### TRADE RELATIONS OF ANCIENT BURGAZ FROM ARCHAIC TO MID OF 4<sup>TH</sup> CENTURIES: THE AMPHORAE EVIDENCE WITHIN THE DOMESTIC CONTEXTS

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### ABSTRACT

# TRADE RELATIONS OF ANCIENT BURGAZ FROM ARCHAIC TO MID OF 4<sup>TH</sup> CENTURIES: THE AMPHORAE EVIDENCE WITHIN THE DOMESTIC CONTEXTS

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Transport amphorae are large sized vessels, used for carrying agricultural foodstuffs from one province to another. Therefore, transport amphorae are the most important evidence to interpret the ancient economy and trade. It is well known that the site of Knidos, in Datça Peninsula, had an important role in wine production and exportation since the 4<sup>th</sup> century B.C.; however, the ongoing excavations at Burgaz (7<sup>th</sup> through 4<sup>th</sup> century B.C.), near Knidos, yielded abundant evidence for the pre-Hellenistic types of Knidian amphorae as well as amphorae from other producer city-centers. The aim of this study is to investigate the trade relations of Burgaz with other trading centers as well as to understand the early development of local amphorae assemblages in the peninsula.

To achieve this aim, the study provides a typological analysis and quantification of the local and foreign types of amphorae, recovered from the residential quarters of Burgaz, excavated between 1993 and 2009. According to the results, Korinth, Milet, Samos and Cyprus amphorae were imported since the 7<sup>th</sup> century. Chios and Thasos

joined in this importation during the 6<sup>th</sup> century, while Kos and Rhodes during the 4<sup>th</sup> century. Burgaz was a center of import for various types of amphorae since the 7<sup>th</sup> century B.C; however, it did not have a significant role in exportation until the 4<sup>th</sup> century. The reason for the emergence of Knidos as an exporting site during the 4<sup>th</sup> century must be related to the relatively cheaper wine production, as was the case for Kos and Rhodes.

Key words: Ancient Burgaz, Old Knidos, Transport Amphorae, Knidian Amphorae, Trade.

# ARKAİK DÖNEMDEN İ.Ö. 4. YÜZYIL ORTASINA KADAR BURGAZ'IN (ESKİ KNİDOS) TİCARİ İLİŞKİLERİ: EVSEL KONTEKST İÇERSİNDEKİ AMPHORA BULUNTULARI YOLUYLA

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Ticari amphoralar bir merkezden diğerine tarımsal artı ürünlerin taşınmasını sağlayan büyük boyutlu kaplardır. Bu yüzden, ticari amphoralar antik çağ ekonomisini yorumlamada önemli bir kaynaktır. Bilindiği gibi, Datça Yarımadası'ndaki Knidos, İ.Ö. 4. yy'dan itibaren önemli bir şarap üretim ve ihracat merkezi olagelmiştir. Burgaz'da devam eden kazılarda Knidos amphoralarının erken tipleri ile şarap ve zeytinyağı ticareti ile uğraşan diğer merkezlerden gelen amphoralar yoğun olarak ele geçmiştir. Bu çalışmanın amacı Burgaz'ın diğer merkezlerle olan ticari bağlarını ortaya koymak kadar Kinidos amphoralarının erken tiplerini de tanıtmaktır.

Bu amaçları gerçekleştirmek için, Burgaz'da, 1993-2009 yılları arasında kazılmış olan konut alanlarından ele geçirilen amphora parçaları kullanılmıştır. Amphoraların tipolojik olarak çalışılmasının yanı sıra değişen ticari ilişkileri göstermesi için istatiksel olarak da değerlendirilmesi yapılmıştır. Elde edilen verilerinden, Burgaz'da; Korinth, Milet, Samos ve Kıbrıs amphoralarının İ.Ö. 7. yy'dan, Chios ve Thasos amphoralarının İ.Ö. 6. yy'dan, Kos ve Rhodos amphoralarının İ.Ö. 4. yy'dan

itibaren ithal edildiği sonucuna varılmıştır. Burgaz İ.Ö. 7. yy'da itibaren ithalat merkezi iken İ.Ö. 4. yy'dan itibaren önemli bir ihracat merkezine dönüşmüştür. Knidos'un İ.Ö. 4. yy'dan itibaren Kos ve Rhodos gibi önemli bir üretici merkez konumuna gelmesi ürettiği ucuz şaraptan kaynaklanmaktadır.

Anahtar Kelimeler: Burgaz, Eski Knidos, Ticari Amphora, Knidos Amphorası, Ticaret.

To My Parents

and

To All Those Who Stood by in Support

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### **CHAPTER I**

#### **INTRODUCTION**

### **Amphora and Ancient Trade**

Transport amphorae are the functional coarse ware which was produced to carry liquid, especially wine and oil but also dry foodstuffs. They provide direct evidence for trade of these commodities. They are an important pottery class for understanding the ancient Greek commerce form the earliest stages of its expansion into Mediterranean and Black Sea regions. The study of transport amphorae enables us to answer many questions about trade and production in the ancient world.

A unique type of amphora, which served as a trademark, produced by each city enabled to determine where it originated from. So that, amphorae offer significant comprehension into trade of old ages and produce evidence into ancient maritime routes. In addition, identified source of amphorae are good indicators of reciprocal trade relations. Besides, amphorae are the most consistently preserved objects in the archaeological records due to their physical robustness. Their widespread survival allows us to understand the elusive social and economic lives of the ancient civilizations. Studies on transport amphorae usually point to a direct connection between the shape of the amphora and its production center.

For studying the ancient trade, of outmost importance is the study of the amphorae themselves and the correct classification of them to a typological scheme that in turn can help to put them in the correct chronological order of their production.

### **The Research Question**

Knidos, during the Archaic and Classical periods, was located on the south side of a long peninsula at the site know today as Burgaz. Due to its well preserved wall remains and ample surface finds referring to a settlement, the site was known to scholars since 19th century A.D. The archaeological excavations carried on since 1993 revealed occupation layers dated form Geometric periods to the end of the Classical period. During the late 4<sup>th</sup> century B.C. the settlement pattern in Burgaz namely Old Knidos has changed dramatically. The archaeological evidence indicates that the spaces in domestic units had been reorganized for industrial activities, which betoken a gradual abandonment and its transformation into an industrial center. By the 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C., Knidians moved their city to the Tekir Cape. "The political conjuncture of the era and yielded socio-political changes were reflected with spatial reorganizations in general and beginning with 4<sup>th</sup> century B.C. the participation of Knidos in market economy caused changes in land use as well."<sup>1</sup> By terracing all sloped areas with low land potential, Knidian managed to expand their agricultural land and viticulture grow into the most important type of land use. The remains of the agricultural terraces used for viticulture and the amphora workshops and deposits of slags uncovered during the archaeological surveys and excavations reveal the mass production of transport amphorae from the Archaic period to the 7<sup>th</sup> century A.D. The examination of Burgaz amphora assemblage enable both to reveal the potential of local amphora production from its origin and present new Knidian amphora types, and to reveal the centers which Burgaz was in contact.

In this study, as mentioned above, two main aims come forward. First, to investigate the importation to Burgaz and locate the trading centers that Burgaz had relation in Mediterranean, Aegean and Black Sea. Second, to present the earlier types of Knidian amphorae since it is known that Knidos produced its amphorae from the archaic era, right up until the late Middle Ages. In order to achieve these aims, the

<sup>&</sup>lt;sup>1</sup> Koparal, Tuna & İplikçi 2014, p.95.

recorded amphora assemblage from the residential contexts dated from the Archaic to the mid-4<sup>th</sup> century B.C. within the northeast and southeast sectors uncovered between the years 1993-2009 were used.

#### Methodology

The materials I have chosen as suitable to answer my research questions are the transport amphorae recovered from the residential quarters of southeast and northeast sectors. These are dated from the Archaic period to the mid-4<sup>th</sup> century B.C. during the 1993-2009 excavations. The domestic units dated after the mid-4<sup>th</sup> century B.C. were not included in this study since after mid-4<sup>th</sup> century B.C. most of the domestic contexts were destroyed in order to change some part of the houses into workshops. The amphora assemblage gathered from Burgaz excavation is mostly composed of fragments of amphorae. Unfortunately there are a few complete amphorae. Amphora fragments found in Burgaz are examined in terms of chronological and typological features in order to understand the commercial relations of Ancient Burgaz. As amphora stamps are one of the most important issues in amphora studies and worth a separate study, stamped handles are not examined but when they are attached on a rim they are counted in this study. Since Burgaz -Old Knidos- moved gradually to the west of the peninsula after the 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. due to the synoikismos activity, the last occupation phase that seen the alteration into workshops in some area and the Roman period is not included in this study. Yet Roman amphorae are a sophisticated topic in amphora studies.

After being collected in the field and washed, the most well preserved and datable fragments were selected for each level. During this selection, all joining sherds or non-joining sherds of the same vessel were identified and counted as one. In this study, the sherd count of rims and feet is used for quantification since the data are collected by counting only diagnostic sherds during the excavation. The saved percentage of the vessel's orifice was calculated by using the radius calculator for each rim fragments. After being taken out from their level bags, the amphora

fragments from 1993-2009 seasons were classified according to their provenance and dated by using published examples. The classification is based on typological features rather than the clay analysis.

### **Main Findings**

The examination of the amphora assemblage of Burgaz yielded significant results on the import trade of the city. According to the classification of transport amphorae, Athens, Korinth, Akanthos-Amphipolis, Mende, Thasos, Lesbos, Peparethos-Ikos, Klazomenai, Epesos, Miletus, Chios, Samos, Rhodian Peraea, Kos, Rhodes, Paros, Cyprus and Heraklea Pontica were the centers with which Burgaz had established trade relations since the Archaic period. Furthermore, it is verified that the amphora production in Knidian peninsula started in the Archaic period and there were produced many examples of early types like "Milesian type Knidian amphorae" and amphorae in South Aegean fashion. Likewise, the study of transport amphorae from Burgaz enables me to describe and present new types of Knidian mushroom rim amphorae.

### **CHAPTER II**

#### ANCIENT TRADE AND AMPHORAE

### **II-I-Historical and Regional Development of Ancient Trade**

### **Historical Overview of Ancient Trade**

There is no commonly accepted theory on the character and nature of ancient economy today.<sup>2</sup> Since the end of the 19<sup>th</sup> century onwards many researchers from different disciplines like history, archaeology, anthropology and economy, have been arguing about how to approach to the ancient economy. Among these disciplines, archaeology, together with literary sources, played a vital role in understanding the development and organization of ancient exchange systems, since it enables us to study medium- and long-term changes and processes.<sup>3</sup> As a result of this debate, two main schools of thought developed that can be called as modernists or primitivisms : Some researchers like Hasebroak, Cartledge, Polanyi, and Finley claimed that ancient economy was on a primitive, non-market level. However, researchers like Rostovtzeff, Davies claimed that there were similarities between the ancient economy and modern economy. Since mid-1980s new perspectives were established mainly on Roman economy since "there are more archaeological and historical studies on Roman trade."<sup>4</sup>

As the aim of this study is to reveal the Archaic, Classical and Hellenistic trade relations of Burgaz -namely Old Knidos-, a terrestrial excavation, by examining

<sup>&</sup>lt;sup>2</sup> Aubet 2013, p.7.

<sup>&</sup>lt;sup>3</sup> Ibid, p.8.

<sup>&</sup>lt;sup>4</sup> Göransson 2007, p.193.

amphora fragments, it will permit to investigate ancient economy throughout of periods and will be connected to the amphora studies.

### **Modernist vs Primitives**

Neville Morley, who has a modernist point of view, in his book named as "*Trade in Classical Antiquity*" defined trade as "an activity is largely taken for granted as the expression of natural human instinct to exchange goods and pursue profit; the movement of goods automatically assumed to entail the involvement of professional merchants, the more successful of whom came to play a significant role in politics of their societies and to influence the commercial policies of ancient states."<sup>5</sup>

According to the economic historian Polanyi modern economic theories should not be applied to the ancient economy since ancient economy was primitive. In his *Great Transformation*, he based his theory on an analysis of ancient Greece. Polanyi defined three kinds of trade: reciprocity, redistribution and market economy<sup>6</sup>. In the first two, trade was *embedded* in the society and this kind of ancient economy was called *substantivist*. According to Polanyi, market economy was *disembedded* from other aspects of society. Whereas reciprocity and redistribution are administrative actions by the government, market economy is the impersonal exchange of goods and services where price is based on supply and demand<sup>7</sup>.

As claimed by Hasebroek, Paul Cartledge also assumed that to get a better understanding on archaic trade and traders, one should locate them in a socioeconomic context.<sup>8</sup> Archaic societies were totally an agrarian economic society ruled by a prestigious and wealthy landowner. Thereby, it is hard to say that they

<sup>&</sup>lt;sup>5</sup> Morley 2007, p.4.

<sup>&</sup>lt;sup>6</sup> Polanyi 1957, p.35-36.

<sup>&</sup>lt;sup>7</sup> Ibid, p.238-251.

<sup>&</sup>lt;sup>8</sup> Cartledge 1983, p.1-15.

developed market relationships and commercial aristocracies with these so low levels of manufacture and trade.

Finley, impressed by Polanyi and Max Weber -the founder of modern sociology-, claimed that ancient economy could not be analyzed through modern economic theories. He argued that to the ancient Greeks and Romans, economic activity was not a separate sphere of society and any economic action was determined by social status. Moreover, he regarded the economy of the ancient world as static and primitive in its nature. He developed a primitivist model in which agriculture was the dominant mode of production in ancient times. As said by Finley there were three types of cities according to their economies: agrarian, military and imperial administrative, and mixed economy<sup>9</sup>. In agrarian city, the economic interest of men lay chiefly in land which was the only source of wealth and a person could afford their imported metals, slaves and luxuries with their agricultural surpluses. Military and imperial administrative cities, especially in Roman period, were urban centers founded by Rome or stimulated into growth by imperial presence. These settlements often began as military camps or as colonies of settlers and soldiers deliberately planted by Rome in strategically important sites. Because of its insufficient agricultural resources some cities developed mixed economy including manufacturing and commercial activities in order to provide survivability of their citizens. In these circumstances, Finley saw a command economy rather than market economy. According to Finley, societies based on slavery wealth were based on agriculture since the cities were supplied by countryside. In such cities there was little development of industrial production.

Finley was criticized for his views<sup>10</sup> in *The Ancient Economy* and for even speaking of the 'economy' of the ancient world in the singular. The recent results of land and underwater excavations exposed a different picture of ancient trade and production.

<sup>&</sup>lt;sup>9</sup> Finley 1973, p.131.

<sup>&</sup>lt;sup>10</sup> Frederiksen 1975, p.164.

He was also criticized by his complete disregard of the Hellenistic period. However he defended himself in the second edition of *The Ancient Economy*:

The term 'Hellenistic' was invented by the great German historian J. G. Droysen in the 1830s to define the period in Greek history between the death of Alexander the Great in 323 and the death of Cleopatra in 30 B.C. It has been accepted almost universally, and yet for the study of ancient economy it is seriously misleading because in those three hundred years there were two basically distinct 'Greek' societies in existence. On the one hand, the old Greek world, including the 'western' Greeks, underwent no changes in the economy that require special consideration despite all political and cultural changes that undoubtedly did occur. On the other hand, in the newly incorporated eastern regions - much of Asia Minor, Egypt, Syria, Mesopotamia- the fundamental social and economic system was not changed by the Macedonian conquerors, or by the Greek migrants who followed behind them, or by the Romans later on, as I have already indicated. There was therefore no 'Hellenistic economy'; from the outset there were two, an ancient sector and an Oriental sector.<sup>11</sup>

According to Davies this phrase "reflects Finley's inability or unwillingness to accept that the same economy, the same region, the same polity, even the same person, can show at one and the same time two or more different economic behaviors, whether overlapping are separated, whether in conflict or in symbiosis."<sup>12</sup> However, Davies criticized Finley with a modern point of view, in order to judge ancient society in a whole context -: social, cultural, political, and economic or individual- one must be cautious since the ancient societies had their own characteristics different than modern societies.

Rostovtzeff had a modernist point of view to the ancient economy. Based on historical and archaeological sources, his studies covered an enormous geographical area and an extensive period in time. In his masterpiece, Rostovtzeff depicted the general view of Mediterranean and neighboring regions in the 4<sup>th</sup> century B.C.: the heartlands of the Persian Empire, Greece, the Black Sea, Thrace, Italy and Magna

<sup>&</sup>lt;sup>11</sup> Finley 1999 (second edition of 1973), p.183.

<sup>&</sup>lt;sup>12</sup> Davies 2007, p.12.

Graecia. By integrating archaeological data with historical sources Rostovtzeff believed that he was able to prove that the eastern Mediterranean from the age of Alexander was a series of interlocking markets<sup>13</sup>. He gave a brief sketch of the political background to the new kingdoms until the transformation of Greek states into Roman provinces. This view has been criticized by Archibald; "many useful observations about the evidence are combined with further data about natural resources; but these are pressed into a pre-existing theoretical mould, namely the author's conviction that a balanced relationship between production and demand in 5<sup>th</sup> century B.C. became unstable in the 4<sup>th</sup>, when the 'market' for Greek agricultural and industrial products began to shrink."14 By using the terms of 'market' and 'industries' and by emphasizing on the 'systematization' of trade and the development of industry, Rostovtzeff correlated ancient economies with modern standpoint. In his third chapter, Rostovtzeff defined Alexander and his successors as the main motors of political, social, cultural and economic changes. According to Archibald "by treating the military campaigns and their consequences as the chief mechanisms of change, the development of communities large and small becomes subsumed into a grand plan, the propagation of 'hellenism'."<sup>15</sup> In chapter four, Rostovtzeff illustrated the social and economic conditions in the kingdoms of the Successors by using a wide range of inscriptions, papyri and other historical texts. In the next three chapters, Rostovtzeff cited the expansion of Attalid power in Asia Minor, the building programs of Asiatic cities in the 2<sup>nd</sup> century B.C., activities on Rhodes and Delos. The next chapter begins with a review of the major features of the period that characterized by the fluxional struggle for domination between the Ptolemies and the Seleukids. In the chapters named as 'Unity of the Hellenistic world' and 'The Greeks and the Natives in the Oriental Monarchies and the Greeks of the Mother Country', Rostovtzeff characterizes the main feature of social life: there seemed that Rostovtzeff saw the Greeks as the dominant social factor in the

<sup>&</sup>lt;sup>13</sup> Rostovtzeff 1941.

<sup>&</sup>lt;sup>14</sup> Archibald, Gabrielsen & Oliver 2001, p.381.

<sup>&</sup>lt;sup>15</sup> Ibid, p.381.

social structures of antiquity. In the chapter which deals with the economy 'Some Features of Economic Life', Rostovtzeff mentioned about the population figures, accumulated wealth, and the range of natural resources at the disposal of rulers and ruled, the development of agriculture, viticulture, and oleoculture, the breeding of animals and the manufacture of products. Although Rostovtzeff was interested in the problems of scale, he was criticized by not using the data for quantitative approaches. In his days, it was hard to use such data for a quantitative analysis; but now, with the development of inter-disciplinary research and extensive classification of data sets it became possible to use such data in quantitative analysis. Rostovtzeff was appreciated by combining different kinds of evidence and different issues.

