from Boetto et al. 2017, courtesy of I. Koncani Uhač.	30
Figure 8. Drawing of the sewn ships of Pula (from Boetto et al. 2017, courtesy of I. Koncani Uhač.	31
Figure 9. The sewn boat Caska 1 (photo: L. Damelet).....	33
Figure 10. Drawing of the sewn boat Caska 1 (drawing: V. Dumas, from Boetto, Radić Rossi 2017).	34
Figure 11. Remains of the sewn boat Caska 3 (photo: T. Seguin).....	35
Figure 12. Drawing of the sewn boat Caska 3 (drawing: P. Poveda, from Boetto, Radić Rossi 2017).	36
Figure 13. The sewn boat Caska 4 (photo: L. Roux).....	37
Figure 14. Drawing of the sewn boat Caska 4 (drawing: V. Dumas).....	37
Figure 15. The sewn boat Zaton 1 during the course of the 1979 research campaign (photo: Z. Brusić).	39
Figure 16. Drawing of the sewn boat Zaton 1 (drawing: Z. Brusić).	39
Figure 17. The sewn boat Zaton 2 during the course of the 1987 research campaign (photo: Z. Brusić).	40
Figure 18. Drawing of the sewn boat Zaton 2 (drawing: Z. Brusić).	41
Figure 19. The sewn boat Zaton 3 during the course of the 2019 research campaign (photo: D. Romanović).	41
Figure 20. Drawings of the grieves from Glasinac/Ilijak (drawing: S. Čerkez, from Benac, Čović 1957).....	43
Figure 21. The present state of the grieves from Glasinac/Ilijak (photo: A. Pravidur, courtesy of Zemaljski Muzej Bosne i Hercegovine, Sarajevo).	43
Figure 22. Drawings of the ships on the grieves from Glasinac/Ilijak (drawing: S. Čerkez, from Benac, Čović 1957).....	43
Figure 23. The Novillara Stele (courtesy of L. Braccesi).....	44
Figure 24. Reconstruction of the situla of Nesactium (from Mihovilić 1996).....	46
Figure 25. The ship image on the situla of Nesactium (from Mihovilić 1996).....	47
Figure 26. The belt buckle from Prozor (photo: D. Doračić, courtesy of the Archaeological Museum of Zagreb).....	48
Figure 27. The belt buckle from Prozor (drawing: K. Rončević, courtesy of the Archaeological Museum of Zagreb).	48
Figure 28. The relief from Varvaria-Bribirska glavica (photo: Z. A. Alajbeg, courtesy of Museum of Croatian Archaeological Monuments).....	49

Figure 29. Coins of the Daorsi with images of ships (from Dragičević 2016).....	51
Figure 30. Coins of the Daorsi with images of ships (from Kozličić 1993).....	52
Figure 31a-b. Coin of king Gentius, with a representation of a ship (photo: Z. A. Alajbeg, courtesy of the Archaeological Museum of Split).	53
Figure 32. Coins from south-Illyrian mints (from Kozličić 1981).	54
Figure 33. The Moken <i>kabang</i> (after J. Ivanoff, M. Bounry, http://www.lampipark.org/ wp-content/uploads/2017/01/Moken-Sea-gypsies.pdf last accessed 9/7/2020).....	55
Figure 34. A Moken man builds a miniature <i>kabang</i> (from Hinshiranan 2001).	55
Figure 35. A representation of a liburna from the 16th-century manuscript of <i>De rebus bellicis</i>	58

List of Tables

Table 1: Lemb in Greek and Roman written sources (L. Boršić)	180
Table 2: Liburnian in Greek and Roman written sources (L. Boršić).....	188