The difference between Rostovtzeff's *The Social and Economic History of the Hellenistic World* and Finley's *The Ancient Economy* is highly informative. They were different in strategy, style and content. "Where Rostovtzeff is expansive, confident, all-encompassing, 'positivist', Finley's scope is restricted, his tone cautious and questioning, his style aphoristic, minimalist."<sup>16</sup> Their differences are based on their different background and they sat on either side of a political divide<sup>17</sup>. Rostovtzeff had a Russian background to look at the Hellenistic societies while Finley's views on ancient societies shaped by Weber's social history. Finley, in contradistinction to Rostovtzeff, created a 'model' which was qualitative not quantitative by emphasizing that there are not useful statistics for ancient economic activities.

Since mid-1980s, the importance of archaeological data had emerged in the study of long distance trade. J. K. Davies developed a new model of trade in ancient societies. He enumerated three variables to describe ancient economies: 1) quantities of exchange of goods and services, 2) structures, institutions and systems within which the exchange took place, and 3) the mentality of those who took part in the

<sup>&</sup>lt;sup>16</sup> Archibald, Gabrielsen & Oliver 2001, p.384.

<sup>&</sup>lt;sup>17</sup> Ibid, p.384.

exchange.<sup>18</sup> According to Davies, the best way of getting the information about ancient economy what was produced and used in Antiquity is to follow the individual commodities from the production to their consumption by asking some obvious questions like "where did they start (i.e. where they grow, or bred, or mined, or quarried, or woven, or fished, or caught, etc...)? where did they end up? by what routes? who acquired them? in what quantities? and in what forms did recompense trickle back to those who added value to the commodities or the artifacts at their various stages?"<sup>19</sup> However the answers are not very clear because of the lack of sufficient evidence.

To answer to those questions, it is important to understand the nature of trade, traders and the city while writing the economic history of antiquity. Cities were placed at the center of the exchange activities. As producer and exporter, cities were using images of their products in marking their amphorae and in minting their coinage like Chios who used bunch of grapes on its coinage since early 5<sup>th</sup> century B.C. One of the reasons of the colonizing movement of Aegean cities at Black Sea region was to set up commercial relations in order to get some raw materials or foodstuffs that they did not had. As in the case of Athens, population pressure on indigenous food resources forced them to look for supplementary supplies abroad.<sup>20</sup>

There were different types of traders in antiquity. Quoting from C. M. Reed's book *Maritime Traders in the Ancient Greek World (2003)*, Grönasson enumerated them as:<sup>21</sup>

*Autopoles*: producer who sold own products to a *kapelos*. *Kapelos*: trader who bought goods from a producer and sold them in the marketplace of his native city.

<sup>&</sup>lt;sup>18</sup> Davies 1998, p.241.

<sup>&</sup>lt;sup>19</sup> Davies 2007, p.22.

<sup>&</sup>lt;sup>20</sup> Davies 1998, p.229.

<sup>&</sup>lt;sup>21</sup>Grönasson 2007, p.202-203.

Metaboleus: merchant who sold goods by the piece.
Palinkapelos: merchant who bought goods from a kapelos and sold them to others.
Emporos: trader who sailing port buying goods in one city and sell in another. He was not the owner of the ship; he hired the ship for the transportation of his merchandise.
Naukleros: ship owner or captain who carried either his own goods or transported emporos' goods.

*Metoikoi*<sup>22</sup> were traders who representing two classes of society involved in trade – the lender-capitalist and the borrower-trader. Traders were serious players in economic development and their activities were the key point to understand the emergence of the ancient economy.

Although most of the studies mentioned above were based on textual sources, more and more archaeological works being undertaken today have produced evidence that allow us to widen our understanding of the ancient economy and expand it in a much greater geographical and chronological sphere. Amphorae have an important place in this inquiry since they are reflecting the movement of the various commodities which they contained. Besides being found in most of the terrestrial excavations, amphorae were also found in shipwreck excavations in most coasts of the Mediterranean Sea since the sea connected the islands and coastal settlements. In order to investigate the human interaction with the sea, maritime archaeology plays a vital role.

### Maritime Archaeology and Its Contribution to Ancient Trade Researches

During the Archaic, Classical, Hellenistic and Roman periods, sea was the heart of the cultural, political and economic changes<sup>23</sup> since the connection of the coastal

<sup>&</sup>lt;sup>22</sup> A non-citizen resident more or less permanently in a Greek polis. Most of the information on *metoikoi* came from Athens. *Metoikoi* in Athens were subject to considerable restrictions: they had to pay a special *metoikion* (metic-tax), they had to register the name of a citizen as their *prostates* (patron or protector), and they could not own land (P. Cartledge, P. Millett & S. Todd (eds) Nomos Essays in Athenian Law, Politics and Society, 1990, p.231).

<sup>&</sup>lt;sup>23</sup> Robinson & Wilson 2011, p.2.

settlements with the islands was established via the sea. The maritime trading economy and the social and political changes which occurred in the historical background interplayed on the decision to found new cities which had harbor facilities. Between different ports and regions within the maritime landscape of the Mediterranean, the connectivity was provided by ships. As the seas are the "highways of the economic development<sup>24</sup>", the data recovered from them has a very crucial importance in order to interpret the ancient economy since the excavations of shipwrecks yielded information with sealed primary data.

Maritime trade was the key point for the economic development. At 8<sup>th</sup> and 7<sup>th</sup> centuries B.C., the Greeks began to develop themselves industrially and commercially. The colonization process required bilateral development of production: the newly founded colonies needed all sorts of manufactured goods in order to sustain their daily life which dragged to the mother cities to produce surplus resultant growing market. In return, the mother cities received raw materials, ores, agricultural produce, livestock, and slaves etc. from their colonies<sup>25</sup>. These trade activities became a life dependency for both sides.

"The ability to reach larger markets abroad makes it worthwhile for business to produce more goods than can be consumed locally, encouraging large-scale surplus production and economies of scales, coupled with productivity increases achieved through the division of labor. The supply of these markets, in turns, depends upon the effective transportation of goods from producer to consumer. It is here that maritime transport generally holds an efficiency advantage over other forms of transport, providing cheaper access to larger, distributed markets."<sup>26</sup> It can be seen from the distribution of archaeological material that the maritime transportation was cheaper, offered large quantity of goods for the markets and provided labor facilities than

<sup>&</sup>lt;sup>24</sup> Stopford 2009, p.5.

<sup>&</sup>lt;sup>25</sup> Hasebroek 1933, p.44-45.

<sup>&</sup>lt;sup>26</sup> Robinson&Wilson 2011, p.1.

other means of transportation. It can be suggested that the more developed maritime trade enabled the more produced items (i.e. pottery or foodstuffs) for local and abroad markets.

There are some debates on maritime trade whether it was tramping –come by port to port, sell and buy different kind of commodities- or it occurred directly shipping between major principal ports to *emporia*. It must be firstly understood that the sailing ability and trading patterns have shown changes throughout ages. It is commonly believed that ancient ships and sailors were unable to sail on the open sea; they cruised across the coastline in order to avoid any kind of danger so that tramping was the usual result of this kind of sailing method. As far as we learn from Homer that sailing experiences developed since Achaean sailors could travel both day and night sailing on the open sea.<sup>27</sup> "The argument is important because it carries implications about the overall scale of trade and levels of information about markets; tramping is speculative, opportunistic, and relatively small-scale, while *emporia* trading relationships imply organized, often regular traffic, and relatively good information about markets at the other end, often facilitated by agent or diaspora trading communities in remote ports."<sup>28</sup>

By the discoveries of the shipwrecks in most coasts of the Mediterranean Sea where ancient Greeks were settled and colonized, archaeologists began to reveal "the damaged pier and some of the large timbers of the ship that had crashed into it, along with fragments of its cargo and the personal effects of its crew."<sup>29</sup> The shipwreck excavations played a vital role in order to understand the shipbuilding technologies and navigation, the volume and arrangement of cargoes, the chronological changes in maritime routes.<sup>30</sup> The deduced information from a shipwreck finding – domestic

<sup>&</sup>lt;sup>27</sup> Arnaud 2011, p.62.

<sup>&</sup>lt;sup>28</sup> Wilson 2011, p.53.

<sup>&</sup>lt;sup>29</sup> Morley 2007, p.1.

<sup>&</sup>lt;sup>30</sup> Robinson&Wilson 2011, p.2.

assemblage and cargoes- can help to understand its origin and economic activities; however, to hypothesize the wider inter-regional maritime trade networks is more difficult.<sup>31</sup>

According to archaeological evidence gathering from shipwreck excavations, it is understood that mixed cargoes seemed to be normal, yet it did not imply tramping. It could be related to the more well-organized use of hold capacity.<sup>32</sup> The information from shipwrecks –the cargo, the distribution of traded goods, the levels of investment in port infrastructure- and the evidence of resident trading communities in ports indicated that the trade was not just a matter of coastal tramping in the Hellenistic and Roman periods. Large merchant ships loaded with sizeable cargoes travelled between principal ports or *emporia* while small ships, loaded with heterogeneous cargoes from *emporia*, transported them to the secondary ports in the economic foreland of the primary port. The picture of the sea transport in Roman period is a kind of different than previous periods: "the coastal shipping was primarily engaged in supplying an emporium from smaller ports in the surrounding coastal zone, and in coastal redistribution towards those ports, as part of an organized system of trade."<sup>33</sup>

The data derived from shipwrecks were not appreciated as it deserved in the first years of maritime archaeology. With the excavation of Cape Gelidonya by G. Bass<sup>34</sup>, it is set forth to produce a real picture of maritime trade that the textual sources were not sufficient alone. In so far, it is believed that Naukratis was one of the Greek trading settlements which Greek and Phoenicians played the vital role in distributing the Greek and Egyptian products. However, the discovery of the Heracleion-Thonis

<sup>&</sup>lt;sup>31</sup> Papaioannou 2011, p.197.

<sup>&</sup>lt;sup>32</sup> Wilson 2011, p.54.

<sup>&</sup>lt;sup>33</sup> Ibid, p.54.

<sup>&</sup>lt;sup>34</sup> Bass 1961, p.267-276.
Shipwrecks in Egypt demonstrated that Egyptian seafarers and traders had also taken part in seaborne trade during this period.<sup>35</sup>

There are not sufficient studies on the economy of Classical and Hellenistic worlds. Due to lack of precise evidence to explain Classical Greek trade activities, most of the researchers utilized the Roman period regulations. It is thought that there was a uniformity of regulations and customs in the trading activities of Classical world in the Mediterranean since some Greek regulations and terminology of maritime regulations were still in use.<sup>36</sup> The publications of land excavations from these periods do not include all their ceramic assemblage so that it is hard to comprehend the ancient exchange networks. To reconstruct maritime trade patterns it is needed to connect these evidences with ceramic assemblage from terrestrial site excavations. In order to reveal the impact of terrestrial excavations on the reconstruction of maritime trade routes, one must firstly review the agricultural context and characteristics of pottery production in a given region.<sup>37</sup> In order to understand the nature of longdistance exchange systems in these periods, maritime archaeology has a great power to fill this deficiency of information. However, recently, there is a rise of discoveries of shipwrecks from Archaic to the Late Republican period. Maritime trading activities of these periods became apparent with the study of amphorae since they were the main maritime transport containers.

It is testified that pottery production was one of the most important industrial activities in Aegean coastal sites. Nevertheless, although most of the pottery publications included only the pottery from a particular site or region, there has been a change, in recent decades, on evaluating information from pottery in a wider context. "We need to view the Mediterranean not as a single unit, but as a collection of micro-regions each of which has its own set of economic parameters and maritime

<sup>&</sup>lt;sup>35</sup> Fabre 2011, p.13-16.

<sup>&</sup>lt;sup>36</sup> Arnaud 2011, p.61.

<sup>&</sup>lt;sup>37</sup> Papaioannou 2011, p.197.

links. Regional trends have also been identified in pottery production, but a regional approach can also be applied to interpret the circulation of pottery."<sup>38</sup>

It is understood that, during Classical, Hellenistic and Roman periods, there were different patterns of voyage for trade activities. Tramping was less important during the Classical, Hellenistic and Roman periods in the Mediterranean due to its casualty in nature. There were three types of trade transportation activities which relied on the existence of a large market at the destination port where the ship-owners were confident to sell his cargo:<sup>39</sup> 1) directly from one emporium to another with either a single cargo or a mixed cargo; 2) from a major emporium to lesser regional or local port in its catchment area; 3) from one emporium to another with supplementary cargo taken on at an intermediate stop. It is possible to think the Aegean Sea as a "trade corridor" since it contained many different routes such as vertical direction from north to south or vice versa and horizontal direction from east to west or vice versa.

The Mediterranean trade also appears to have operated at different levels:

-regional patterns: seen in the distribution of amphorae at Carthage; most of the found amphorae were produced in the province of Africa. It can be deduced that Carthage could provide amphora-borne commodities through regional level.<sup>40</sup> Nevertheless, there were also found imported amphorae which indicated that some amphora-borne products were accepted as exotic or prestigious goods for, at least, different sector of the market.

-state supply mechanism: some goods were produced for specific reasons such as military or state demands. The best example is Dressel 20 olive oil amphorae from

<sup>&</sup>lt;sup>38</sup> Ibid, p.200.

<sup>&</sup>lt;sup>39</sup> Robinson&Wilson 2011, p.4.

<sup>&</sup>lt;sup>40</sup> Rice 2011, p.85-86.

Baetica (Spain). They were found either in Rome at Monte Testaccio or at Roman military sites on the Rhine frontier and in Britain.<sup>41</sup>

Intensified trade from the Classical to the Roman periods was ensured by the development of institutions and advances of technology. The state also played a vital role in regulating and facilitating maritime trade. The standardization of the shipbuilding costs, hiring costs of sailors and boats, compensation system for the loss or damage of the cargo were insured by the state laws.<sup>42</sup> "Such legal institutions and mechanisms for dispute resolution were of course fundamental prerequisites for the development of intensive and regular maritime trade between different states."<sup>43</sup>

The recent studies demonstrated that the Greek cities had a vital role in developing and controlling maritime trade relationships during the Classical Period because it was an income for the state and allowed to supply essentials goods for the city; within an international context.<sup>44</sup> The trading relationships were framed by international treaties of friendship (*synthekai, spondai*) since as early as the late 6<sup>th</sup> century B.C.<sup>45</sup> Symbola –the additional agreements- assigned the sustainable trade relation. These precautions ensured a conventional state of peace. There were also treaties between a city and individuals.<sup>46</sup> "Such treaties and contracts ensured that was impossible to undertake legal trade outside of a limited number of specified harbors. It seems that from the late 6<sup>th</sup> to the 1<sup>st</sup> half of the 5<sup>th</sup> century B.C., trade within the Mediterranean was organized on the basis of a certain number of common rules and moreover, centered on a small number of places, which are usually called

<sup>&</sup>lt;sup>41</sup> Robinson&Wilson 2011, p.6.

<sup>&</sup>lt;sup>42</sup> Ibid, p.6-7.

<sup>&</sup>lt;sup>43</sup> Ibid, p.7.

<sup>44</sup> Arnaud 2011, p.63.

<sup>&</sup>lt;sup>45</sup> Ibid, p.64.

<sup>&</sup>lt;sup>46</sup> Ibid, p.64.

emporia."<sup>47</sup> Trade must have been done exactly where the state defined, i.e in *emporia*. It was absolutely forbidden to moor any other harbor with the intent of trade.

There were strict rules for tolls and declaration of cargo. As early as during the Peloponnesian War, the origin and destination of goods were known due to the Athenian embargo. Since the 4<sup>th</sup> century B.C., the cargo of the ship must have been declared and must have been controlled both during loading and unloading.<sup>48</sup>

There were two kinds of tax for ships when they entered into a port. The first was called *ellimenion* and was for harbor services and facilities. The second, was the one most important income of the city, was called *tele emporika* which was composed of *eisagoge* (incoming goods) and *exagoge* (outgoing goods).<sup>49</sup> There was also some taxation procedure on unloading the cargo. The Greek procedure was called as *deigma*. Although it is debatable term among scholars, the more reasonable explanation of *deigma* is that all the merchandises were unloaded. The seller had to fix the price and pay the import taxes according to the affirmed price and quantity. In the case that he could not able to sell all his commodities, he had to reload his unsold merchandise by paying the export taxes at the declared price.<sup>50</sup>

Since the Classical period, some trade contracts such as bottomry loans or chartering contracts were used to ensure the maritime trade and traders. The bottomry loans were prepared more or less in the same order: a) the ship and the name of the *nauclerus*, b) the port of departure of the ship, c) the port loading, d) the port of

<sup>&</sup>lt;sup>47</sup> Ibid, p.65.

<sup>&</sup>lt;sup>48</sup> Ibid, p.65.

<sup>&</sup>lt;sup>49</sup> Ibid, p.66.

<sup>&</sup>lt;sup>50</sup> Arnaud 2011, p.67.

destination, e) sailing agenda, with possible references to sailing-routes.<sup>51</sup> They might be arranged both for a single and return voyage and might contained dates.

After all expenses –taxes, payments on loans, travel expenses, etc- were paid, the merchant would have needed to make a substantial income. "The value of the cargo always appears to have been twice that of the price of acquisition."<sup>52</sup> "The most striking fact concerning ancient trade is that the value of the cargo, i.e., its price at destination, is supposed to be known before any transaction. The value that appears in any contract for a bottomry loan is entirely virtual, but consensual. The collection of taxes *ad valorem* is also based upon declarations of the same virtual value. These declarations used to precede the sale."<sup>53</sup>

# **II-II-Historical Development of Amphora Researches**

#### **Greek Transport Amphorae**

In order to transport their products like olive oil, wine and other foodstuffs, ancient people needed convenient and inexpensive containers. There were baskets, cloth bags and barrel which were used to transport commodities but they have rarely survived and they were not suitable enough for long distance sea transportation. The typical transport vessels throughout the Mediterranean and Black Sea regions were transport amphorae. There were some reasons that an amphora could be used as a transport and storage vessel<sup>54</sup>: they must be impermeable (lining by rasin or pitch for wine and salted fish or fish sauce; oil lees or gum/vax for olive oil); they must have a secure closure (corks, wood or organic stoppers); they must be supported upright (hole in the ground, stand made of wood, terracotta or metals like bronze and silver).

<sup>&</sup>lt;sup>51</sup> Ibid, p.68.

<sup>&</sup>lt;sup>52</sup> Ibid, p.71.

<sup>&</sup>lt;sup>53</sup> Ibid, p.71.

<sup>&</sup>lt;sup>54</sup> Koehler 1986, p.51-67.

It required one or two people to carry an amphora for short distance; carriages, pack animals or ships were used for long distance transportation. They were emptying of their content with the help of the stout handles and knob-like toe.

The first transport amphora which was used in trade activities was produced in the Eastern Mediterranean, on the Syrian-Lebanese coast, by Canaanites during the 15<sup>th</sup> century B.C.<sup>55</sup> They were typified by a button toe, thickened and full, a short, narrow neck, and by a strong shoulder and two ear-handles set on the shoulder and body. The sides of the container are thick and they are completely undecorated.<sup>56</sup> The Canaanites had trade relations with the Egyptians who produced their own transport amphorae since the 14<sup>th</sup> century B.C. under the influence of Canaanite jars.<sup>57</sup> Amphora was spread to the Western Mediterranean by the Canaanites' successors Phoenicians in the 8<sup>th</sup> century B.C.<sup>58</sup> In the 7<sup>th</sup> century B.C., amphora was adopted by Greeks as transport vessels.

Amphora is a Greek word consisting of *amphi* "on both sides" and *phoreus* "carrier". The usage defines the shape of a Greek amphora. It has a narrow rim enough to close by a cork, narrow and relatively long neck, two vertical handles, an oval body and a pointed foot which served as a third handle. They were used to transport mainly liquids such as wine, olive oil, water and a great deal of goods like grain, fruits, fish sauces, tuna, olives, honey, lard, eggs, and also inedible commodities such as paint, unguents, pitch and cosmetics.

The first known Greek amphora in Mediterranean was "SOS amphorae"<sup>59</sup> dated to the 8<sup>th</sup> and 7<sup>th</sup> centuries B.C. and was used to transport Athenian and Euboian olive

<sup>&</sup>lt;sup>55</sup> Grace 1956.

<sup>&</sup>lt;sup>56</sup> Alpözen, Özdaş & Berkaya 1995, p.35.

<sup>&</sup>lt;sup>57</sup> Şenol 2009, p.12-13.

<sup>&</sup>lt;sup>58</sup> Göransson 2007, p.14.

<sup>&</sup>lt;sup>59</sup> Johnston & Jones 1978.

oil. Amphorae multiplied and developed throughout Greek producing and trading colonies ever since and spread out Sicily, South Italia, Marmara and Black Sea regions. Korinth began to produce amphorae since the late 8<sup>th</sup> century B.C.<sup>60</sup> The cities of Ionia and Aeolia like Chios, Samos, Lesbos, Klazomenai, and Miletus produced their own amphorae to export their wine and olive oil since the 7<sup>th</sup> century B.C. In the 5<sup>th</sup> century B.C. these cities reached their high level of production of wine and amphora. By the end of the 4<sup>th</sup> century and the beginning of the 3<sup>rd</sup> century B.C. the demand of cheap wine resulted in mass production of trade amphorae. In this period Rhodes, Knidos and Kos played a vital role in production of wine and amphorae. The types of Greek amphorae will be discussed in further chapters according to the Burgaz amphora findings.

Transport amphorae are the important indication of ancient trade for whom to study ancient economy. Yet, their value for economic analysis came from only if their content and their date and production center were known. Amphorae provide not only evidence for the volume of the trade but also necessary evidence for the structure of the ancient economy. In order to use transport amphorae as the evidence of ancient trade there are some factors to take into consideration<sup>61</sup>: 1) they were used for the shipment and storage of liquid products such as wine and olive oil and some other foodstuff such as processed fish, olives, grapes and even grain. Ancient agrarian economy is connected with the transport amphorae since they were known as the containers of these products; 2) the amphora themselves provide evidences in terms of their production process and the organization of commerce.

Amphora studies have been started since 19<sup>th</sup> century and mainly focused on typological work until the mid-20<sup>th</sup> century. However, it is understood that the typological work is not only enough to explain trade relations. The researchers tended to the study of production, provenience and distribution of amphorae since

<sup>&</sup>lt;sup>60</sup> Koehler 1981, p.451.

<sup>&</sup>lt;sup>61</sup> Garlan 1986.

1970s. The developments on archaeometrical studies enable us to designate the provenience of an amphora through clay analysis, and from residue analysis it can be possible to learn the content. In his work *Greek Transport Amphorae A Petrological and Archaeological Study*, Whitbread irradiated on the amphora production stage like clay sources, preparation of clay and firing techniques.<sup>62</sup> As our knowledge on amphorae develops, the data derived from them are used to reconstruct the ancient trade organization more accurate. We can trace trade activities, export-import models, quality and quantity of production, sea trade routes, and ports through the examination of amphorae.

It is still important to interpret the information gathering from new technology with social factors like the regard, faith, economical power of people. The historical background must also be examined while interpreting the trade: finding a product from a region in a consumer center does not just indicate the trade, it must be investigated how the consumer center gained this product; via trade or via tax. Thus, this investigation enables us to understand whether the exporter city of this product was economically self-efficient or not.

It is known that amphorae were mainly used to transport wine, olive oil, pickled fish and fish sauce. The real contribution of amphorae to the economic studies lies into the designation of the quantity of a traded product. The amount of the amphorae which their capacities were known can help to estimate the quantity of the imported product. There are some studies to calculate the capacity of an amphora but since it is made with water or polystyrene, it is not perfect.<sup>63</sup> The studies of capacity were made on the findings of many shipwrecks amphora assemblages like Tektaş Burnu, Porticello, Kyrenia, Serçe Limanı, and amphora assemblages from ports like Gela showed that ancient Greek amphorae had a +/- per cent standard capacity.<sup>64</sup>

<sup>&</sup>lt;sup>62</sup> Whitbread 1995.

<sup>63</sup> Wallace 2004, p.429.

<sup>&</sup>lt;sup>64</sup> Ibid, p.429-431.

### **Stamping of Amphorae**

Another important aspect of ancient trade was the controlling system of the central authority. This information can be drawn from stamped amphorae. Since the beginning of 20<sup>th</sup> century, the study of amphora, especially stamped handles, is exclusively thought to give the picture of the trade relation between the site where they were found and the production center of the amphora.<sup>65</sup> The provenance of the amphora, the trade relation between supplier and client cities, the quality of trade, the capacity of trade in a definite time, the date of the context in which they are founded (accepted as epigraphic evidence), the origin of the people, the social organization of the city, the population density, the orientation of city growth (by examining stamps coming from necropolis) can be inferred from amphora stamps studies.<sup>66</sup>

There were developed some measures by central authority in order to receive a share from the traded product in amphorae. Since the product in amphorae was controlled there were some controlling system relating with the number of producers and traders: a) some abbreviation or mark made by paint before firings, b) *tituli picti*, stamped on crock during the usage, c) stamps on handles before firing.

Although it was not regular, the first stamps were appeared on Canaanite amphorae.<sup>67</sup> In 14<sup>th</sup> century B.C. the stamps of Nefertiti were seen on Egyptian amphorae. This application of stamping became regular in Levant since the 7<sup>th</sup> century B.C. As being used as a controlling system, every amphora producer centers developed their own stamps since Classical period. Actually, every amphora producer center had their own form and it was easy to understand the origin of the amphora from their clay. Relating with the increasing production some cities developed stamps as a control system.

<sup>65</sup> Garlan 1983, p.28.

<sup>&</sup>lt;sup>66</sup> Şenol 2005.

<sup>&</sup>lt;sup>67</sup> Şenol 2009, p.19.

It is hard to find out, from the ancient literary evidences, what was the aim of stamping. Apart from to find out what was the filled product inside the amphora, it might be used to control the vessels and the contents. It is understood that stamping was commonly used by wine producer centers.<sup>68</sup> There are some opinions about the aim of stamping: a) the guarantee of the quantity and/or the quality of the content, b) the guarantee of the vessel capacity and c) tax systems. It can be possible to multiply these ideas but the common opinion is the stamping was used to control more than one aspects.

"Current research interests related to Greek amphora and pre-Roman Mediterranean trade, including differing scales of production, the use of amphora stamps, and the intersection between the archaeological record on land with maritime record"<sup>69</sup> offers new perspective to the researchers who are willing to study ancient economy.

#### **Production, Use and Reuse of Amphorae**

There are three stages of life history of a Greek amphora: a) initial stages of production and filling, b) local use / exported, and c) re-use. The duration of primary use (production and filling, local use / exported) can be estimated by using the evidence from datable amphora stamps. Before being thrown away, amphorae might be re-used for many purposes: re-filling, re-shipment, ongoing storage and totally different re-uses as construction materials.

In the initial stage of production and filling, the spatial relationship between amphora production sites and agricultural zones is important. The localization of an amphora kiln was depended on the proximity of agricultural areas which supply the content of an amphora, and comfortable ways of distribution like local market and ports. For this reason, it is generally assumed that amphora production kilns were appeared near

<sup>&</sup>lt;sup>68</sup> Ibid, p.20.

<sup>&</sup>lt;sup>69</sup> Lawall 2011a, p.38.

a filling station and situated along the coast for maritime transport. However, when considered the regional geography these assumptions must be reconsidered since there is a lack of information on workshops location all over the Mediterranean. At Thasos the amphora workshops were generally situated along the coast to transport their products.<sup>70</sup> The researches carried out on the Knidian Peninsula during 1980s identified 10 different workshops particularly located across the foothills of terraced lands of vineyards that produced amphorae and all types of pottery, within which common ware was in majority.<sup>71</sup>

In the chain of amphora-use, transportation of empty amphora towards the filling stations was an important and difficult stage. We learn from Hellenistic papyri that, in some case, empty amphorae, either new or re-use, which were ordered by wineries to be filled, would have been transported for some distance.<sup>72</sup>

The timing of amphora production is still unknown for the most part of the Ancient Greek world whether it was seasonal or constant. However, there are some arguments that amphorae might have been produced seasonally. Because of the stamps which bearded month names, Rhodian amphorae were the best subject to theorize such assumptions. C. Börker, according to the order of months in the Rhodian calendar, claimed that the amphora production reduced in winter because of slow drying timing.<sup>73</sup> However, Ju. S. Badal'yants proposed another timing procedure by combining with the epigraphical evidences. According to him, the rise and fall of the amphora production was closely related with the agricultural production.<sup>74</sup>

<sup>&</sup>lt;sup>70</sup> Garlan 1986, p.271.

<sup>&</sup>lt;sup>71</sup> Tuna 1990.

<sup>&</sup>lt;sup>72</sup> Lawall 2011a, p.39.

<sup>&</sup>lt;sup>73</sup> Börker 1978, p.193-218.

<sup>&</sup>lt;sup>74</sup> Badal'yants 1970, p.113-126.

Apart from Rhodian amphorae, from some other classes of Greek amphorae like Thasian, Sinopean, Chersonesean, and, to a lesser extent Knidian can be inferred the production date. Such datable amphorae in closed deposits may be useful to generate the production date. These stamped amphorae were used to interpret the import rate in a given site, however, with others questions in mind this data can be used to determine the date of production.<sup>75</sup>

Before becoming an entry into the discard context, there are some possible re-used processes of amphorae: a) refilling and reshipment, b) storage, c) drainage, fill, and other construction features.<sup>76</sup> It is difficult to identify, in Type A, the content of an amphora whether principal or irregular. Different from Roman amphorae which had specific shapes for specific products; Greek amphorae were commonly ascribed for carrying a wide range of products. From literary sources, we learn that primary content of a Chian amphora might have been wine, honey, hazel nuts, and olives; Thasian amphorae filled with wine, honey, and processed fish products as primary content etc. However, archaeological examples proved that there is a huge diversity of amphora contents: olives in "wine" amphora, cattle ribs in "oil" amphora, pitch filling in "wine" amphora, almonds in "oil" amphorae etc. It can be also supported by the rarity of multiple shapes from a single production site.

The best examples of Type A re-use came from shipwreck assemblages. It is already mentioned that a ship might either loaded with a single cargo or mixed cargo as a result of tramping. The quantitative distinction of the main cargo and the secondary assemblage of a shipwreck, which might involve ships supplies, leftovers from old cargoes..., can show the use of amphorae. It can be said that an amphora which belongs to the main cargo carried the primary content while the amphora from a secondary assemblage demonstrated different stages of re-use. It can be assumed that the re-use did not appear in general within Aegean basin while it occurred in the

<sup>&</sup>lt;sup>75</sup> Lawall 2011a, p.41.

<sup>&</sup>lt;sup>76</sup> Ibid, p.43-47.

western Mediterranean. This can be explained by comparing to Serçe Limani Hellenistic wreck with Porticello and El Sec wrecks: the first's cargo is composed of single Thasian amphorae with one eponym; the latters' cargoes are composed of different types of Aegean amphorae which can be deduced that the Type A re-use had been more likely occurred when one gets farther from the production zone.<sup>77</sup>

The second re-use, Type B, of an amphora is storage. Amphorae played a vital role in local storage and movement of goods.<sup>78</sup> A storeroom was found on Thasos which contained twelve Thasian amphorae of the 5<sup>th</sup> century B.C.<sup>79</sup> There were also other sites where amphorae were found in storerooms such as Gela, Abdera, Istria, Pompei and several site on Rhodes.<sup>80</sup> At Burgaz, in NE sector, the houses had some rooms for storage activities.<sup>81</sup>

The last re-use, Type C, of amphora refers to totally different purposes. Amphorae or amphora fragments can be used in foundation levels of a building, in walls, in construction contexts for road-beds, in drainage channels. Apart from reusing for construction purposes, amphorae or a part of an amphora can also be used for industrial (lower part of an amphora to hold paint, tapering bases used as funnel, handles used as mold support in metal-workings) and burial (basins for plaster in shaft graves, as an urn pot) purposes.

# Amphorae in the Sea Transportation

The amphorae from Şeytan Deresi Shipwreck, dated to 1600 B.C., were accepted as the first evidence of the usage of this kind of pottery for sea transportation. Since the

<sup>&</sup>lt;sup>77</sup> Ibid, p.43-44.

<sup>&</sup>lt;sup>78</sup> Ibid, p. 45.

<sup>&</sup>lt;sup>79</sup> Koehler 1986, p.62-66.

<sup>&</sup>lt;sup>80</sup> Ibid, p. 66.

<sup>&</sup>lt;sup>81</sup> Sakarya 2003.

first quarter of the 14<sup>th</sup> century B.C., the Canaatine jars were densely used for sea transportation. The shipwrecks, which are the significant indicators of an active trade throughout of Mediterranean Sea, were found all over the Mediterranean but especially in the southwest coasts of Asia Minor dated back to the Late Bronze Age. Uluburun Shipwreck amphora assemblage and their content indicated that Canaatine amphorae were used for different purposes.<sup>82</sup>

Phoenician played a dominant role in colonization and trade activities throughout the Mediterranean during the 2<sup>nd</sup> half of 8<sup>th</sup> century B.C. and the 1<sup>st</sup> half of the 7<sup>th</sup> century B.C. since they had pressure of taxation against Assyrians and they did not want to lose the sovereignty against the Greeks. However, since the middle of 8<sup>th</sup> century B.C. the East Greek findings were found in Carthage (Tunisia) and Toscanos (Spain), the most important colonies of Phoenicians, which demonstrated not only the rivalry between Phoenicians and Greeks but also the interaction between them. Samian and Korinthian A amphorae which used to carry olive oil were found in those cities. Greek amphorae were carried only olive oil to those cities until the last quarter of the 7<sup>th</sup> century B.C., and since the last quarter of the 7<sup>th</sup> century B.C. Greek wine amphorae and drinking pottery were imported.

The colonization activities in Greek world were begun in the middle of 8<sup>th</sup> century and continued throughout the 7<sup>th</sup> and 6<sup>th</sup> centuries B. C. By establishing new cities around the littoral regions of Mediterranean, Marmara and Black Seas, Greeks created themselves new markets where they could sell their wine and olive oil, and supply their grain need. In order to be known in the market, amphora producer cities begun to create their own amphorae with specific traits in terms of form and decoration patterns due to the increasing trade relations.

Throughout Archaic period, the wine and olive oil trades with East Greek amphorae were mainly performed with the Black Sea colonies. However, East Greek amphorae were also found at East Mediterranean, Aegean, South Italy and Spain littoral

<sup>&</sup>lt;sup>82</sup> Şenol 2009, p.32.

regions.<sup>83</sup> Since the mid-6<sup>th</sup> century B.C., the Greek cities began intensely trade relations with West Mediterranean. There occurred a decrease in the export of Greek amphorae by the last quarter of the 6<sup>th</sup> century B.C., yet there are some evidences which proved that the trade was relatively regular until the end of the 5<sup>th</sup> century B.C.<sup>84</sup> After the Persian prevailed against Lydian and took over the dominance of Asia Minor, there occurred several sea wars like Salamis, Lade and Marathon which affected negatively sea trade. After the Ionian Revolt had been quelled by Persian in the beginning of the 5<sup>th</sup> century B.C., the amphora production on the west coast of Asia Minor was effected unfavorable. However, the amphora production endured intensely throughout of the 5<sup>th</sup> century B. C. in the islands of Chios, Samos and Lesbos. In this century there was an increase of amphora and wine production at Chios, Samos, Lesbos and Thasos. Thasian amphorae were exported to Aegean and especially to Black Sea littoral cities in huge amount at the 5<sup>th</sup> century B.C.

Since the last quarter of 4<sup>th</sup> century B.C., by the conquests of Alexander the Great, East World was reshaped with Greek trading organization styles and became an important participant of Mediterranean trade. With these conquests many Greeks settled down to the East and they required Greek wine and oil, these lead to the producer city to increase their production of these commodities and there occurred new producer cities to supply this demand.

As a result of that kind of big trade, the producer cities might have convenient agricultural areas and located close to the markets places. Thereby, at the beginning of Hellenistic period, North Aegean Island like Thasos, Lesbos and Chios lost their superiority on the market while Rhodos and Knidos which were situated at the south part of the Aegean took over the advantage in the market economy. These two cities shared deliberatively wine market that its rivalry policies were already designated.

<sup>&</sup>lt;sup>83</sup> Ibid, p.37-38.

<sup>&</sup>lt;sup>84</sup> Ibid, p.38.

The Greeks took advantage of their colonies all over the Black Sea and Mediterranean in Hellenistic period. The indigenous people of Mediterranean Basin were willing to exchange their local products with Greek industrial and agricultural products. This enabled Greeks who already had intercity trade relations to establish new trade relations with strange cities. These new markets which enriched Greeks caused in population growth and organizational transformation of economic activities. The agricultural fields of grain were diminished because of the specializing of agriculture in favor of wine and olive oil production.

Greek cities were saved themselves from the economic crisis which occurred since the middle of 4<sup>th</sup> century B.C. by producing more wine and olive oil. This augmentation of production occurred in Greeks cities located in Aegean Basin. These cities; such as Samos, Knidos, Kos, Rhodos, Paros, Peparethos, Phokaia, Erythria, Klazomenai and Halicarnassos; became important exporter cities. They had to protect their place in the Mediterranean trade by new invention and reaching new markets. The rivalry between these cities result in diversification of products: they sold not only agricultural products but also industrial products like pottery.

The study of amphora, both from shipwrecks and land excavations, to reconstruct ancient trade relations is a crucial point in order to understand ancient economy. Since sea transportation was economic and practical for large quantities of goods over great distances, shipwrecks excavations offer greatest insight into maritime and economic history of the Ancient Greek World. The examination of amphora materials from land excavation also offers many aspects on ancient economy like the production process of amphora (clay sources, clay preparation, firing methods), the agricultural production through ages, the central authority organization, the changes of exchange systems, and the taxation systems.

### **CHAPTER III**

# HISTORICAL AND GEOGRAPHICAL DEFINITION OF ANCIENT BURGAZ

#### **Historical Overview**

From a number of literary sources, we learn that Knidos was a rich and important economic center during the archaic and classical periods. Burgaz was first introduced to the scientific world by G.E. Bean and J.M. Cook in 1952 as the archaic and classical Knidos<sup>85</sup> before they resettled at Tekir Cape during the Late Classical period. There is not a special history book about Knidos. Historical inscriptions about Knidos are very limited. Karia and Knidos have been mentioned just a few times in connection with world history. The best source of Knidian history came from the Hellenistic period.

The first settlement has been probably founded in the 14<sup>th</sup> century B.C. Later on this place a Greek *apoikia* was developed. There is little knowledge about the origin of Karians but it is known that their language was in use till the 4<sup>th</sup> century B.C. They were probably indigenous people of Aegean and had regular contact with the Greeks.<sup>86</sup> At around 900 B.C. Dorians emerged as new settlers on the Karian coasts. Knidos and Halikarnassos established as two new Greek cities, and Dorians seemed to be mixed with native societies of these coasts. "The settlers of Knidos were of Spartan extraction, but the remainders of the Dorian settlers in this region seem to have come the Argolid<sup>87</sup>". Knidos was a member of the Dorian hexapolis with

<sup>&</sup>lt;sup>85</sup> Bean&Cook 1952, p.173-179.

<sup>&</sup>lt;sup>86</sup> Cook 1962, p.29.