List of Maps

Map 1. Geography of the Adriatic (D. Džino using Google Earth).	6
Map 2. Distribution of the most important indigenous ethnonyms in the pre-Roman Adriatic and its hinterlands. In white: the ethnonyms not mentioned in the sources related to the Roman conquest (D. Džino using Google Earth).....	10
Map 3. The sites related to the East Adriatic Greeks (D. Džino using Google Earth).....	19
Map 4. The sites of shipwrecks (pink), iconographic representation of the ships (yellow), and places where the coins with images of ships were minted (white) (D. Džino using Google Earth).	26

Abbreviations

Primary sources

Aesch. <i>PV</i>	Aeschilus, <i>Prometheus Vincetus</i>
Alciphhr.	Alciphron, <i>Letters</i>
Amm. Marc.	Ammianus Marcellinus, <i>Res Gestae</i>
<i>Anth. Pal.</i>	<i>Anthologia Palatina</i>
Ap. Rhod. <i>Argon.</i>	Apollonius Rhodius, <i>Argonautica</i>
App. <i>Ill.</i>	Appian, <i>Illyrike</i>
App. <i>Mith.</i>	Appian, <i>Mithridatic wars</i>
App. <i>Pun.</i>	Appian, <i>Punica</i>
App. <i>B Civ.</i>	Appian, <i>Bella Civilia</i>
Arist. <i>De motu an.</i>	Aristotle, <i>De motu animalium</i>
Ath.	Athenaeus, <i>The Learned Banqueters</i>
Caes. <i>BCiv.</i>	Caesar, <i>Bellum Civile</i>
Cass. Dio.	Cassius Dio, <i>Historia Romana</i>
Cl. Mam.	Claudius Mamertinus, <i>Gratiarum Actio Juliano Augusto</i>
Dem. <i>C. Phorm.</i>	Demosthenes, <i>Contra Phormionem</i>
Dem. <i>Zenoth</i>	Demosthenes, <i>Contra Zenothemin</i>
Diod. Sic.	Diodorus Siculus, <i>Bibliotheca Historica</i>
Eutr.	Eutropius, <i>Breviarium ab urbe condita</i>
Festus, <i>Epitoma</i>	Sextus Pompeius Festus, <i>Epitoma operis de verborum significato Verrii Flacci</i>
Flor.	Florus, <i>Epitomae de Tito Livio</i>
Gell. <i>NA</i>	Aulus Gellius, <i>Noctes Atticae</i>
Hdt.	Herodotus, <i>Historiae</i>
Hor. <i>Epod.</i>	Horace, <i>Epodes</i>
Isid. <i>Etym.</i>	Isidore of Seville, <i>Etymologiae</i>
Livy	Livy, <i>Ab urbe condita</i>
Livy, <i>Per.</i>	Livy, <i>Periochae Ab urbe condita</i>
Luc.	Lucan, <i>Pharsalia</i>
Lycurg. <i>Leoc.</i>	Lycurgus, <i>Contra Leocrates</i>
Nic. Dam.	Nicolaus Damascenus
Philo Mech.	Philo Mechanicus, <i>Parasceuastica et poliorcetica</i>
Philox.	Philoxenus of Alexandria
Plin. <i>HN</i>	Pliny the Elder, <i>Historia Naturalis</i>
Plut. <i>Ant.</i>	Plutarch, <i>Antony</i> .
Plut. <i>Cat. Min.</i>	Plutarch, <i>Cato Minor</i>
Plut. <i>Pomp.</i>	Plutarch, <i>Pompey</i>
Polyb.	Polybius, <i>The Histories</i>
Prop.	Propertius, <i>Elegies</i>
Scymn.	<i>Scymni Chii periegesis</i>
Scyl.	Pseudo-Skylax's <i>periplous</i>
Sisenna, <i>Hist.</i>	Lucius Cornelius Sisenna, <i>Histories</i> (Fragments)
Solin.	Solinus, <i>Collectanea rerum memorabilium</i>
Steph. Byz.	<i>Stephani Byzantini Ethniconum</i>