<sup>&</sup>lt;sup>87</sup> Ibid; p. 29-30.

Lindos, Ialysos, Kamiros (cities of Dorian Rhodes), Kos, Knidos and Halikarnassos, which was expelled because of the behavior of one of its athletes, and celebrated their kinship in a joint festival of Apollo at Triopion near the Knidian headland.<sup>88</sup> At this time the territory of the city developed and to this belongs to the west part of the peninsula up to the area around Bybassos. "They had little part in the cultural activity and traffic of ideas that accompanied the Greek Renascence; it was only after the breakdown of the Athenian empire in the 5<sup>th</sup> century that they began to adapt themselves to new conditions of urban life and civilization<sup>89</sup>". By the 6<sup>th</sup> century B.C., each city had developed its own distinctive character. Apart from its neighbors like Kos, which was content with their fertile land, and Lindos, which was sufficiently unaware of their position on the highway of commerce, Knidians, by having too little arable land at the foot of their sierras, had reorganized the neighboring valleys and sent out emigrants to live a practical, communistic life in the Lipari islands; however, the southern Dorians had not yet scented the wind of change and progress.<sup>90</sup> With the beginning of Black Sea trade, the Greek cities became customer of grain and supplier of their specialized production and industry: Karia was famous for its honey, Rhodes for its sponges, Kolophon for resin, Chios for mastic raisin, Knidos for its herbs, Kos for raisins etc... In this period using their own coinage facilitated trade for many Greek cities. In the 5<sup>th</sup> century, Persians advanced by land and sea along the east coast of Greece.<sup>91</sup> At that time Spartans were leading to the Greek forces. Persians conquered all Greek cities along the route to the Peloponnese except Megara, Plataea and significantly Athens. In 478 B.C., many of the east Greek cities and islands invited Athens to lead them against Persians. Then the Athenian imperialism was founded.<sup>92</sup> At first all allies had to provide equivalent forces and money, but later Athens took all the control and treated

<sup>&</sup>lt;sup>88</sup> Ibid; p.30.

<sup>&</sup>lt;sup>89</sup> Ibid; p.30.

<sup>&</sup>lt;sup>90</sup> Ibid; p.89.

<sup>&</sup>lt;sup>91</sup> Ibid, p. 117.

<sup>&</sup>lt;sup>92</sup> Ibid; p. 118.

to all allies as subjects. As a result of this, the Greeks were divided into two blocks: "the Peloponnesian League, led by Spartans, was strong on land, preoccupied with agriculture and oligarchical; the Athenian alliance was based on naval power, more commercial, and democratic<sup>93</sup>". As soon as the conflict between this two forces was resulted in the Peloponnesian War between 431-404 B.C. At the end of the war Spartans prevailed, however they did not destroy Athens in order to establish a buffer area between Sparta and Boeotia. Instead, they established their own governor and garrisons in all the Athenian empire cities that they liberated and increased the tribute. Unfortunately, in 387 B.C., Spartans ceded to Persia all the Asiatic mainland. After this sudden decline of Spartan power, the Greek world felt in power conflict. Meanwhile in the north, Macedonia was growing dangerous. First they established their own kingdom, and then they started to capture Greek cities on the mainland and Greek colonies.<sup>94</sup> At the 1<sup>st</sup> half of the 4<sup>th</sup> century B.C., because of this political insecurity, the Eastern Greek cities had to look to their own protection which resulted in new urban reorganization: Smyrna and Kolophon had new housing quarters, Erythrai developed new layout with street system.<sup>95</sup> "The change of urban life was visible in regions where regular urban concentration did not exist before<sup>96</sup>". Dorian cities and neighboring coasts of Karia were the best examples for this change. After the collapse of Athenian Empire, Lindos, Ialysos and Kamiros (old cities of Rhodes) came together to build a new city at the northern tip of their island in 408 B.C., and the inhabitants of the Kos have abandoned their old settlement Kos Astypalaea at 366 B.C to found their new settlement Kos Meropis on the eastern tip of the island.<sup>97</sup> After around 360 B.C. Knidians moved their city to the Tekir Cape in order to benefit from the new maritime routes.

<sup>&</sup>lt;sup>93</sup> Ibid; p. 118.

<sup>&</sup>lt;sup>94</sup> Ibid; p.119.

<sup>&</sup>lt;sup>95</sup> Ibid, p.140.

<sup>&</sup>lt;sup>96</sup> Ibid; p. 141.

<sup>&</sup>lt;sup>97</sup> Tuna, Atıcı, Sakarya & Koparal 2009, p.518.

After the occupation of Karia by Alexander the Great, in 332 B.C., the city became free. Until this time the city was not so important. Probably after the destruction of Halikarnassos, Knidos got more and more important. After the death of Alexander the Great there was a tempestuous period and the position of Knidos was not different from the most other cities in Asia Minor. The city became totally free by the end of the 4<sup>th</sup> century B.C. and this was the beginning of its economic development. The geographic position of Knidos between Rhodes and the territories of Egypt in Asia Minor had a big influence to its history. This geographic position was an advantage for trade and politics. Because of its position, Knidos was directly connected to one of the most frequented sea trading routes which permitted the city to play important role in the maritime trade.

Because of the proper climate condition at Anatolia for cultivation of vines, viniculture was an important activity through ages in Anatolia by means of production and consumption. Wine was one of the most strategic products in Mediterranean world in terms of trade. Although the wine production in Anatolia went back to the very early periods, there was an augmentation in Hellenistic Period. As it was produced for mostly religious purposes, wine production became a traditional activity among Anatolian people. In Hellenistic Period, wine, as well as becoming a subject of demands for mercenary soldiers of Alexander the Great and his successor emperors, it also became an important source of income for the wine production centers. Correspondingly, amphora production grew in order to transport this product to the regional/interregional markets. "While the amphora production realized in the centers along the coast of Anatolia demonstrates the density of wine production, amphora finds discovered in the consumption centers point out the commercial activities based on wine selling in the Hellenistic Period<sup>98</sup>".

<sup>&</sup>lt;sup>98</sup> Şenol 2010, p.123.

#### The History of Archaeological Researches at Ancient Burgaz

Since the end of 19<sup>th</sup> century, many scientists have shown interest in Burgaz because of the architectural traces and pottery sherds seen in great quantity on the surface. This ancient town, which is surrounded by city walls and located around Dalacak Cape, accepted as "Acropolis", is an important ancient town because of the remains belonging to the Archaic and Classic Periods. The excavations made by Panayiotis Polemikos, a Greek merchant, in 1907 show the importance of the site<sup>99</sup>. Burgaz – Old Knidos- and Knidos at Tekir Cape are the main subjects of a discussion between archaeologists. Some scholars -Bean<sup>100</sup>, Cook<sup>101</sup>, Tuna<sup>102</sup>- believed that Burgaz was the Archaic and Classic Knidos. On the other hand, Demand<sup>103</sup> and Love<sup>104</sup> claimed that Knidos was always settled at Tekir Cape (Figure 1).



Figure 1 - Map of Datça Peninsula.

<sup>99</sup> Bean & Cook 1952, p.175-176.

<sup>&</sup>lt;sup>100</sup> Bean 1987, p.160-167.

<sup>&</sup>lt;sup>101</sup> Cook 1962, p.143-145.

<sup>&</sup>lt;sup>102</sup> Tuna, Atıcı, Sakarya & Koparal 2009, p.517-519.

<sup>&</sup>lt;sup>103</sup> Demand 1989, p.224-237; 1990, p.146-150.

<sup>&</sup>lt;sup>104</sup> Love 1973, p.421.

Bean and Cook find Herodotos' description of Knidos more suitable for Burgaz:

Among the Hellens dwelling in this area were Cnidians, colonists from Lacedaemon, whose settlement faces the sea and is called Triopion. Their territory begins at the Bybassian peninsula, which, except for a narrow land bridge to the mainland, is completely surrounded by water. The Kerameaos Gulf borders the peninsula on the north, the sea off Syme and Rhodos on the south. The narrow isthmus connecting the Cnidian territory to the mainland is about 3.000 feet wide.(Herodotus I, 174)<sup>105</sup>

The passage of Thucydides giving more detailed information about Knidos supports this idea too:

The same winter the Spartan Hippocrates sailed out from the Peloponnesus with ten Thurian ships (under the command of Dorieus, son of Diagoras, and two colleagues), an done Laconian an done Syracusan vessel, and arrived at Cnidus, which had already revolted at the instigation of Tissapharnes. When their arrival was known at Miletus, orders came to them to leave half their squadron to guard Cnidus, and with the rest to cruise round Triopium and seize all the Merchant ships arriving from Egypt. Triopium is a promontory of Cnidus and sacred to Apollo. This coming to the knowledge of the Athenians, they sailed from Samos and captured the six ships on the watch at Triopium, the crews escaping out of them. After this the Athenians sailed into Cnidus and made an assault upon the city, which was unfortified, and all but took it; and the next day assaulted it again, but with less effect, as the inhabitants had improved their defences, during the night, and had been reinforced by the crews escaped from the ships at Triopium. The Athenians now withdrew, and after pludering the Cnidian territory sailed back to Samos.(Thucydides VIII, 35)<sup>106</sup>

Demand claims that the town didn't move. She points out that Knidos at Tekir Cape is a typical archaic colony. She also claims that Bean and Cook interpret the passages of Herodotos and Thucydides wrongly. Demand shows Aristoteles' *Historia Animalium* as proof. She says that there is no mention of Knidos' being old or new

<sup>&</sup>lt;sup>105</sup> Strassler 2007, p.95.

<sup>&</sup>lt;sup>106</sup> Strassler 1998, p.501.

while talking about the pond near Knidos. Love<sup>107</sup>, who made excavation in Knidos between 1967 and 1973, also says that there is ceramic belonging to Myceanean, Archaic and Classical Periods. But residences from this era have not been located. Not to see any proof earlier than the Hellenistic Period at Knidos town in Tekir Cape excavations initiated the search for another place for the settlement of Knidos' early period. The fact that no finds have been found dating to the period later than the 4<sup>th</sup> century B.C. at Burgaz supports this idea. But still, to accept Burgaz as Old Knidos shouldn't mean that there is no settlement at Tekir Cape before the 4<sup>th</sup> century B.C. Also, it cannot be said that the settlement in Burgaz is not the Old Knidos if an early settlement at Tekir Cape exists. There should be a settlement, even if it is little, at Tekir Cape, because it would have been suitable for controlling the sea traffic during the Archaic and Classical Periods when sea trade and sea wars were numerous. With this information, it is understood that Knidos was established before the 8<sup>th</sup> century B.C. in Burgaz and moved to Tekir Cape towards the end of 4<sup>th</sup> century B.C., but also that the settlement at Burgaz was not abandoned.

### The Site of Ancient Burgaz

Burgaz is situated 2 km to the northeast of Modern Datça Harbour. By being the largest urban settlement in Datça peninsula the site is located at the headland, Dalacak Cape which identified as "Acropolis". Burgaz protrudes as a promontory at 12 m above the sea level. The archaeological site is surrounded by Classical fortification walls which is about 400 m in length. On the northwest of the fortification walls there are the remains of two ports that confirmed by the towers and foundations of breakwater. The small promontory is encircled by ancient residential quarters extending over 45 ha. The extensive archaeological deposits dated to the Geometric, Archaic and Classical periods in the context of the Territorium of Knidians, Burgaz has a high priority of archaeological importance (Figure 2).

<sup>&</sup>lt;sup>107</sup> Love 1978, p.1111-1119-1129; 1972, p.65.



Figure 2 - Site of Ancient Burgaz.

Archaeological excavations at Burgaz have been initiated in 1993. The main work of the Burgaz excavations focused on exploring the extent and chronology of occupation levels. The archaeological deposits of Classical period were extended and deeply buried over two meters below the existing topsoil, whereas the Hellenistic and Roman levels show some patches of graveyards with sporadic habitation areas in mixed uses of agricultural processing, workshops and storage activities.<sup>108</sup>

<sup>&</sup>lt;sup>108</sup> Tuna 1994, p.283.

According to the results of continuing excavations, it is understood that the early occupation levels are belonging to the 8<sup>th</sup> century B.C. The city was first founded in an orthogonal plan in the middle of the 6<sup>th</sup> century B.C. It was rebuilt with a new design in the middle of 5<sup>th</sup> century B.C. by preserving the archaic layout of the settlement, streets alignments and wall of domestic units. The general layout of the 5<sup>th</sup> century settlement of Burgaz was preserved also in the 4<sup>th</sup> century B.C. with minor alterations in the plan. The last occupation levels in Burgaz are belonging to the third quarter of the 4<sup>th</sup> century B.C.

To determine the stratigraphy and the expansion of the settlement, the excavations were conducted at four main sectors namely NE (Figure 3), SE (Figure 4), Acropolis and B11. The main purpose at the Acropolis sector is to reveal the stratigraphy down to the bedrock. However, there were no associations with any architectural remains that can be destroyed by leveling activities during the Hellenistic period and later. At the B11 sector, the ancient port was excavated and there was revealed a Hellenistic building complex situated on a terrace upon the slopes of the Acropolis and the remains of public structures underneath dated to the Late Archaic-Classical period. It is understood that this building is used from the beginning of the 5<sup>th</sup> century B.C. to the early Hellenistic period.<sup>109</sup>

<sup>&</sup>lt;sup>109</sup> Tuna, Atıcı, Sakarya & Koparal 2009, p.523.



Figure 3 - Plan of NE Sector.

The excavations at NE and SE sectors were carried on to determine the domestic quarters of the city. According to the excavation results, it is observed that the settlement was planned as *insulae* bordered by streets. Although the streets were not intersected at right angles, the settlement seems to have an orthogonal plan. The houses in an *insula* did not have a common dimension and orientation in Burgaz. Burgaz houses have pastas house plan in which the houses have a courtyard and rooms situated around this courtyard. The courts generally include a well as water supply in which rainwaters were collected. The houses were entered directly from the street. The excavations of houses have shown that the arrangement of the indoor spaces was changed according to the needs of their habitants but the layout of the houses had not changed.



Figure. 4 - Plan of SE Sector.

# **Commercial Goods of Ancient Burgaz**

Throughout antiquity, the Knidians have settled in two coastal plains and had semiclosed agrarian economic system. With the development of the seaborne trade, the importance of wine production and its trade had increased which led the Knidians to expand all over arable agricultural lands mostly with terraces in the peninsula.<sup>110</sup> According to the antique historians, we learn that Knidos took part in wine economy with its low-priced wine. Athenaeus, in his work named *Deipnosophitae*, mentioned that Knidian wine had nutritious and hemafacient properties and added that if someone drunk so much this wine might have upset stomach due to the detente of

<sup>&</sup>lt;sup>110</sup> Tuna 1990, p.349-350.

bowels.<sup>111</sup> Strabo, in his *Geographika*, classed Knidos as one of the manufacturer cities of medicinal wine and praised the quality of Knidian wine.<sup>112</sup> In Naturalis Historia, Plinius gave place to Knidos in the chapter which he mentioned about viticulture and wine making. He quoted that Knidian made their wine in protropos method in which the wine was made from the stum obtained by the own weight of the grapes.<sup>113</sup> Although Knidos was famous for its wine, there were other products to be exported. Athenaeus mentioned that the Knidian vinegar was accepted among qualified vinegar and was exported too.<sup>114</sup> If we consider the making method of vinegar, we must accept that it did not bear hard on Knidian manufacturers who produce a big amount of wine. Even though Knidians dedicated most of their arable land, which was already not much, to viticulture, they did not only benefit from wine selling to feed their citizens the number of who had reached 40.000 people.<sup>115</sup> We had known that Knidians also exploited olives which were one of the important products in Mediterranean world.<sup>116</sup> It was the second exported manufactured goods after wine. Besides these goods, fresh fruits and vegetables were also added among the exported products by the new agricultural policy. There was some sort of cabbage that was called "salty", onion<sup>117</sup>, and locust bean (carob).<sup>118</sup> Additionally, oil from crushed oil seed<sup>119</sup>, reed (*Cnidus Calamus*) to make pen, some sort of medicinal salve and antivenom<sup>120</sup> were the other notable products of Knidos.

<sup>115</sup> Tuna 1990, p.350.

<sup>&</sup>lt;sup>111</sup> Athenaeus, *Deipnosophitae*, I, 32.

<sup>&</sup>lt;sup>112</sup> Strabon, XIV, I, 15.

<sup>&</sup>lt;sup>113</sup> Plinius NH. XIV, 75.

<sup>&</sup>lt;sup>114</sup> Athenaeus, *Deipnosophitae*, I, 33.

<sup>&</sup>lt;sup>116</sup> Haynes 1974, p.39.

<sup>&</sup>lt;sup>117</sup> Plinius *NH.* XIX, 101.

<sup>&</sup>lt;sup>118</sup> Plinius NH. XII,59.

<sup>&</sup>lt;sup>119</sup> Plinius *NH.* XV, 28.

<sup>&</sup>lt;sup>120</sup> Plinius *NH.* XIII, 114.

#### **CHAPTER IV**

#### METHODOLOGY

In this study, which is about the ancient trade relations of Ancient Burgaz, transport amphorae are selected for examination since they are accepted as the evidence of the commercial relations. During the ongoing excavation at Burgaz, there has been found a valuable amphora assemblage. Most of the amphorae found in Burgaz were not intact; after being emptied of their contents they had been broken into pieces elsewhere and were used as filling materials for levelling the floors. However, a few amphorae were found that were preserved with entire profiles. This is hardly surprising since Burgaz is a settlement which was occupied for several centuries until its gradual abandonment at the last quarter of the 4<sup>th</sup> century B.C. During its gradual abandonment phase and the later phases –Hellenistic and Roman periods- some alteration of the use of the space occurred and some spaces were changed into the workshops of wine/olive oil, metal or textile production.

In this research, in order to understand the trade relations of Ancient Burgaz from the Archaic period to the mid-4<sup>th</sup> century B.C. the amphorae assemblage recovered from the residential quarters of southeast and northeast sectors during the 1993-2009 excavations were chosen to be examined. I used only recorded amphora fragments (rims and feet) in this study since, unfortunately, although all discarded ceramic sherds were counted according to their types units by units, some amphora fragments which were found in dense amphora fragments concentration deposits were kept in the excavation house depot without counting and not registered. The amphora fragments from 1993-2009 seasons total count is 5283 fragments, (3862 rims, 1421 feet). These were taken out from their level bags and classified according to their provenance and dated using the published examples. The classification was based on typological features. Since chemical analysis of clay has not been done until now, the

correlation of provenance and clay is based on simple eye observation using as reference the published descriptions of clay.<sup>121</sup>

In order to examine the amphora assemblage form Burgaz, a brief summary of recovery and recording system is given. The grid system<sup>122</sup> is applied in the Burgaz excavation. The digging area is divided into 5x5 m trenches. These 5x5 m trenches were excavated in a stratigraphic pattern. Each stratigraphic phase recorded as unit on forms in detail and their sketch plans were made to show each architectural feature. During the excavations, architectural features like walls, floors, wells etc. are numbered separately. To be able to date the unit and to identify the land use, each level was dug carefully and the materials collected were labelled separately. Since it is not possible to recover all features intact, whenever destruction was observed, these destruction parts were excavated separately and their material collected separately and also given a locus number.

During the excavation all ceramic findings which were collected from the trenches level by level were bagged and were brought to the excavation house. They were washed and let to dry. After they were dried, supervisors selected the most well preserved and datable fragments and discarded the other ceramic sherds after having counted them according to type (amphora, bowl, krater, lekane, skyphos, kylix etc....) and part of vessel (rim, body, base, handle etc...). During this selection, all joining sherds or non-joining sherds of same vessel were identified and counted as one. After this, all selected sherds are numerated and recorded on a special notebook for each trench level by level. Also, all selected sherds are encoded according to their characteristics like part of vessel, function, shape, fabric, fired color, etc. During inventorying if it was noticed that the joining sherds or non-joining sherds of same

<sup>&</sup>lt;sup>121</sup> Whitebread 1986, 1995; Dupont 1983, Seifert 2004, Sezgin 2012. In order to identify the type of clay typical to the place of manufacture, the inclusions of the fabric like mica, sand, black or white inclusions, quartz etc. were taken into consideration.

<sup>&</sup>lt;sup>122</sup> Referenced to the datum point at the mid of the site.

vessel<sup>123</sup> are missed and numerated separately, they were either brought together or marked down to be taken into consideration as one for later work.

### **Quantification of the materials**

To be able to infer an understanding on Ancient Burgaz trade relations, I used sherd counts.<sup>124</sup> This method has been criticized as being biased and depending on fragmentation. "Sherd count records the number of broken pieces rather than the original number of vessels present and therefore reflects both fragility of a type and how a deposit was formed".<sup>125</sup> Nevertheless, my data are compiled by quantifying only diagnostic sherds during the excavation, not every fragment recovered. In particular, body fragments and handles were not used in this study. Only foot fragments and rim fragments are counted. Feet were mostly complete but rims were very fragmented. In order to avoid double counting the same rim, I examined in detail all rim fragments based on their classes, profiles, clay components, surface treatments, decoration traits to confirm whether or not the various fragments belong to the same rim. As I mentioned above, after identifying during the selection and inventorying of the ceramic findings including the recognized joining sherds or nonjoining sherds of same vessel, in order to avoid the smallest likelihood of missing to sort out joining shreds or non-joining of the same vessel, I re-examined all the amphora fragments after taking them out from their level bags. After grouping all rim fragments by their general class, by taking into consideration the resemblance of profile, clay component, surface treatment such as whether slipped or not and painted or not, I tried to fit broken rim fragments with each other. Thus, I was able to count the joining sherds as well as the non-joining sherds of the same vessel as one and so to minimize the possibility of double counting.

<sup>&</sup>lt;sup>123</sup> Sometimes sherds from one vessel can be found in successive layers or from neigbouring trenches levels.

<sup>&</sup>lt;sup>124</sup> Orton 1993, Orton, Tyers & Vince 1993, p.168-169.

<sup>&</sup>lt;sup>125</sup> Slane 2003, p.321.

The other quantifying method, namely minimum numbers of vessels (MNV), was not preferred because this method requires taking "the weight of the sherds, then dividing that weight by the weight of a typical complete vessel"<sup>126</sup> and this condition presents some problems. Firstly, during excavation, the finds were not weighted. Secondly, there were a few restorable complete profiles of each amphora type to make this kind of calculation reliably. Yet, there were not found sufficiently convenient complete amphora in Burgaz excavation to test this method. Finally, it is known that each amphora type varies in size within the same type so that it is difficult to make such a calculation. It seems that estimation of the relative proportions of different types of amphorae based on sherds counts is the most suitable method of quantification since it is straightforward to do it by quantifying the amphorae fragments and presenting them type by type.

I also tried another way of quantifying MNV. To calculate the MNV from the rim fragments I measured the saved percentage of the vessel's orifice.<sup>127</sup> In order to take the percentage of the rim fragments, first I measured the diameter of each amphora rim fragments. By using the radius calculator, I measured how much is preserved by means of percentage. According to the measurements 41 rim fragments were saved at 100%; 86 rim fragments were between 50-99%, 2829 rim fragments are protected less than 50%, and 906 rim fragments are too small to be able to take a measurement.

The rims saved in a 100% and 50-99% are counted as one vessel. Since the majority of rims are saved in less than 50%, I sum up the values of all rim fragments of the same type and divided the sum by 100 to reach the minimum number of vessel. In order to process this calculation it is needed the same value of diameter within the same type. Yet the diameter values vary within the same type. Also, this process decreased very much the amphora sample available for study since most of them

<sup>&</sup>lt;sup>126</sup> Göransson 2007, p.12.

<sup>&</sup>lt;sup>127</sup> Egloff 1973, p.351-353; Orton, Tyers & Vince 1993, p.172-173.

were saved in small fragments. In addition, also there are many rim fragments which are too small to be able to take measurement. We considered this problematic therefore I did not use the MNV for my study. Instead, I added all the securely identified fragments of rims even if they were saved in a small percentage.

I produced a chronological table according to provenance by using the count of all rim fragments and feet (Table-1). Using both, rim and foot fragments can be criticized as a method because it may cause double counting of the same amphora (once for rim, once for foot). Also choosing the rim as a counting unit can be considered problematic since a rim can be broken in many fragments. Again here we are faced with the issue of "double counting". As I mentioned above, all fragments were carefully examined in order to find out whether they belong to the same vessel since they first uncovered in the field. Nevertheless, while studying the Burgaz amphora assemblage clear differences in the representation of types were noticed. This made using both counts necessary. For example in Table 1 one can see that if rim fragments were not included amphora from Athens would have not been present. In order to avoid losing data and deal with double counting issues, rims and feet are presented separately. I produced a second table which shows the percentage of the amphora fragments according to provenance by chronological order (Table-2a and 2b).

	Table 2a - The percentage of	Amph	ora Rin	1 Frag	ments A	Accord	ing to P	rovena	ance by	Chror	lological	Order	-				
		TTH	C BC	6TH	C BC	STH	C BC	4TH	C BC	3RD	C BC	2ND (	CBC	UND/	ATED	TOT	AL
		R	%	R	%	R	%	R	%	R	%	R	%	R	%	R	%
REGIONS	CENTERS													6 - 6			
MAINI AND CREECE	ATHENS	1	0,81	17	1,34									1	0,17	19	0,49
IVIAINLAND UREELE	KORINTH	2	1,63	38	3	6	1,14	28	3,14	3	1,52			18	3,07	98	2,54
	AKANTHOS-AMPHIPOLIS		-		8 8		8 	8	0,9					0		8	0,21
NOBTH AFCEAN BECTON	MENDE					56	7,1	17	1,91					5	0,85	78	2,02
NUNIT AEGEAN REGION	THASOS			34	2,69	104	13,18	51	5,72	1	0,51	6	60	6	1,02	202	5,23
	OTHERS					43	5,45	25	2,81					68	11,6	136	3,52
<b>AOLIAN REGION</b>	LESBOS			32	2,53	4	0,51							4	0,68	40	1,04
SPORADES ISLANDS	PEPARETHOS&IKOS/SOLOKHA I							22	2,47							22	0,57
	KLAZOMENAI	2	1,63	13	1,03									9	1,02	21	0,54
	EPHESOS							5 (S		11	5,58	2	20			13	0,34
IONIAN DECION	MILETUS	36	29,27	109	8,61	7	0,89							16	2,73	168	4,35
IONIAN ACCION	CHIOS	13	10,57	60	4,74	323	40,94	113	12,68					10	1,71	519	13,44
	SAMOS	35	28,46	145	11,45	67	8,49	82	9,2	4	2,03			14	2,39	347	8,98
	OTHERS			41	3,24	15	1,9							1	0,17	57	1,48
	RHODIAN PERAEA							9	1,01	9	4,57		-	2	0,34	20	0,52
	KOS							23	2,58	4	2,03			1	0,17	28	0,73
	RHODOS							13	1,46	56	28,43	2	20	12	2,05	83	2,15
	OTHERS			5	0,39		5 2 2 2	91	10,21					4	0,68	100	2,59
CYCLADES ISLANDS	PAROS			3 S			а 2—3	15	1,68							15	0,39
MEDITERRANEAN REGION	CYPRUS					10	1,27	5	0,56					3	10,71	18	0,47
<b>BLACK SEA REGION</b>	HERACLEA PONTICA																9
	UNIDENTIFIED					1	0,13	3	0,34					263	44,88	267	6,91
	KNIDOS	34	27,64	772	60,98	129	0,13	386	43,32	107	54,31			175	29,86	1603	41,51
		123	100	1266	100	789	100	891	100	197	100	10	100	586	100	3862	100
											_	-				-	

		TTH	CBC	6TH	CBC	STH	CBC	4TH	CBC	3RD C	BC	2ND C B	NN	DATED	TO	TAL
		F	%	ч	%	F	%	F	%	н	%	F %	ч	%	F	%
REGIONS	CENTERS									-		-				
MAINI AND CREECE	ATHENS					1						-				
	KORINTH			3	1,63	9	2,44	6	1,14	2 1	L,74		1	0,47	21	1,48
	AKANTHOS-AMPHIPOLIS				2		4				100			174		
NODTH AFCEAN BECTON	MENDE				8	79	21,41	5	0,95						84	5,91
	THASOS			1	0,54	14	3,79	85	16,13	1 0	,87				101	7,11
	OTHERS				2	10	2,71	46	8,73		3 (2) 9 (9)	2 - SC	10	4,67	66	4,64
<b>AOLIAN REGION</b>	LESBOS			8	4,35	9	2,44			<u> 1977 - 28</u>	3 3 0 9	60 ×			17	1,2
SPORADES ISLANDS	PEPARETHOS&IKOS/SOLOKHA I							24	4,55	-					24	1,69
	KLAZOMENAI	1	8,33	1	0,54	1	0,27			1.00		-			3	0,21
	EPHESOS									3 2	2,61		1	0,47	4	0,28
IONIAN BECION	MILETUS	1	8,33	11	5,98	10	2,71	6	1,14						28	1,97
IONIAN NEULON	CHIOS	1	8,33	25	13,59	88	23,85	65	12,33	1 0	,87		1	0,47	181	12,74
	SAMOS	9	75	52	28,26	9	2,44	50	9,49	1 0	,87				121	8,52
	OTHERS			5	2,72	21	5,69			3 - 04	8 - 18 9 - 18	2			26	1,83
	HALIKARNASSOS				2 - 3 3					<u>17 - 8</u>	3 3	60 S		0		
	RHODIAN PERAEA									1 0	,87				1	0,07
SOUTH AEGEAN REGION	KOS					2000 17-00		32	6,07				4	1,87	36	2,53
	RHODOS							19	3,61	1 0	,87		1	0,47	21	1,48
	OTHERS					1	0,27	5	0,95				4	1,87	10	0,7
CYCLADES ISLANDS	PAROS				9 - 4	5				e:11						
<b>MEDITERRANEAN REGION</b>	CYPRUS							7	1,33						7	0,49
<b>BLACK SEA REGION</b>	HERACLEA PONTICA				8			2	0,38	3-00	s - 187 9 - 181	i - 10			2	0,14
	UNIDENTIFIED				2) - S							30 61 - 5	171	80	171	12,03
	KNIDOS			78	42,39	118	31,98	175	33,21	105 9	91,3		21	9,81	497	34,98
		12	100	184	100	369	100	527	100	115	100		214	100	1421	100
### **Classification and Typology**

The amphora assemblage from Burgaz is mostly composed of fragments. In order to get an understanding on the trade relations, all selected diagnostic sherds (rims and feet) from the domestic contexts were first classified on the basis of shared physical characteristics such as shape, size, unique combination of their paste and surface treatment. After being classified in this way, all groups were evaluated in terms of their morphological characteristics and how these may have developed throughout different chronological periods. They were categorized by the similarities in their profile and were compared with existing typologies from previous studies.<sup>128</sup>

A brief description of their morphological development, definition of fabric and content is given in the next two chapters in order to provide a chronological framework for identified amphora classes, both local Knidian amphorae as well as imported amphorae, upon which to base our understanding and interpretation of the trade relations of Burgaz. For each class of amphorae, a chronological table is produced to get a better understanding of how the relation between Burgaz and other trade centers evolved. Lastly, a catalogue for each class is created including the best representative selected examples.

# The Evaluation of Amphora Findings Found in the Burgaz's Residential Unit

The layout of Burgaz residential area originated from the archaic period, however, due to the needs of the household overtime there had been some changes in the interior organization of the houses.<sup>129</sup> During the last phase, in the course of the gradual movement of the city, it is revealed that some rooms were converted into workshops.<sup>130</sup> In the residential units, 6<sup>th</sup> and 5<sup>th</sup> century's floor levels has been

<sup>&</sup>lt;sup>128</sup> See Chapters V and VI.

<sup>&</sup>lt;sup>129</sup> Tuna 1999, p.430.

<sup>&</sup>lt;sup>130</sup> Tuna, Atıcı, Sakarya & Koparal 2009, p.517-531.

identified in small areas. These soundings provided amphora data for these centuries.<sup>131</sup> During the reorganization of the interior space, broken ceramic materials –mostly amphora fragments- were used as the filling material for raised floor levels. From these filling materials, it is understood that during the 6<sup>th</sup> and 5<sup>th</sup> centuries B.C., Burgaz had trade relations with Korinth, Chios, Thasos, Miletus and Samos.

Apart from the amphorae recovered from filling levels, amphorae fragments were excavated from floor levels, peristalsis levels, street levels and workshops. Nevertheless, the amount of amphorae discovered in these contexts was very small compared to the amount found on the fillings. These already small assemblages from floors, peristases, streets and workshops became much smaller when further subdivided by period they represent and production centers. It was thought that such small assemblages will not allow for secure comparisons to be made and understand the change in time of the trading relationships of Burgaz. With this observation in mind it was decided that all amphorae fragments are dealt together no matter from which contexts they originated (Table 3, Figure 1)

	R	%	F	%
LEVELLINGS	3236	83,79	1185	83,39
FLOORS	263	6,81	89	6,26
PERISTASIS	60	1,55	12	0,84
STREETS	260	6,73	116	8,16
WORKSHOPS	43	1,11	21	1,48
	3862	100	1421	100

Table 3 - Total amphorae fragments distribution by contexts, all periods, all types.

<sup>&</sup>lt;sup>131</sup> Ibid, p.517-531.



Figure 5 - Total amphorae fragments distribution by contexts, all periods, all types.

During the mid-4<sup>th</sup> century B.C., it was understood that some rooms were used for storage purposes in both NE and SE sectors. According to the result of the spatial analysis carried out in order to specify the storage area at the NE sector houses<sup>132</sup>, it is understood that each houses has their own spatial organization due to their dimension differences, so that the location of storage areas did not have a common orientation in the house organization. Consequently, in NE sector some rooms (NE-1Ba-b; NE-2E and NE-3C) were used for storage purposes while the others were used for multipurpose activities.<sup>133</sup>

In SE sector, one *insula* which surrounded by the streets 1, 6, 3 and 4 was completely excavated by the end of the 2009 excavation season, and others were partially excavated.<sup>134</sup> According to the spatial analysis results<sup>135</sup>, some rooms (SE-3 /Room 2; SE-4 / Room 2; SE-5 / Room 4; SE-6 / Room 5-6; SE-7 / Room 3 and SE-8 / Room 3) were used for storage purposes. Apart from the storage areas from the

<sup>&</sup>lt;sup>132</sup> Sakarya 2003.

<sup>&</sup>lt;sup>133</sup> Sakarya 2003, p.37-45.

<sup>&</sup>lt;sup>134</sup> Atıcı 2013.

<sup>&</sup>lt;sup>135</sup> Atıcı 2013, p.55-87.

*insula* I, there had been identified another storage area in the house 3 of the partially excavated *insula* II.<sup>136</sup>

In the pursuit of understanding Classical housing pattern in SE sector, the area between Late 4<sup>th</sup> century fortification wall and the open public area in the west, the Hellenistic terrace wall (D441) and the associated installations were recovered in the seasons of 2008-9. The excavation results permit us to identify at least two workshops for winemaking. The open area rests between the workshops and the Hellenistic terrace wall (D441) identified with pits of muddy deposits probably due to drainage from the workshops. The extensive dump of workshops mixed with earlier materials along the Hellenistic terrace wall is localized at the heaps extending 32 m in length and 7 m in width. Due to the Roman interventions at the dump, the upper part of the Hellenistic deposits mixed with the earlier materials had been moved to the west of the Hellenistic terrace wall (D441), however primary contexts of the Hellenistic deposits reveal that the majority of potsherds belong to amphorae and common ware. At the northern part of the workshop at the north, a floor with intact amphorae dated to 2<sup>nd</sup> half of 3<sup>rd</sup> c. B.C. was recovered implying a storeroom; the amphora necks, body sherds and feet fragments which lined up along the wall were used as filling materials for the later alterations.<sup>137</sup>

<sup>&</sup>lt;sup>136</sup> The information about the storage unit in this *insula* is obtained throught the field records of 2001 excavation season.

<sup>&</sup>lt;sup>137</sup> Tuna, Atıcı & Sakarya 2009, p.1-3; Tuna, Atıcı, Sakarya & Gökdemir 2010, p.428-430.

#### **CHAPTER V**

#### **KNIDIAN AMPHORAE**

# V-I-Amphora Production in Knidian Peninsula

The amphora workshops of the Knidian Peninsula were firstly introduced to the scientific world by the salvage excavation at Mesudiye carried out by I. C. Love in 1973.<sup>138</sup> In 1980s, Prof. Dr. N. Tuna carried out a survey all over the Knidian Peninsula and investigated a number of amphora workshops in the peninsula.<sup>139</sup> It is set forth that the Knidian Peninsula had an important territory in the production of amphorae by J.-Y. Empereur and M. Picon.<sup>140</sup>

The researches carried out on Knidian Peninsula during 1980s designated 10 different workshops that produced amphorae and all types of pottery, particularly common ware. Among them, only the workshops of Kiliseyanı/Reşadiye were active from the 4<sup>th</sup> century B.C. till the 7<sup>th</sup> century A.D. Around the village of Hızırşah, there were identified some workshops which produced Late Knidian type and Dressel 4 amphorae.<sup>141</sup> (Figure 6)

<sup>&</sup>lt;sup>138</sup> Love 1973, p.1119-1120.

<sup>&</sup>lt;sup>139</sup> Tuna 1982, 1983a-b, 1984, 1990.

<sup>&</sup>lt;sup>140</sup> Emperuer & Picon 1986.

<sup>&</sup>lt;sup>141</sup> Tuna 1990, p.347-371.



Figure 6 - Amphora workshops in the Datça Peninsula.

<u>Kovanlıkönü/Hızırşah (X7/9-a2)</u>: By the surface findings, it is revealed that, at these workshops, limited types of amphorae were produced and these were imitations of Rhodian and Koan types, dated to the end of the  $1^{st}$  century B.C.

<u>Alandömü/Hızırşah (X7/9-a1):</u> It is understood that this workshop was contemporary with the workshop of Kovanlıkönü.

<u>Körmen Limanı(W7/1)</u>: At the surface, there were found a lot of almond rim amphorae of the 4<sup>th</sup> century B.C., archaic Ionian banded bowls and mushroom rim amphorae fragments. In the 2<sup>nd</sup> century B.C., from the stamped amphora handles found, it is understood that there was a producer named *Kharmokrates*.

<u>Ölgün Boğazı(W7/15)</u>: It is designated as a workshop which was active from late  $2^{nd}$  century B.C. until the  $1^{st}$  century B.C.

<u>Gökçedere/Kabakkuyu(W7/17)</u>: According to the stamped handles of amphorae found at the surface, there was a workshop which used the ivy leaf as a symbol after the second half of the 2<sup>nd</sup> century B.C. Dressel 4 amphorae were produced in this workshop.

<u>Mersincik(W6/1)</u>: According to the surface findings, it is understood that there was a workshop which produced Late Knidian Amphorae and Dressel 4 amphorae in the 1<sup>st</sup> century B.C.