Stob. <i>Flor.</i>	Stobaeus, <i>Florilegium</i> (Ἀνθολόγιον)
Strabo	Strabo, <i>Geography</i> .
Veg. <i>Mil.</i>	Vegetius, <i>Epitome Re Militaris</i>
Verg. <i>Aen.</i>	Vergil, <i>Aeneid</i>
Verg. <i>G.</i>	Vergil, <i>Georgics</i>
Vell. <i>Pat.</i>	Velleius Paterculus, <i>Historiae</i>

Modern literature

AE	<i>L'Année épigraphique</i> . Paris
BE	<i>Bulletin épigraphique</i> . Paris
BNJ	<i>Brill's New Jacoby</i> , ed. I. Worthington. Brill Online
CIL	Corpus Inscriptionem Latinorum
GodCBI	<i>Godišnjak Centra za balkanološka ispitivanja</i> . Sarajevo
HAG	<i>Hrvatski arheološki godišnjak</i> . Zagreb
HistAntiq	<i>Histria Antiqua</i> . Pula
IG	Inscriptione Graeca
IJNA	<i>The International Journal for Nautical Archaeology</i> . London
JAZU/HAZU	Jugoslavenska/Hrvatska Akademija znanosti i umjetnosti
LCL	Loeb Classical Library. Cambridge MA, Harvard University Press. Number in the brackets denotes year of publication
LSJ	<i>Liddell-Scott-Jones Lexicon of Classical Greek</i> , eds H. G. Liddell, R. Scott, H. S. Jones. Oxford, Oxford University Press
NP	<i>Brill New Pauly</i> . Leiden, Brill
P. Cair. Zen.	Cairo Zenon Papyri
P. Oxy.	<i>The Oxyrhynchus papyri. Part XVI</i> , ed. B. P. Grenfell <i>et al.</i> London, Egypt Exploration Society 1924
PJZ	<i>Praistorija jugoslavenskih zemalja</i> , ed. A. Benac. Sarajevo, Svjetlost 1987
PL	<i>Patrologia Latina</i>
RFFZd	<i>Radovi Filozofskoga fakulteta u Zadru</i> . Zadar
TTH	Translated Texts for Historians. Liverpool, Liverpool University Press. Number in the brackets denotes year of publication
VAHD/VAPD	<i>Vjesnik za arheologiju i historiju/povijest dalmatinsku</i> . Split
VAMZ	<i>Vjesnik Arheološkoga muzeja u Zagrebu</i> , series 3, Zagreb.

Acknowledgements

This book is the outcome of research conducted within the framework of the 'Archaeology of Adriatic Shipbuilding and Seafaring Project' (IP-09-2014-8211), which was financially supported by the Croatian Science Foundation. The authors would like to thank their institutions: The Institute for Philosophy in Zagreb (L. Boršić), the Department of History and Archaeology at Macquarie University in Sydney (D. Džino), and the Department of Archaeology at the University of Zadar (I. Radić Rossi) for providing research infrastructure and library support. Our gratitude also goes to Rajka Makjanić from Archaeopress, for supporting the publication of this book from its inception. Editing of the English text was carried out voluntarily by Ewan Coopey, a Macquarie University Ancient History postgraduate, and Gerald Brisch from Archaeopress, who did outstanding work and to whom the authors are most grateful. Finally, we want to thank the individuals and institutions who provided us with access to materials, especially Andrijana Pravidur from the Zemaljski Museum in Sarajevo, Tomislav Bilić from the Archaeological Museum in Zagreb, Ida Koncani Uhač from the Archaeological Museum of Istria in Pula and Maja Bonačić Mandinić from the Archaeological Museum in Split.

Preface

Archaeology of Adriatic Shipbuilding and Seafaring Project focused on the technological development of shipbuilding and seafaring in the eastern Adriatic from prehistory to the modern period, considering various categories of available evidence. Until recently, the maritime activities of the Bronze and Iron Age eastern Adriatic population were attested mainly through the material evidence of seafaring, seaborne trade and foreign cultural influences discovered on land sites. Relatively abundant written sources augmented by scarce iconographic evidence provided more direct information on Iron Age seafaring and the maritime enterprises of the local population. In recent times, some promising archaeological discoveries hinted at the prospect of finding new sites that could help reconstruct the development of eastern Adriatic shipbuilding and seafaring within the broader Adriatic and Mediterranean context.