<u>Muhaltepe(W7/2)</u>: This workshop was found in the northeast of the Datça plain at 5 km inland from the sea. It was established at 2 km northwest of the Reşadiye workshop. The archaeological surface deposits were scattered to the extent of 4 ha of land. It was divided in 3 zones. The findings of first and second zones belonged to the Archaic period until the  $3^{rd}$  century B.C. The first and second zones were a continuous piece of land before the second zone was separate artificially in modern times. The findings found at first zone were homogenous. All findings belonged to the workshop which produced a similar type of amphora bearing the same monogram. In the second zone, a lot of fragments were found which indicated that there was more than one workshop. The latest stamped amphora handle was dated to the last quarter of the  $3^{rd}$  century B.C.

<u>Mesudiye(X7/14)</u>: The amphorae must have been produced at the ateliers which were situated at the west side of Ovabükü. Salvage excavations carried out by I. C. Love revealed that there were kiln with tunnel oven and most of stamped amphora handles dated to the  $2^{nd}$  century B.C. The researches around Mesudiye showed another atelier located to the east of Hayıtbükü.

<u>Uzunazmak(X7/17)</u>: It is situated some 1,5 km northeast of Burgaz. It is understood that this atelier was active during the Hellenistic period.

Kiliseyani/Resadiye(X7/6): All the amphora workshops were settled at the coastal plain which provided the opportunity of shortest route to reach coastal transfer points. Yet the location of Resadiye workshops was different because of its distinctive geological situation. Besides, it was settled near the streams which were having more regular regime at that period. The complex of workshops at Resadive were scattered to an expanse of 1 km<sup>2</sup> of land. The results of field studies showed that the workshops were active throughout 1400 years; however the extent and density of workshops and their spatial patterns show distinctive change for each period. Mushroom rim amphorae, stamped amphorae of the Hellenistic period, Late Knidian amphorae of the 1<sup>st</sup> century A.D., Dressel 4 amphorae and late Roman 1 type of amphorae were the indicators of the diversity of the products of the Resadive workshops. The excavations of this site carried out between 1988-1992 revealed: Atelier of Damokrates that produced the circular stamps with boukranion in the center with two duoviri Aristokles and Artemon; and on the opposite handle the name of fabricant Dioskouridas and damiurge Agias dated between 90-88 B.C. Atelier of trident that the fabricant were Iason under the damiurge Poluchares between 167-146 B.C.; there were different fabricants like Botrus and Epion; the fabricants Demetrios and Theudosios under the phrourarchos Philtatos used anchor as symbol between 188-167 B.C. Atelier of bee with Archagoras, Apollonidas or Agathinos under the damiurge Asklepiodoros between 146-108 B.C. Atelier of Skirtos produced rectangular stamps with boukranion. Astragales, Asklepiodoros and Skirtos were the fabricants of this atelier under the phrourarchos Philippos between 188-167 B.C. At the other zone some monogram EI (between 280-240 B.C.) and the abreviations like AP (between 280-240 B.C.) and HP (between 280-240 B.C.) were found on the surface.

# V-II-Knidian Amphora Typology

# V-II-I-Previous Studies on Knidian Amphorae

Since I focused on the morphological development of the Knidian transport amphorae in this study, I do not mentioned with detail the studies on the Knidian stamps made by V.Grace, J.-Y. Empereur, M. Picon, A. Hesnard, and N. Tuna.<sup>142</sup>

It is testified that Knidians produced their amphora from the 6<sup>th</sup> century B.C. until the 7<sup>th</sup> century A.D. by the researches carried out on the peninsula since 1970s and 1980s.<sup>143</sup> However, the typology of Knidian amphorae was produced by the findings from the Late Classical period and the Hellenistic era.<sup>144</sup> The beginning of systematic import of Knidian wine in large amphorae with mushroom-shaped rims is established from the second quarter of the 4<sup>th</sup> century B.C. Later the amphorae of Knidian production become more diverse in their morphological characteristics, which is mainly typical for the end of the 4<sup>th</sup> century B.C. to the 1<sup>st</sup> quarter and the beginning of the 2<sup>nd</sup> quarter of the 3<sup>rd</sup> century B.C. After this the development of the shape of Knidian amphorae turned into "pythoid on cube-shaped toe" of the type that was discovered in Serçe Limanı to the vessels with a higher neck and sharp-pointed toe with an applied ring. From the end of the 3<sup>rd</sup> century B.C. and throughout the whole 2<sup>nd</sup> century B.C. the amphorae acquired a cigar-shaped body, retaining the marked shape of the toe. During this whole period amphora production in Knidos developed in two main types:

<sup>&</sup>lt;sup>142</sup> Grace & Savatianou-Petropoulakou 1970, 1986; Empereur & Tuna 1988; Empereur & Picon 1986; Empereur & Hesnard 1987; Tuna, Empereur, Picon & Döğer 1987, 1990; Empereur & Tuna 1989.

 <sup>&</sup>lt;sup>143</sup> Tuna, Empereur, Picon & Döğer 1987, p.49; Empereur & Tuna 1988, p.341-357; Döğer 1991, p.92;
Şenol 1992, p.23.

<sup>&</sup>lt;sup>144</sup> Monakhov 2003, p.101-110.

# Type 1: with a tall cylindrical neck and mushroom-shaped rim

This type can be distinguished four variants: Variant I-A (Elizavetovskii); Variant I-B (Gelendzhik); Variant I-C (Khersonnesan); Variant I-D (Cherednikovyi).<sup>145</sup> The first three variants can be dated the production of this series of amphorae to the 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C.

<u>Variant I-A</u>: wide, relatively short, pythoid body, a slightly funnel-like neck culminating in a massive mushroom rim, small sharp-ribbed toe.

Variant I-B: flattened shoulders, less massive rim, different profiling of the toe.

<u>Variant I-C</u>: sharp transition from the shoulder to the body, the toe is more massive and a grove is sometimes formed above it.

Variant I-D: It has more elongated proportions.

# Type 2: with conic neck and cube-shaped toe

It can be separated to seven variants: Variant II-A (Haviaras); Variant II-B (pythoidshaped); Variant II-C (collared); Variant II-D (Epikrates); Variant II-E (Ebert); Variant II-F (Athenian); Variant II-G (Cigar-shaped).<sup>146</sup> The second type of Knidian amphorae is partly contemporaneous with type I and appears in the 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C.

<u>Variant II-A:</u> Known by amphorae which were stamped with the dies of the city emblem of Knidos "ship's prow" (or "prow"). It has a tall neck, slightly widening downward, and a body of strictly conical shape. The toe is unknown; the rim is most

<sup>&</sup>lt;sup>145</sup> Ibid, p.102-104.

<sup>&</sup>lt;sup>146</sup> Monakhov 2003 p.104-110.

likely rolled. The problem of the chronology of the "prow" stamps is more complicated. These are dated between 305-280 B.C. The 25 years duration of this period is revealed only by the fact that 25 names are known as magistrates. The stamps with the ship's prow cannot be dated later than the middle of the 4th quarter of 4<sup>th</sup> century B.C. An amphora was found with a tall neck with " $\Pi A\Theta(-)$ " stamped handle which was same with the mushroom-shaped rim amphorae. Also, a whole neck was found with exactly the same stamp on the handle. Such stamps have been seen on amphorae of Type I with mushroom-shaped rim. The rim in the above mentioned amphorae has a wholly different profile: it is in the form of a massive roll with a small flattening above. "Haviaras" variant has the tall neck, widening in the lower part and with a smooth transition into the shoulder. All of the above give evidence to support that stamping with dies with "prow" and the monogram " $\Pi A\Theta(-)$ " were totally or at least partly synchronous, dated to the 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C.

<u>Variant II-B:</u> It has a body pythoid-form above a cube-shaped toe. Two sub-types can be identified:

The "early" types (II-B-1) are distinguished by a relatively short neck with a slight swelling in the upper part, roll-shaped, sometimes beak-like rim, sloping shoulders, wide pythoid body, which culminates in a small cube-shaped toe which sometimes has a band (wide groove) at the base. These amphorae are dated to the last quarters of the 4<sup>th</sup> century and the beginning of the 3<sup>rd</sup> century B.C.

The "late" types (II-B-2) "pythoid" variant appears from the first half and  $3^{rd}$  quarterof the  $3^{rd}$  century B.C. These amphorae have just about the same proportions and size but on the underside of the toe the notch is always absent, and the toe itself is formed more roughly. This type has the stamps of Zenon groups "A" and "B" - "ZHN |  $\Phi$ IAA" or "N $\Phi$ "- on its handle.

<u>Variant II-C</u>: These are distinguished, except for the precise shape of the rim, by sloping shoulders which provides the different proportions of the amphora - approximately equal association of the upper and lower parts of the vessel. On the contrary of V. Grace's hypothesis on the Egyptian origin of these series of vessels, according to his researches on the Knidian Peninsula, J.Y. Empereur claimed that they were produced in the workshop of the fabricant Sophanes near Muhaltepe in the central part of the peninsula.<sup>147</sup> The production of this type is dated to the end of the 4<sup>th</sup> century to the 1<sup>st</sup> decade of the 3<sup>rd</sup> century B.C.

<u>Variant II-D</u>: These were given their name by engliphic and relief stamps on the handles with the name of Epikratos. The characteristic curve of the handle which is moved far away from the neck, the dense red clay with small white inclusions expose that these were the production of Knidian amphora workshops. It is evident that the handles placed far away from the neck are characteristic for ceramic containers of Knidos itself, and were dated to the 4<sup>th</sup> century and the 1<sup>st</sup> half of the 3<sup>rd</sup> century B.C., but for the later well-known variants of the 3<sup>rd</sup> and 2<sup>nd</sup> centuries B.C.

<u>Variant II-E:</u> These had a strictly conical body which had not seen the parallels in Knidian amphora production, the characteristic toe with a rolled ring connected these with Knidos.

<u>Variant II-F</u>: These were dated to the 3<sup>rd</sup> quarter of the 3<sup>rd</sup> century B.C. The shape changed irrelevantly, mainly the toe, which from cube-shaped turned into sharp-pointed, and acquired an applied ring.

<u>Variant II-G</u>: Except for the tall neck, cone-shaped in its lower part, the traditional elements for this type were now becoming the elongated body, the toe with the applied ring, and a small roll-shaped rim. This type-standard turned out to be very stable and existed with small variations throughout the last third of the  $3^{rd}$  century, the whole of the  $2^{nd}$  century, and probably in the first half of the  $1^{st}$  century B.C.

<sup>&</sup>lt;sup>147</sup> Empereur & Tuna 1988, p.344.

# V-II-II-Typology of Knidian Amphorae from Ancient Burgaz

Because of the mass production over 1000 years Knidos became one of the most important amphora production center in the west Anatolia by its spread workshops all over the peninsula. As mentioned above the morphological development of the Knidian amphora was produced by the findings from the Late Classical period and the Hellenistic era mostly from the consumption centers and shipwrecks.<sup>148</sup> The lack of the information on the earlier types of Knidian amphora can be explained by the scarcity of findings. Ancient Burgaz has yielded many amphora fragments which support the data that the amphora production began at the 6<sup>th</sup> century B.C. (Figure 7) The amphora assemblage from Ancient Burgaz produced many amphora fragments from the earliest stage of Knidian amphora production as long as many fragments of known types.



Figure 7 – Knidian amphora production throughout ages.

<sup>&</sup>lt;sup>148</sup> Şenol 1992, p.31.

The Archaic deposit located on the plot no 25 at the Reşadiye workshops yielded the earliest Knidian amphorae.<sup>149</sup> By its high and thin convex lips, and shallow ridges at the transition from the rim to the neck and from the neck to the shoulders, they resemble to the Archaic Milesian amphorae so that they can be named as "Milesian type Knidian amphorae". As known, Miletus was an important pottery manufacturer which affected other manufacturer centers nearby during the Archaic period including the surrounding regions like Karia.<sup>150</sup> Although the form was very similar, there was differences concerning the clay component: It can be observed that the mica in the Milesian type Knidian amphorae" are less intense, different size and shape by the simple eye observation comparison on the clay of Milesian and Milesian type Knidian amphorae.

Burgaz amphora assemblage from 1993-2009 seasons yielded many fragments of Milesian type Knidian amphorae. Among 3862 rim fragments 314 rim fragments (8%) and among the 1421 feet 140 feet (9, 8%) were identified as Milesian type Knidian amphorae. Unfortunately, there are no complete examples. There identified two types of rims: the first has high and thin convex lips. There are one or several ridges just below the rim and one ridge at the transition from the neck to the shoulders. The short neck is sloping inwards. The second has almond rim and short neck (Plate I-IV). There are two types of ring foot; while one is slightly sloping outward with angular cross section the other is perpendicular with high rectangular section. Although the stand area has rounded shape in the first variant, the second variant has square shape stand area (Plate V-VI).

During the Late Archaic period, it is believed that Samos and Miletus has dominated the production of the transport amphorae with heavy rounded or echinoid rim and ring toe. However, by accumulating data from many Asia Minor centers and

<sup>&</sup>lt;sup>149</sup> Ibid; p.31.

<sup>&</sup>lt;sup>150</sup> Sezgin 2012, p.137, footnotes 669-673.

scientific analysis results proved that this type of transport amphorae might have been produced in a very wide region between Erythrai, at the far north, and southern Karia or even Lycia, at the far south. The scientific analysis of the fabric and densities of finds in different centers supported the idea of a widespread production centers in the Southern Asia Minor and adjacent islands.<sup>151</sup> With this information in mind, it can be possible to deduce that Knidos was one of the production center of this kind of transport amphorae since 20% (781 rim fragments) of the findings was belong to this general class. Unfortunately, there are no complete examples to describe full profile. Although it can be possible to observe minor differences, the rim has thicker and more rounded shape. There is one or more groove around the neck below the rim (Plate VII-XI/XII).

Beginning from the 4<sup>th</sup> century B.C., as from other amphora producer centers, Knidos began to produce transport amphorae with mushroom rim. Among the Burgaz amphorae assemblage, there are identified 292 mushroom rims of the local amphorae. There is only one complete mushroom rim amphora found during the 1993-2009 season which is typified as Type 2 in this study (Plate XV). During the examination of the mushroom rim amphorae, there are identified 8 different mushroom rim types dated to the beginning of the 4<sup>th</sup> century B.C. till the late 3<sup>rd</sup> century B.C. The mushroom rim amphorae mostly ended by a knob toe (Plate XXII).

Type 1: This type is corresponding with the Şenol type 1 from the Reşadiye workshop.<sup>152</sup> They have a triangular profile rim with a wide angle (Plate XIII-XIV).

Type 2: Among Burgaz finding of the 1993-2009 seasons, there is one full profile amphora that is typified according to its mushroom rim (Plate XV). It has a rim with a sharp sloping outer surface and a concave lower surface as other examples (Plate XVI-XVII). The neck is tall and has a slight bulge just under the rim. It has rounded

<sup>&</sup>lt;sup>151</sup> Lawall 2010b, p.356, footnote 837-838.

<sup>&</sup>lt;sup>152</sup> Şenol 1992, p.32, pl.17, fig.19.

shoulders and a piriform body. The handles attached to the neck just on the slight bulge and ended on the upper part of the shoulders. The knob toe has a shallow hollow underneath.

Type 3: This type has a rounded top with a similar length of the upper and lower surfaces (Plate XVIII).

Type 4: This type has a rim with broad curving upper surface and narrow outer edge (Plate XVIII).

Type 5: This type has a slightly everted interior profile (Plate XIX).

Type 6: This type is corresponding with the Şenol type 2 from the Reşadiye workshop.<sup>153</sup> The rim has a heavy triangular profile (Plate XX).

Type 7: It has a pointed top, concave interior profile and slightly vertically downsloping exterior surface (Plate XXI).

Type 8: The mushroom rim has a rounded profile (Plate XXI).

As time progresses, as a result of the development of the form, the angle of the triangular cross-section rims thoroughly narrows and seems to become a thick banded rim (Plate XXIII-70). They are culminating by cube-shaped toe with a slight cavity or stylized cube-shaped toe with deeper cavity.<sup>154</sup> (Plate XXVIII-XXIX)

By the 1<sup>st</sup> quarter of the 3<sup>rd</sup> century B.C., Knidians began to produce their own form. This new form has rolled rim (Plate XXIII-71,72-XXVII), broad neck, perpendicular handles which making slight curvature at the upper attachments, nearly sharp profile

<sup>&</sup>lt;sup>153</sup> Ibid, p.32, pl.17, fig.20.

<sup>&</sup>lt;sup>154</sup> Ibid, p.32, pl.17, fig.21-22; pl.18, fig.22-23.

at the neck shoulder transition, pithoid body and a cone-shaped toe (Plate XXX) that might develop into the familiar ringed toe of later forms. By the mid-3<sup>rd</sup> century B.C., the sharpness of the shoulder-body transition softened in order to harmonize with the lower part of the body. The ring around the toe became more prominent (Plate XXXI). The characteristic bulge at the neck during the 3<sup>rd</sup> century B.C. started to decrease at the end of the 3<sup>rd</sup> century B.C.

As the length of the neck and the entire height of the amphora elongated the body became slimmer until the 2<sup>nd</sup> half of the 2<sup>nd</sup> century B.C. The handles began to curve slightly upward. After the middle of this century the ring around the toe became more distinct. The spur after the plastic ring became longer at the end of the 2<sup>nd</sup> century and the beginning of the 1<sup>st</sup> century B.C. The amphorae produced at the 1<sup>st</sup> century B.C. had more arched handles.<sup>155</sup>

KNIDOS			7TH C BC	6TH C BC	5TH C BC	4TH C BC	3RD C BC	2ND C BC	UNDATED
	MILESIAN TYPE		34	257	14	2			7
	SAMO-MILESIAN TYPE			515	115	2			150
	S	TYPE 1				106			
	IdA.	TYPE 2				98			1
	LWI	TYPE 3				15			
RIMS	MR	TYPE 4				23	2		
ILLING	00	TYPE 5				19			1
	HR	TYPE 6				19			
	SUI	TYPE 7				3			
	4	TYPE 8					7		
	BANDED	RIM TYPE				18	24		5
	ROLLED H	RIM TYPE				69	59		11
	MILESIA	N TYPE		27	103				10
	SAMO-MILESIAN TYPE			49	17				
FFFT	KNOF	B TOE				113			4
FEEI	CUBE-SAI	CUBE-SAHPED TOE		· · · · · · · · · · · · · · · · · · ·		62		8	4
	CONE-SH	APED TOE					43		1
3	RINGE	D TOE			22 12		62		2

Table 4 – Knidian amphorae rim and feet fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C.

<sup>&</sup>lt;sup>155</sup> Ibid, p.34.

### **CHAPTER VI**

#### IMPORTS FROM OTHER CENTERS TO ANCIENT BURGAZ

In this chapter the amphora fragments will be examined by means of chronological and typological features. They are classified according to their provenances. Each class will be defined briefly and introduced from Burgaz findings.

# **VI-I-Mainland Greece**

### **VI-I-I-Athens**

The first known Greek amphora was 'SOS' amphorae which was produced since the late 8<sup>th</sup> century B.C. and used to transport Athenian and Euboean olive oil. <sup>156</sup> Because of the decoration on the neck (which resembles to the Greek letters  $\Sigma O\Sigma$ ), they were named as 'SOS' amphorae. These amphorae are classified as Early, Middle and Late by Johnston and Jones.<sup>157</sup> M. A. Rizzo had identified two variants of the Late 'SOS' type.<sup>158</sup> They were produced between the end of the 8<sup>th</sup> and the beginning of the 6<sup>th</sup> century B.C. During the course of the 7<sup>th</sup> century B.C., the development of the shape could be observed: early examples have a very plump, rounded body, a straight ring foot, and the neck is straight and decorated by a raised ring below the lip.<sup>159</sup> In the middle examples, the body became slimmer, and the foot was more flaring, the ridge became less prominent.<sup>160</sup> At the late examples, it

<sup>&</sup>lt;sup>156</sup> Johnston & Jones 1978, p.103.

<sup>&</sup>lt;sup>157</sup> Ibid, p.132-135.

<sup>&</sup>lt;sup>158</sup> Rizzo 1990.

<sup>&</sup>lt;sup>159</sup> Young 1942, p.51.

<sup>&</sup>lt;sup>160</sup> Ibid, p.51.

became smaller, not quite so bulging in the body, and stands on a very flaring foot, the neck had become slightly concave and the raised ring below the lip has disappeared.<sup>161</sup> They have a\_very simple decoration: the body is glazed with reserved bands around shoulder, and the neck is reserved and decorated with wheels, concentric circles or diminishing triangles between wavy lines.<sup>162</sup>

Their successors were the 'à la brosse' amphorae which were produced during the 6<sup>th</sup> century till the beginning of the 5<sup>th</sup> century B.C. The name 'à la brosse' was first used by M. Lambrino to describe the decoration technique of the transport amphora found in Histria.<sup>163</sup> Lambrino used this term to define either the 'SOS' amphorae or the amphorae with no decoration on the neck. However, the term is now used to describe the wheel-painted bodies of the 6<sup>th</sup> century amphorae.<sup>164</sup> They differentiated form the late 'SOS' amphorae by their cylindrical neck and rolled rim and lack of the characteristic decoration on the neck. The typology of the 'à la brosse' amphorae is based on the findings of Athenian Agora. There are two types of 'à la brosse' amphora: Agora 1501-1503 (Plate XXXII-109,110) and Agora 1502 (Plate XXXII-111-113).<sup>165</sup> The Agora 1501-1503 type has torus rim, flaring neck, rounded shoulder, ovoid body, high flaring ring foot. The arched rolled handles attached from the neck on the shoulder. While their neck and handles remained unglazed, their rim, shoulder, body and foot were decorated by a streaky brownish glaze. They were dated between the first quarter of the 6<sup>th</sup> century B.C. and last two decades of the 6<sup>th</sup> century B.C. according to securely dated contexts of the Athenian Agora.<sup>166</sup> Agora 1502 type has rolled outward rim, concave neck, wide globular body, rounded

<sup>&</sup>lt;sup>161</sup> Ibid, p.51.

<sup>&</sup>lt;sup>162</sup> Young 1939, p.210.

<sup>&</sup>lt;sup>163</sup> Lambrino 1938, p.132-141.

<sup>&</sup>lt;sup>164</sup> Johnston & Jones 1978, p.121.

<sup>&</sup>lt;sup>165</sup> Sparkes, Talcott & Richter 1970, p.192-193, 341.

<sup>&</sup>lt;sup>166</sup> The 1501 amphora found in a burial dated to ca. 600 B.C.; and the amphore 1503 found in the well P17:1 dated to ca.520-500 B.C. Sparkes, Talcott & Richter 1970, p.341.

shoulder, small, low ring base, and thick strap handles arched from the base of the neck.<sup>167</sup> The decoration was not different from the Agora 1501-1503 type: brushbanded on rim and body; unglazed neck, handles and lower edge of foot. The production of this type began in the middle of the 6<sup>th</sup> century B.C. and continued in to the second quarter of the 5<sup>th</sup> century B.C.<sup>168</sup>

Archeaometric analysis, conducted by Johnston and Jones, on 91 'SOS' and 7 'à la brosse' amphorae confirmed the Attic origin on the basis of the similarity to one another and Attic finewares. However, it is also understood that some 'SOS' amphorae were also produced in Chalkis and Euboea. The fabric of 'SOS' amphorae contained some reddish-brown and white inclusions in varying size and density, and minor amount of fine silver mica.<sup>169</sup> The five samples of 'à la brosse' amphorae have similar chemical compositions with Attic fine wares while two samples of 'à la brosse' amphorae provenance remains uncertain.<sup>170</sup> The 'à la brosse' amphorae contained white and dark inclusions and some mica.<sup>171</sup>

## Attic 'à la brosse' Amphorae from Burgaz:

Among the amphora fragments found at Burgaz, there are only 19 rim fragments identified as Athenian 'à la brosse' amphorae. Among them 8 rims are classified as Agora 1501-1503 type, 10 rims are classified as Agora 1502 type. The diameter of Agora 1501-1503 type of Burgaz findings change between 11 and 15 cm while the diameter of Agora 1502 type of Burgaz findings change between 10 and 17 cm. Although the paint was worn all fragments had paint around the outer face of rim.

<sup>&</sup>lt;sup>167</sup> Lawall 1995, p.35.

<sup>&</sup>lt;sup>168</sup> The 1502 amphore is dated to ca.575-535 B.C., Sparkes, Talcott & Richter 1970, p.341.; Lawall 1995, p.36.

<sup>&</sup>lt;sup>169</sup> Johnston & Jones 1978, p.122-128.

<sup>&</sup>lt;sup>170</sup> Ibid, p.121-128.

<sup>&</sup>lt;sup>171</sup> Ibid, p.121-122.

		CENTURIES (B.C.)								
ATTIC		7TH	6TH	5TH	4TH	3RD	2ND	UNDATED		
RIMS	TYPE		Q							
	1501-1503		0							
	ТҮРЕ	1	9							
	1502	1								
	TYPE ?							1		

Table 5 – Attic amphorae rim fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C.

#### VI-I-II-Korinth

During the Archaic period, Korinth was one of the major ceramic production center. Since the end of the 8<sup>th</sup> century B.C., Korinth began to produce amphorae. The researches on Korinthian amphorae revealed two major classes namely Korinthian A and Korinthian B and three types namely Type A, Type A' and Type B.<sup>172</sup> Although they had distinct morphological features, they were produced contemporary. Since the morphological features and the characteristic of clay is consistent with the ceramic tradition of Korinth, Korinthian A was surely produced at Korinth. However, there are some debates on the production center of the Korinthian B: V. Grace<sup>173</sup> and I. K. Whitbread<sup>174</sup> proposed Corcyra – a Korinthian colony- as the production center while M. Farnsworth<sup>175</sup> and C. G. Koehler<sup>176</sup> proposed Korinth as production center. As a result of these scientific analyses, it can be assumed that this form would constitute a type for extra-regional production. Korinth would be the

<sup>&</sup>lt;sup>172</sup> Koehler 1978, 1981, 1982, 1986,1992.

<sup>&</sup>lt;sup>173</sup> Grace 1953, p.108-109.

<sup>&</sup>lt;sup>174</sup> Whitbread 1995.

<sup>&</sup>lt;sup>175</sup> Farnsworth 1970, p.10-11.

<sup>&</sup>lt;sup>176</sup> Koehler 1992 from <u>http://www.chass.utoronto.ca/amphoras/corab92.htm</u> (the Amphora Project website in which the English translation of this article is available). In this aticle Koehler claimed that some of the form B amphorae were also produced in Korinth despite the fact that the scientific analysis indicated the Corcyrean production.

only Greek city of the Aegean area that was producing at the same time a local amphora shape and a form of extra-regional in nature.

Korinthian type A amphorae (Plate XXXIII) is the most ancient type of the Korinthian amphorae since their production began during the middle of the 8<sup>th</sup> century B.C. and continued uninterrupted until the end of the 4<sup>th</sup> or the beginning of the 3<sup>rd</sup> century B.C. Type A amphorae derived from large, globular storage jar. The oldest containers of this type, dated to the middle of the 8<sup>th</sup> and the 7<sup>th</sup> century B.C., have a squat and massive form. They have a globular profile narrowing gradually through the wide flat-bottomed toe. They have heavy necks and broad overhanging rims. The evaluation of the shape continues during the beginning of the 6<sup>th</sup> century B.C. The body is still fat, the toe is large and the top of the jar is massive.<sup>177</sup> The shape of the Type A changes gradually through the 6<sup>th</sup> century B.C. shown by the narrowing of the top of the jar and the toe in relation to the size of the body. During the 5<sup>th</sup> century B.C. the rim slopes gently downward. The handles are triangular in section at the attachment of the neck and round in section at the attachment of the shoulder. The toe is beveled. In the 4<sup>th</sup> century B.C., the globular profile of the body remains unchanged throughout the century until the disappearance of the production at the beginning of the 3<sup>rd</sup> century B.C. while some morphological development occurs at the lip and foot. The lip is mushroom shaped in triangular section. The foot now clearly separated from the body by a net narrowing at its junction with the bottom takes the form of a button. The handles still retain the double section at the attachments with the neck and the shoulders. I. K. Whitbread studied the fabrics of the Korinthian A amphorae:<sup>178</sup> they were made in a red fabric; the core is grey and contain large inclusions like coarse mudstone, limestone and volcanic rock and some fine quartz. Based on the observation of the clay which has very closed texture with

<sup>&</sup>lt;sup>177</sup> Koehler 1981, p.451.

<sup>&</sup>lt;sup>178</sup> Whitbread 1995, p.255-346.

the lamps, "blisterware" lekhytoi and other vessels used for oil; Korinthian A amphorae were used to store and to transport of the olive oil.<sup>179</sup>

By the following discovery of the 5<sup>th</sup> century Punic Amphora Building at Korinth, a third local amphora type was identified as Type A' (Plate XXXIV) by C. G. Koehler<sup>180</sup>, based on the morphological and technological similarities with Type A. The most ancient examples of this type are dated to the late 6<sup>th</sup> century B.C. The distinction from Type A is emerging not until the middle of the 5<sup>th</sup> century B.C. Their production does not replace Type A, but runs parallel to the disappearance of Type A towards the end of the 4<sup>th</sup> and/or early 3<sup>rd</sup> century B.C., and replaces it in the 3<sup>rd</sup> and 1<sup>st</sup> half of the 2<sup>nd</sup> century B.C., until the destruction of the city in 146 B.C. At the end of the 6<sup>th</sup> century B.C., the oldest examples still share many details with contemporary production of Type A. The morphological differentiation in relation to the contemporary Type A occurred by the change of the clay texture at the middle of the 5<sup>th</sup> century B.C. From the same period, the dimensions of these amphorae tend to decrease. Between the late 6<sup>th</sup> and the middle of the 5<sup>th</sup> century B.C., Type A' have an elongated ovoid body that the maximum diameter is located at the rounded and receding shoulder. The cylindrical neck is narrow and high. The handles have a circular section over the entire height. The oblique mushroom lip has triangular section. The foot, rather short, has a narrower diameter. From the middle of the 5<sup>th</sup> century B.C., the mushroom rim with triangular section becomes thicker and taller. The arched profile handles have a round section along their extension. The cylindrical neck, taller and straight, becomes slightly concave. The foot is a brief conical button type. During the 4<sup>th</sup> century B.C., the slope of the overhanging rim gradually rises, the neck narrows and the shoulder expands. The arched handles have a round section. In the beginning of the 3<sup>rd</sup> century B.C., the ovoid body had its maximum diameter on the center, the rim is almost vertical and beveled, and the cap toe is conical. Before the middle of the 5<sup>th</sup> century B.C. the fabric of the Type A'

<sup>&</sup>lt;sup>179</sup> Koehler 1981, p.452.

<sup>&</sup>lt;sup>180</sup> Koehler 1981, p.454-457.

amphorae are related with the common types of Korinthian ceramics. They were produced by fine yellow clay and the usual inclusions, however after the middle of the 5<sup>th</sup> century B.C. fine quartz sand, chert and lime were added.<sup>181</sup> Type A' amphorae were more permeable which is why Koehler admits the possibility that there was originally a resin coating, wax, gum, binding of olive oil or material that was not likely to damage the content.<sup>182</sup> It has been proposed that they were used for the transportation of dry commodities such as nuts and dried fruit.<sup>183</sup>

The production of Korinthian B amphorae (Plate XXXV-XXXVI) does not seem to start until the last quarter of the 6<sup>th</sup> century, and continued without interruption until the destruction of the city in 146 B.C. The oldest examples attributed to the Type B, dated between the last quarter of the 6<sup>th</sup> and the 1<sup>st</sup> quarter of 5<sup>th</sup> century B.C., have a piriform body, wide shoulder and flattened walls that shrink towards the foot. It has a small cylindrical toe. The short vertical handles, attached just below the lip, thick ribbon and irregular elliptical section, have a rounded and raised curvature. The neck is short, cylindrical, and is clearly distinguishable from the shoulder. Thick, rounded rim is distinguished from the neck by a groove or a ridge. Around 480 B.C., Type B undergoes a radical change: the lip becomes flattened at the top with a rectilinear or slightly curved outer profile in spine, always characterized by the presence of one or several thin groove or fillets at the junction with the neck. This is a character that can be observed until the end of the 4<sup>th</sup> century B.C. The neck, slightly flared and concave, is short; as the handles that the profile does not differ much from the previous examples. The globular body has a rounded shoulder and its maximum diameter is located at mid-height. The foot, now full, is clearly distinguishable from the rounded bottom junction is often highlighted by a groove and present a short tapered shape. Inside, there is a shallow cavity. In the last quarter of the 5<sup>th</sup> century B.C., the body becomes more slender and has a slightly piriform shape with brief

<sup>&</sup>lt;sup>181</sup> Koehler 1992, Whitbread 1995, p.278.

<sup>&</sup>lt;sup>182</sup> Koehler 1992.

<sup>&</sup>lt;sup>183</sup> Göransson 2007, p.84.

concave shoulder. The knob toe is shorter and more rounded at the bottom. The lip keeps its shape of the above type, although its profile open outwards more accentuated, which clearly highlights the angular junction of the base of the instrument with the neck. The junction of edge / neck is always highlighted by one or more lines. From the middle of the 5<sup>th</sup> century until the early 3<sup>rd</sup> century B.C. Type B amphorae gradually changes into a characteristic turnip-shape. The long arching handles which attached below the rim makes the rim and the neck look like a figure-eight when viewed from above. The fabric of Type B is fine in texture and characterized by light colors, often similar to that which is typical of Korinthian fine pottery productions, ranging from beige to yellow and encompassing rare and fine inclusions of quartz and chert.<sup>184</sup> Because of the resinous substance inside some Type B amphorae, it is suggested that these amphorae were used to transport wine.<sup>185</sup>

#### Korinthian Amphorae from Burgaz:

The three types of Korinthian amphorae which were studied by C. G. Koehler<sup>186</sup> were represented among the Burgaz amphora assemblage by 98 rim fragments and 21 feet between the 1993-2009 excavation season contexts (Figure 8). Among the rim fragments; 22 of them were Type A, 3 of them were Type A', 54 of them were Type B and 19 of them were thought to be Korinthian due to their fabric but they had different rim profiles. Among the feet; 8 of them were Type A, 2 of them were Type A', and 11 of them were Type B. Since the beginning of the Korinthian amphora production, Korinthian amphorae were presented among the amphora assemblage of Burgaz. There are no whole profile of Korinthian amphora found at Burgaz, so their typology is based on the rim and foot fragments. The fabric of the Korinthian Type A, A' and B amphorae found at Burgaz do not add much to the Whitbread's fabric descriptions, they are all consistent. The examples of Type A belong to between 2<sup>nd</sup>

<sup>&</sup>lt;sup>184</sup> For more detailed informations: Fransworth 1970, Koehler 1992, Whitbread 1995.

<sup>&</sup>lt;sup>185</sup> Koehler 1981, p.452.

<sup>&</sup>lt;sup>186</sup> Footnote 137.

half of the 7<sup>th</sup> century B.C and the 4<sup>th</sup> century B.C. The examples of Type A' belong to 4<sup>th</sup> and 3<sup>rd</sup> centuries B.C. The examples of Type B belong to between late 6<sup>th</sup> century B.C. and the beginning of the 2<sup>nd</sup> century B.C. The rim diameter of Korinthian Type A of Burgaz findings change between 9 and 18 cm while the rim diameter of Korinthian Type A' of Burgaz findings change between 10 and 11cm. Korinthian Type B of Burgaz findings have 9 to 19 cm of rim diameters.

Table 6 – Korinthian amphorae rim and feet fragment counts by types between the  $7^{th}$  and the  $2^{nd}$  centuries B.C.

		CENTURIES (B.C.)								
KORINTH		7TH	6TH	5TH	4TH	3RD	2ND	UNDATED		
	TYPE A	1	7	2	12					
DIMG	TYPE A'				1	2				
RINIS	TYPE B		31	7	15	1				
	<b>KORINTH?</b>	1						18		
FEET	TYPE A		1	5	2					
	TYPE A'			2						
	TYPE B		2	2	4	2		1		



Figure 8 – Distribution of amphorae imports from Korinth through all periods.

# **VI-II-North Aegean Region**

During Antiquity, The North Aegean<sup>187</sup>, was one of the most important regions of wine production center<sup>188</sup>. In the Northern Aegean area there was a kind of "North Aegean Koine" which is characterized by the production of similar amphora types during the late Archaic through the Hellenistic periods. The amphora production of the Northern Aegean region is mostly known by the amphorae from the city of Mende and the island of Thasos which they have important morphological similarities.<sup>189</sup> Apart from these two production centers, it should also be mentioned Akanthos as an amphora manufacture center in this regional production. However, judging by the heterogeneity of the clay and plenty of amphora variants, there might be many other North Aegean amphora manufacturer centers to be identified.

#### VI-II-I-Akanthos – Amphipolis

Amphorae produced by these centers are still very poorly understood. The Akanthian amphorae (Plate XXXVII) were first identified by their wheel-shape stamps. These types of stamps which found from various centers were first identified as Thasian amphorae. However the differences of their clay, their rim shape and their handles directed researchers to search another production center. The excavation of the necropolis of Akanthos<sup>190</sup> and the site of Amphipolis<sup>191</sup> yielded many examples of these stamp types which enable to propose that these sites were more likely the producer of these amphorae. The production center is most likely Akanthos since Y. Garlan reported an amphora workshop near the site of Akanthos which produced amphorae carrying stamps in form of a wheel which was three or four spooked and in

<sup>&</sup>lt;sup>187</sup> The region bounded by the Axios river on the West and by the island of Thasos on the East.

<sup>&</sup>lt;sup>188</sup> Salvait 1986, p.145-196.

<sup>&</sup>lt;sup>189</sup> Lawall 1995, p.116-117.

<sup>&</sup>lt;sup>190</sup> Rhomiopoulou 1986, p.479-483; Filis 2013, p.68,72.

<sup>&</sup>lt;sup>191</sup> Nicolaidou-Patera 1986, p.485-490.

which the letters AKAN<sup>192</sup> were included. Their profiles clearly belong to a repertoire of forms used in the Northern Aegean.<sup>193</sup> They have reddish clay with large quantities of mica.<sup>194</sup> They were most probably used for wine.

The early Akanthan type is represented by an amphora from the necropolis excavation.<sup>195</sup> The rim is outward thickened, wedge-shaped and offset from the neck below. The neck is quite short, and flares downward to the shoulder. The handle attachments cover the upper half of the neck. The handles swing widely outward, creating a stirrup profile. Small thumb impressions mark the lower attachments of the handles. The high, wide shoulders slope down gradually to form an egg-shaped body. The toe is a small, flaring-sided disc or a ring toe. According to its morphological traits such as stirrup profile handles, very short neck and egg-shaped body; it is possible to date this early type to the first half of the 5<sup>th</sup> century B.C.<sup>196</sup>

According to the excavations at Akanthos, it is understood that the local workshops were more active during the 4<sup>th</sup> century B.C.<sup>197</sup> The morphology of the 1<sup>st</sup> half the 4th century examples bear small distinctions in the form of the rim: triangular in section, flat or slightly sloping upper surface, a slightly horizontal groove at the junction with the neck. They had a sharply conical neck with a horizontal groove at the base. The handles; tall and oval in cross section; attached just below the rim, rise slightly and joined vertically on the shoulder and bear a thumbprint. They had flaring outward shoulder, conical body and a stem toe with a small depression. The excavations at Akanthos yielded another 4<sup>th</sup> century B.C. type of local amphorae: it has a bold and broad lip with triangular cross section and a flat upper surface; a

<sup>&</sup>lt;sup>192</sup> Garlan 1989, p.480.