The three authors of various scholarly backgrounds put together their professional experiences and skills in order to provide an overview of what was done in the past, and to complement the current interpretations by systematic examinations of written, iconographic and archaeological evidence on eastern Adriatic shipbuilding tradition. In order to trace the possible origin of the term *lemb*, often mentioned in relation to south Adriatic (Illyrian) ships, most of the Greek and Latin sources were consulted and contextualised. This demanding task was fulfilled by Luka Boršić, while Danijel Džino and Irena Radić Rossi conducted presented the state-of-the art research in analysis of on archaeological, historical and iconographical sources.

In regard to the ancient ships known as *liburnians* (*liburnicae* or *liburnae*), the authors are primarily concerned with their relationship to south Adriatic (or 'Illyrian') *lembs*, which are generally connected in earlier scholarship to the same 'Illyrian' population. Based on our present knowledge of the historical situation and the ethnical diversity of the protagonists of eastern Adriatic seafaring, such conclusions are discussed and significantly revised. The book does not aim to solve the long-lasting discussion on the origin and role of Illyrian *lembs* and Liburnian *liburnians* and their shape, but rather to clarify some fundamental notions on the geographical and historical background of the eastern Adriatic in a light of recent research, and to provide the basis for efficient future research.

1. Introduction

1.1. Research problems and previous scholarship

The landscape of the eastern Adriatic coast, until very recently forced its inhabitants to live off the sea. Its rugged coastline is separated from the hinterland by the high chains of the Dinaric mountains, providing scarce resources and severely limiting the degree of connectivity with the hinterland. Thus, the sea remained the only viable source of connectivity – not only with the Italian Adriatic coast across the sea, but also with the rest of the Mediterranean. Orientation on the sea enabled the communities inhabiting the eastern Adriatic coast to participate in and benefit from the Mediterranean networks of exchange and communication.¹ The prosperity of eastern Adriatic communities depended on their shipbuilding and seafaring skills combined with their abilities to control the lines of maritime communications.

Taking all of this into consideration, it is not surprising that the seafaring skills of the communities from this part of the world are noted in ancient, medieval and early modern sources. This study will dissect a small segment of the rich history of eastern Adriatic navigation and shipbuilding, focusing on two types of ancient ships which appear in the written sources connected with this area: south Adriatic ('Illyrian') type of *lembos*, and Liburnian *liburnica* or *liburna*.² Both of those ship types have attracted the attention of earlier scholars who gathered existing material and written evidence, attempting to reconstruct their development, appearance and capabilities. The relative abundance of written sources suggests that both ships played significant roles in ancient times, especially *liburnica*, which became the main type of light warship in early Roman imperial fleets and ultimately evolved into a generic name for warships in the Roman Imperial period and Later Antiquity.

The published works can be divided into three general categories: Italian and Croatian archaeology/ancient history, as well as general research on shipbuilding in antiquity. The classical work remains Silvio Panciera's article published in 1956, with the Italian discussions of *lemb* and *liburnian* published later also being of note, most notably that of Stefano Medas.³ Croatian authors have discussed these ships several times, starting from the pioneering work of Bartul (Bare) Poparić, which was continued by Grga Novak and Mladen Nikolanci who addressed this topic tangentially.⁴ The topic was revisited several times between the 1970s and 1990s, particularly in the works of Zaninović, Kozličić, Jurišić and Vrsalović. However, in the 21st century it has been rarely addressed.⁵ General research on these ship types within the broader context of ancient Mediterranean shipbuilding began at the end of the 19th century by Torr, and was continued later by Casson, Rédde, Morrison and Pitassi. Höckmann examined Illyrian *lemb* and *liburnica* in two articles, and Bérchez Castaño looked into the period when the *liburnicae* might have been included in the Roman Republican fleets.⁶

¹ See e.g. Kirigin *et al.* 2009; Elez 2015: 93-106.

² See the section 1.3. below on terminology.

³ Panciera 1956; Medas 2004; 2016; Anastasi 2003.

⁴ Poparić 1899: 1-39; Novak 1962: 12-13, 20 ff.; Nikolanci 1958.

⁵ Stipčević 1973; Zaninović 1976; 1988; Jurišić 1983; Vrsalović 2011 [1978]: 142-44; Kozličić 1980/81; 1993; Džino 2003, and most recently Džino, Boršić 2020. Cf. also see the useful overview of Adriatic shipping at the times of the Greek colonisation in Radić Rossi 2010a.

⁶ Torr 1895: 16-17, 115-16; Casson 1971: 125-27, 142, 162-63; Rédde 1986: 104-10; Morrison 1995: 72-73; 1996: 203, 248-53, 263-64, 317; Pitassi 2011: 89-90, 106-09, 138-44; 2016: 39, 47; Höckmann 1997; 2000; Bérchez Castaño 2010.

General agreement in the existing scholarship is that Illyrian lemb and the liburnian are the same type of fast ship, initially used for piracy. Illyrian lemb is usually regarded as a general type and liburnian as a regional type or sub-type of lemb, or the late stage of development of that ship type. Earlier Croatian authors and Höckmann stretch the origins of those ships even further, connecting them with the existing visual representations of ships from the Iron Age Adriatic and its hinterland. Such a ‘canonic’ view was uncritically accepted and rarely challenged in the scientific community, except by Medas, Džino, Radić Rossi and Tiboni. Medas points out that it is difficult to see a clear connection in the iconography of Adriatic early Iron Age ships, while Džino emphasises that the evidence connected with Illyrian *lemb* and *liburnica* comes from different periods, and is related to two different indigenous groups in eastern Adriatic.⁷ This idea was further promoted by Radić Rossi, while Tiboni argued that the ships in earlier Adriatic iconography do not present the technical characteristics of indigenous ships but, more likely, rely on the Greek and Etruscan iconographic tradition.⁸ It is worth noticing that the earliest English-language discussion touching on eastern Adriatic seafaring, done by Torr in 1895, did not associate lembos and liburnians, most likely because his primary goal was a catalogue of ship types rather than a thorough analysis of seafaring in specific sub-regions.⁹

The problem with the existing evidence is the vagueness of ancient written sources, which were usually produced by writers who were not naval experts and not acquainted with particularities of naval design. Most of these sources lack specific details which would help in recovering more information about the shipbuilding design and origins of these ships. An additional problem is the specificity and changing meanings of the terms *liburnica* and λέμβος, which often depended on the contexts known to the authors and their audience. For example, the term *liburnica* referred to a specific bireme-class of ship in the early Roman imperial fleets, but in later imperial times it becomes the general designation for any light warship. We often do not know for certain if the authors from the second century onwards used this term in a general or specific form, or whether they were referring to the original Liburnian ship or the version of the ship used in the Roman imperial fleets. Similarly, the term *lembos* was a general term, which could refer to ships used in a variety of very different civilian and military purposes. Visual representations also pose interpretative problems. The most important is certainly the question of accuracy, or in other words, how interested were the craftsmen who made these images in creating realistic depictions of these ships. Finally, the ongoing debate regarding the meaning of the ancient terms used to describe different classes of ancient ships, remains an important issue. For example, *liburnica* is usually taken to be a bireme-class warship in accordance with the testimony of ancient sources, as will be discussed later in the book. The scholarship on ancient warships interprets the term ‘bireme’ as the designation of a ship with two rows of oars, one above another, with one rower per oar. However, this matter is not necessarily solved, for different interpretations of this term are still being suggested.¹⁰

Although there is relatively abundant written evidence for both of those types of ships, we are still in the dark on crucial questions of their origins, development, shape, and capabilities,

⁷ Medas 2004: 137-38; 2016: 162-63; Džino 2003. Lewis (2019: 84-86) also identified the lemb and liburnian as different types of ships, but without elaborating on their differences.

⁸ Tiboni 2009; 2017; 2018.

⁹ Torr 1895: 16-17, 115-16.

¹⁰ Morrison 1996: 262; see Casson 1971: 53-62. The study of Tilley (2007), on the other hand, points out that the prefix which indicates number two in the terms *biremes*/δίκροτα lexicologically indicates the total number of rowers at the rowing bench cross-side, not the number of banks of rowers on one side of the ship.

as well as the connection between the adoption of new shipbuilding technologies and the social development of indigenous communities of the eastern Adriatic in the late Iron Age.¹¹ While some questions will remain unanswered on account of the lack of relevant sources, we will address (or rather revisit) here the most important problems related to the origins of the Illyrian lemb and Liburnian liburnian: their connection with the existing protohistoric Adriatic traditions of shipbuilding, and their shared relationship.

1.2. Overview of the book

The understanding of geographical and historical context is essential when dealing with ancient shipbuilding and seafaring activities in particular Mediterranean sub-regions. For this reason, Chapter 2 provides more insight into the geographical characteristics and eco-geographical zones of the eastern Adriatic coast where these two types of ships developed. The ethnic and political makeup of this area prior to the Roman conquest must also be taken into account when attempting to understand who built the eastern Adriatic ships, and for what purpose. This, in particular, relates to the protohistoric indigenous groups in the coastal areas of the eastern Adriatic, the Greek colonisation of the central Dalmatian islands from the 4th century BC, and the question of ‘endemic’ indigenous piracy in these periods. These matters are briefly examined and presented in the Chapter 3.

The next step is the discussion on available archaeological and iconographic sources, which could be directly associated with prehistoric eastern Adriatic seafaring in Chapter 4. Putting aside substantial indirect evidence of intense maritime communication between the eastern and western coast of Adriatic, the archaeological evidence for actual ships is limited to four underwater archaeological sites in areas once populated by the communities known to ancient writers as the Histri and Liburni. These sites revealed the remains of nine boats made of stitched (sewn) planks.¹² One of them (Zambratija) is dated in the end of the 2nd millennium BC, i.e. to the late Bronze Age, while the other eight reflect the surviving prehistoric tradition in the early Roman imperial times. This means that the oldest shipwreck is over half a millennium older than the vessels to which the ancient authors refer when mentioning indigenous eastern Adriatic ships, while the other finds date to the period in which this area was already integrated within the Roman imperial infrastructure. Underwater finds of protohistoric and ancient ships from the north-eastern Adriatic cannot be interpreted as the remains of warships, and, in turn, should not be identified as liburnians or southern Adriatic lemb. These should rather be identified as the *serilia* – cargo ships – mentioned by ancient authors. However, these finds are very important in providing evidence for the existence of distinct shipbuilding traditions maintained in this area: locally in the northeast Adriatic, and inter-regionally on both sides of the northern Adriatic. This understanding of these local shipbuilding traditions is an important facet of the hypothesis that northern and southern Adriatic shipbuilders interacted within two different networks, producing designs of two different types of ship: the liburna and the south Adriatic or ‘Illyrian’ lemb.

The iconographic evidence is also fairly limited, and spread over time and space. It covers the period from the 7th to the 1st century BC, stretching from the Istrian peninsula in the

¹¹ Some of those questions are tackled in Dzino, Boršić 2020.

¹² We opted for the term ‘sewn’, although probably not the best choice in English terminology, as it has been widely accepted by scholars in various fields of humanities. See Pomey, Boetto (2019: 6) for clarifications on the argument.

north to present-day northern Albania in the south. The oldest evidence originates from the deeper hinterland of Dalmatia and the western Adriatic coast, but is often associated with the eastern Adriatic seafarers. Although scarce, the visual representations of ships in wider prehistoric Adriatic area attracted the attention of scholars in the past, provoking a range of different opinions discussed below. While some earlier scholars called upon iconographic representations of (typically Roman) warships as evidence of Iron Age lemb and liburnian prototypes, we will demonstrate that there are severe problems with identifying these representations as precursors of the warships mentioned in Greek and Roman sources. However, images of ships upon south Adriatic coinage from the 3rd and 2nd centuries BC seem to be an exception to this rule, providing probably the only significant artistic representations of the ships used by south Adriatic communities in that period: Illyrian lembos.

The limitations of archaeological and iconographic sources have been supplemented by selected quotations from the ancient Greek and Latin texts in Chapter 5. As mentioned previously, the consensus amongst most scholars is that the term *lembos* referred primarily to the south Adriatic ‘Illyrian’ ships, and that *liburnica* represents a sub-type of lemb developed in later periods. In order to examine different perceptions and contexts in which the Greek and Roman authors used those terms, we decided to collect and comment upon the available written sources, regardless of their specific connection with the eastern Adriatic geographical or historical context. Due to the significant amount of collected texts, they became the core of this publication. Epigraphic evidence from the Roman times is not discussed in more detail. The epigraphic mentions of lemb are very scarce, while the inscriptions mentioning *liburnicae* refer to the Roman liburnians, which were not necessarily of indigenous Liburnian origins, as shown in sections 6.1. and 6.2.

Chapter 6 analyses the written sources to provide detailed overviews of the usage of the terms ‘lembos’ and ‘liburnica’, the ships’ possible shapes and characteristics, and the etymology of the terms, as well as to present hypotheses of their likely origins and course of development. Finally, the various analyses made within this work have allowed us to form new conclusions, which are presented in sections 6.5. and 6.6.

1.3. Terminology

A few words should be said regarding the terms ‘lembos’ and ‘liburnica’ used in this book. There are many different terms used by ancient authors to describe these two ships in both Latin and Greek, as presented in Chapter 5, and these terms have not been used consistently in English scholarship.

In the case of lemb, we suggest the term ‘lemb’, adapted to English in the same way as other Greek words with the same ending. The term lemb is meant to be an English equivalent of the Greek term λέμβος and the Latin term *lembus*. In scholarly literature it has become customary to use either the Greek or the Latin word, written in italics. This option is not very convenient for the purposes of the present study. Since this text deals with that type of ship, both in Greek and Latin sources, it would be rather unfortunate to choose either the Latin or the Greek version of the word and use it throughout the text. Moreover, since almost all other Greek and Roman ships have their name translated or transposed into English language, there is no need to keep the original name, usually written in italics, since this word appears relatively often in

ancient literature. It is not an exotic *hapax legomenon* for which there would be no need of an equivalent in modern languages. With these things in mind, we opted for the English coinage – lemb. It is composed by the same token as many other English words taken from ancient Greek: ‘angel’ from ἄγγελος, ‘abyss’ from ἄβυσσος, or even some more recent coinages like ‘dinosaur’ from δεινός + σαῦρος. We can only hope the word will continue its life in English scholarly literature as to avoid clumsy λέμβος or *lembus*, with their plural forms λέμβοι or *lembi*.

In the case of the other ship, we opted for *liburnica*, used by several important ancient authors like Caesar, Tacitus and Pliny the Elder, or the English version liburnian. The word ‘liburnian’ occasionally appears in translations and in the secondary literature, sometimes also in the form of *liburna*. This ambivalence between ‘liburnian’ and ‘liburna’ reflects that of the Latin original: both are feminine forms of the ethnic noun *Liburnus* or the ethnic adjective *liburnicus*, the latter of which being in the feminine form in relation to *navis* i.e. *navis Liburnica*.