<sup>&</sup>lt;sup>193</sup> Filis 2013, p.72.

<sup>&</sup>lt;sup>194</sup> Ibid, p.72.

<sup>&</sup>lt;sup>195</sup> Rhomiopoulou 1986, fig.1 and 2; Filis 2013, p.72.

<sup>&</sup>lt;sup>196</sup> Lawall 1995, 1995, p.151-152.

<sup>&</sup>lt;sup>197</sup> Filis 2013, p.72-73.

horizontal groove at the junction between the lip and the neck; tall cylindrical neck flaring down; broad horizontal shoulder which turns sharply to form a conical body; a cylindrical stem with a wide knob toe that had angular profile with a conical underside depression.

The amphorae from Amphipolis are characterized by an outturned rim, sometimes wedge shaped, but often pointing directly outward. Handles join just below the rim and turn downward, following the wide flare of the neck as it descends to the shoulder. Lower handle attachments are again marked with thumb impressions.<sup>198</sup>

# Akanthian – Amphipolis Amphorae from Burgaz:

Among the amphora fragments found at Burgaz, there are only 8 rim fragments identified as Akanthian amphorae. The diameter of Akanthian amphorae from Burgaz findings change between 8 and 10 cm.

Table 7 – Akanthian amphorae rim fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C.

	CENTURIES (B.C.)									
AKANTHOS	<b>7TH</b>	6TH	5TH	4TH	3RD	2ND	UNDATED			
RIMS				8						

### VI-II-II-Mende

The amphora findings from Athens, Korinth and Porticello shipwreck enable us to form some typological variations of Mendean amphorae (Plate XXXVIII-XXXIX) from the last quarter of the 6<sup>th</sup> century to the 4<sup>th</sup> century B.C.<sup>199</sup> The first identification of Mendean amphora was made by V. Grace between the late 1940s

<sup>&</sup>lt;sup>198</sup> Lawall 1995, p.153.

<sup>&</sup>lt;sup>199</sup> Grace 1949, 1953, 1961; Williams 1978; Eiseman 1973.

and early 1950s according to a representative stamp depicted Dionysos sitting backwards on a donkey and holding a kantharos with one arm outstretched.<sup>200</sup> This stamp directed V. Grace to attribute to Mende many others fragments and to characterize the general morphology of Mendean amphorae during the late 5<sup>th</sup> century B.C. Recently, M. L. Lawall was able to establish a typo chronological classification of this series for the 5<sup>th</sup> century B.C.<sup>201</sup> With the combination of the characteristics of their clay with key morphological traits identified by V. Grace, M. Lawall was able to trace the morphological evolution of the series from the early 5<sup>th</sup> century B.C.

The oldest examples of Mendean amphorae are dated to the late 6<sup>th</sup> century B.C. Although they have not yet been described and dated to a specific time frame with the exception of a few published examples;<sup>202</sup> they presented distinguish characteristics from the 5<sup>th</sup> century examples, especially the form of their foot. Before the 6<sup>th</sup> century B.C., the foot is short and flared and has a ring base. The body is ovoid. The cylindrical neck has a slightly concave profile. The thickened lip is slightly open and is distinguished from the neck by one or two projections. In the early 5<sup>th</sup> century B.C., the morphological changes, that remain stable until the middle of the 5<sup>th</sup> century B.C., began to occur. M. L. Lawall defines three variants as Early Mendean, Middle Mendean and Late Mendean in the course of the 5<sup>th</sup> century B.C.:<sup>203</sup> Early Mendean variant, dated to the 2<sup>nd</sup> quarter of the 5<sup>th</sup> century B.C. has a flared outward and roughly wedge-shaped rim; wide, flat handles with tall profile; sloping shoulder; a quite globular rounded body; low disc-shaped toe with often flaring sides; a thin painted horizontal band encircled the lower body. The Middle Mendean variant has an everted rim which distinguished from the neck with an offset ridge or groove; wide flaring neck; spherical body which the maximum diameter is

<sup>&</sup>lt;sup>200</sup> Grace 1949, p.182,186, pl.20,1; Grace 1953, p.106-107.

<sup>&</sup>lt;sup>201</sup> Lawall 1995, p.117-124.

<sup>&</sup>lt;sup>202</sup> Monakhov 1999.

<sup>&</sup>lt;sup>203</sup> Lawall 1995, p.120-124.

above the midpoint; more articulated rounded and sloping shoulders; flaring solid stem toe with a circular depression in the base and beveled outer edges. They were dated to the 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. when Mendean amphorae become much more numerous, probably in conjunction with an increase in the production and its exports. Mendean amphorae become more angular at the end of the 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. The Late Mendean variant has a slightly everted widgeshaped rim. The handles are more flat and attached just under the rim; at the shoulder attachment there are deep thumb impressions. The neck is flared downward from the rim. The shoulders are wide and flat. The conical body tapers towards to the stem toe. They have painted band just above the toe. The stem toe has a wide flaring circular base with a beveled outer edge and on the lower surface there is a shallow circular depression. They were dated to the last quarter of the 5<sup>th</sup> century B.C. The passage between the 5<sup>th</sup> and 4<sup>th</sup> centuries B.C., the general morphology of Mendean amphorae changes evidently: the body of the amphora, much slender, takes a biconical shape and assumes the characteristics of high-tapered neck, raised handles and convergent of the flattened shoulder and concave profile and finally the stem toe, well-known features for examples of the wreck of Porticello.<sup>204</sup>

The general morphological characteristics<sup>205</sup> attributed to Mende are common to several amphorae produced at North Aegean Koine. What differentiates the specific output of the city of Mende is especially the type of clay<sup>206</sup>. Mendean amphora fabric has a more or less intense color, with varying shades of beige red-tan, orange, sometimes veering to reddish. The clay is extremely coarse and micaceous, often characterized by quartz inclusions considerable dimensions, and appears at a first visual analysis as one of the most distinctive elements production Mende within the

<sup>&</sup>lt;sup>204</sup> Eiseman 1973, p.13-14; Eiseman & Ridgway 1987, p.37-42.

<sup>&</sup>lt;sup>205</sup> An everted, wedge-shaped rim; flat handles with wide thumb impressions at the lower attachments, a flaring stem toe and a horizontal panted band around the lower part of the body are the general morphological traits of Mendaen amphorae that shared with other production centers within the region.

<sup>&</sup>lt;sup>206</sup> Grace 1953, p.106-107, no.161; Whitbread 1995, p.198-209.

North Aegean Koine. The city of Mende was also a producer of a high quality wine that the trade with Athens leaded to produce a particular amphora shape.<sup>207</sup>

#### Mendean Amphorae from Burgaz:

Among the Burgaz amphora assemblage Mendean amphorae are represented by 78 rim fragments and 84 feet between the 1993-2009 excavation season contexts. The rim diameter of Mendean amphorae of Burgaz findings change between 7 and 14 cm.

Table 8 – Mendean amphorae rim and feet fragment counts by types between the  $7^{th}$  and the  $2^{nd}$  centuries B.C.

	<b>CENTURIES (B.C.)</b>									
MENDE	7TH	6TH	5TH	4TH	3RD	2ND	UNDATED			
RIMS			56	17			5			
FEET			79	5						

### **VI-II-III-Thasos**

The manufacture of amphora on the island was started by the late 6<sup>th</sup> to early 5<sup>th</sup> centuries B.C.<sup>208</sup> and lasted at the 2<sup>nd</sup> century B.C.<sup>209</sup> The amphora production sites have been located by M. Picon and Y. Garlan.<sup>210</sup> Most of these sites were situated around the coast of the island especially north, east, south and southwest.<sup>211</sup>

Thasian amphorae were made in a wide variety of shapes (Plate XL-XLIX). The double-banded rim type<sup>212</sup> of the late 6<sup>th</sup> to early 5<sup>th</sup> century B.C.; which owes its

<sup>&</sup>lt;sup>207</sup> Papadopoulos & Paspalas 1999.

<sup>&</sup>lt;sup>208</sup> Whitbread, 1995, p.11.

<sup>&</sup>lt;sup>209</sup> Şenol 2006, p.84.

<sup>&</sup>lt;sup>210</sup> Picon&Garlan 1986, Garlan 1988.

<sup>&</sup>lt;sup>211</sup> Garlan 1988.

<sup>&</sup>lt;sup>212</sup> Greandjean 1992, p.581-582; Lawall 1995, p.132-135.

name to the morphology of lip, quadrangular section; have two horizontal raised bands encircling the upper part of the neck and lip; low and squat neck; handles of oval section, rather thick, short, marked by a fingerprint at the lower attachment; large shoulder and wide body; narrow foot, comprising a light projection of the bottom of the body, with a small circular cavity on the underside. During the 5<sup>th</sup> century B.C., there are two main types that M. Lawall named them as ring toe type<sup>213</sup> and stem toe type.<sup>214</sup> The ring toe type is dated to the 1<sup>st</sup> half of the 5<sup>th</sup> century B.C. They have wedge-shape rim; short cylindrical neck; round shoulders; ovoid body and ring toe with a downward projecting cone in the middle. From the 2<sup>nd</sup> half of the 5<sup>th</sup> century B.C., there are two variants of stem toe. The first variant of the stem toe is corresponded to the Pithoid Thasian type<sup>215</sup> which is very similar with the middle Mendean variant of the 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. They have wedge-shaped rim; the body is piriform but enlarged in its upper part; the toe is short, heavy, flaring stem. The second variant of stem toe is corresponded to the Unstamped Thasian type<sup>216</sup> which is a form more elongated. The rim is also wedge-shaped in profile. The toe is flaring outward from the tapering base with a deep conical or hemispherical hollow in the lower surface. These two variants of stem toe types may be the prototype of the late 5<sup>th</sup> and 4<sup>th</sup> centuries Thasian amphorae. The second variant of stem toe which corresponded with the Unstamped Thasian type derive to the biconical type<sup>217</sup> and the first type of the stem toe which corresponded with the Pithoid Thasian type evolve to the top-shaped type<sup>218</sup> of Thasian amphorae. The biconical amphorae are dated to the end of the 5<sup>th</sup> and throughout of the 4<sup>th</sup> century B.C. This type can be attributed to the type 1<sup>219</sup> of A. M. and A. Bon. They are

<sup>&</sup>lt;sup>213</sup> Lawall 1995, p.140-141.

<sup>&</sup>lt;sup>214</sup> Ibid,141-143.

<sup>&</sup>lt;sup>215</sup> Garlan 1988, p.14, fig.11.

<sup>&</sup>lt;sup>216</sup> Zeest 1960, pl.6.16.

<sup>&</sup>lt;sup>217</sup> Garlan 1988, p.14, fig.12; Lawall 1995, p.135.

<sup>&</sup>lt;sup>218</sup> Garlan 1988, p.14, fig.13; Lawall 1995, p.136.

<sup>&</sup>lt;sup>219</sup> Bon & Bon 1957, p.16-19.

characterized by a very slim and tapering profile giving them a biconical appearance. Lip, small and open, has a triangular section. The neck, very long, is cylindrical in shape, although it is slightly tapered towards the shoulder. The long handles have biconvex section and form a broad arch to meet the neck just below the rim. The shoulder is very flat and carinated. The extremely long foot has a cylindrical shape flared towards the bottom which bearing a circular depression on the underside. The top-shaped form can be attributed to the type 2<sup>220</sup> of A. M. and A. Bon. They were dated to the second half of the 4<sup>th</sup> and the beginning of the 3<sup>rd</sup> century B.C. The body of this type is much larger than the biconical type and has a very broad shoulder. The rim is triangular or wedge-shaped in section. The handles, neck and foot are shorter than the biconical type. During the 3<sup>rd</sup> century B. C., Thasian amphorae had totally different form which corresponds to the type 3<sup>221</sup> of A. M. and A. Bon. They have rolled rim. The neck is more elongated so that the handles are long. The shoulder is less pronounced. The lower body is broader. They have a small peg toe.

# **Thasian amphorae from Burgaz:**

Among the amphora assemblage of Burgaz; amphorae recognized as Thasian were represented by 202 rim fragments and 101 feet (Figure 9). The rim diameter of Thasian amphorae of Burgaz findings change between 6 and 19 cm.

Table 9 – Thasian amphorae rim and feet fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C.

	CENTURIES (B.C.)									
THASOS	7TH	6TH	5TH	4TH	3RD	2ND	UNDATED			
RIMS		34	104	51	1	6	6			
FEET		1	14	85	1					

<sup>&</sup>lt;sup>220</sup> Ibid, p.19.

<sup>&</sup>lt;sup>221</sup> Ibid, p. 19-21.



Figure 9 – Distribution of amphorae imports from Thasos through all periods.

# VI-II-IV-Other North Aegean Amphorae

By the similarities of the morphological traits and the resemblance of the fabric with a simple eye observation, 136 rim fragments and 67 feet were classified as North Aegean. However the production center cannot be identified exactly (Plate L-LI).

Table 10 – North Aegean amphorae rim and feet fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C.

	CENTURIES /B.C.)							
NORTH AEGEAN	7TH	6TH	5TH	4TH	3RD	2ND	UNDATED	
RIMS			43	25			68	
FEET			10	46			10	

#### **VI-III-** Aolian Region

### VI-III-I-Lesbos

The amphora production in the island of Lesbos was started at the 7<sup>th</sup> century B.C. and ended suddenly sometime in the 2<sup>nd</sup> half of the 4<sup>th</sup> century B.C.<sup>222</sup> There were two contemporary types that shared similar morphological traits but differed in clay color: Grey Lesbian amphorae (Plate LII) and Red Lesbian amphorae (Plate LIII).<sup>223</sup> Red Lesbos amphorae ceased to be produced from the middle of the 5<sup>th</sup> century B.C.<sup>224</sup>, Grey Lesbos amphorae continued to be produced until the beginning of the 3<sup>rd</sup> century B.C.<sup>225</sup> Although both types closely followed each other in terms of form development, they differed in size that Grey Lesbian amphorae were much larger than Red Lesbian amphorae. Lesbos amphorae both Grey and Red types, shared some characteristics:<sup>226</sup> the everted rim was rounded or roughly squared in section. In the transition between the rim and the neck, there was a groove or a fillet. The neck was relatively long and cylindrical, and the sides often bulge. The neck and the shoulder met in an abrupt angle emphasizing by a ridge or a groove. The handles were heavy and round in section; the upper attachments were just at or beneath the rim; a ridge of clay that called 'rat tail'227 marked the lower attachments. The shoulders were round. The high body tapered to the toe. The toe was narrow, solid stem and ended with a flat base. Although these two main types have many common features, there are also some differences: Red Lesbos amphorae are narrower than Grey Lesbos amphorae; there is a shallower cavity under the foot of the Red Lesbos

<sup>&</sup>lt;sup>222</sup> Clinkenbeard 1982, p.248.

<sup>&</sup>lt;sup>223</sup> Lawall 1995, p.196.

<sup>&</sup>lt;sup>224</sup> Ibid, p.196.

<sup>&</sup>lt;sup>225</sup> Şenol 2007, p.72.

<sup>&</sup>lt;sup>226</sup> Lawall 1995, p.197.

<sup>&</sup>lt;sup>227</sup> Clinkenbeard 1982, p.250.
amphorae; the handles of the Red Lesbos amphorae are closer to the neck and the rim over hanged at the upper attachment point of the handles.

# Grey Lesbian amphorae:<sup>228</sup>

The earliest examples of the Grey Lesbos amphorae have not standardization in terms of the form yet. They have a rather large and cumbersome structure. They had sloping shoulders and the maximum diameter of the body is situated in the middle. In almost all of the early examples, a ridge below the rim and at the junction of the neck and shoulder transition was usually used as a characteristic feature. Grey Lesbos amphorae have a unique handle type: the cane-shaped, strong and vertical handles with a round section attached just below the rim and connected to the sloping shoulders. The 'rat tail' extension of the handle is seen in all of the examples. They had a wide and low ring-shaped foot with a shallow cavity underneath that join uninterruptedly to the lower body. The examples from the first half of the 6<sup>th</sup> century B.C. are separated by narrower body form and foot from the earliest examples. During this period, there are two different types regarding the overall appearance of the body form. The first type had its maximum diameter of body at the upper part and more narrow lower body. They had a foot with a cylindrical outer appearance. In the second type, the maximum diameter slipped to the middle of the body and had a wider lower body. All of the examples of this period had an outturned low rim, often angular, sometimes rounded outer surface. The typical cane-shaped handles with a round section and the 'rat tail' extension are also seen on all of the examples of this period. They had a narrow and low foot with a shallow cavity underneath that combined continuously with the lower body. During the 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C., there are two different types of Grey Lesbos amphorae. They were separated from the earliest types by their smaller capacity. The first types had outturned, raised, thin and rolled rims. The neck was tall and slightly splayed towards the shoulders. The ridge below the rim and on the neck-shoulder transition was seen on some examples. They had the standard cane-shaped handles with a round section and the

<sup>&</sup>lt;sup>228</sup> Sezgin 2012, p.209-219.

'rat tail' extension. They had flat, thick and cylindrical foot with flat bottom. The second type was the prolongation of the amphorae dated to the 1<sup>st</sup> half of the 6<sup>th</sup> century B.C. The typical ridge below the rim and on the neck-shoulder transition has disappeared; the cane-shaped handles with a round section were pushed slightly inwards before being attached to the shoulder. They had a low foot with a shallow cavity. During the 1<sup>st</sup> half of the 5<sup>th</sup> century B.C., the height of the amphorae increased which led to a decrease in the diameter of the belly. The ridge below the rim is placed closer to the rim than previous examples. The neck was bulbous and tall. The typical handles with '*rat tail*' were pushed slightly inwards just before the junction with the shoulders. They had a standard type of foot with flat bottom.

# **Red Lesbian amphorae:**<sup>229</sup>

Red Lesbos amphorae began to be produced since the last quarter of the 7<sup>th</sup> century B.C. Although they shared common features with Grey Lesbos amphorae, the Red Lesbos amphorae were smaller than the Grey Lesbos amphorae. The ridge below the rim, the strong vertical handles with a round section, the 'rat tail' extension, the bulbous belly body, and the conical foot are the common features that Red Lesbos amphorae shared with the Grey Lesbos amphorae. However, the Red Lesbos amphorae were narrower than the Grey Lesbos amphorae, the foot had a shallower cavity and the handles were closer to the neck. The earliest Red Lesbos amphorae had a wide lower body while its maximum diameter situated at the middle of the body. Besides small differences, the shape of the rim and the foot had a standard type concept. Their necks opened downwards from the rim to the shoulders. The ridge below the rim, the cane-shaped handles with a round section, the 'rat tail' extension were seen in all the earliest Red Lesbos amphorae. The production of the Red Lesbos amphorae have increased during the middle of the  $6^{th}$  century B.C. and they became one of the most important imported amphorae in the foreign market. In this period, although the amphorae shared same features of shape with the earliest examples, they had taller necks that widen towards the shoulders and narrower body and foot

<sup>&</sup>lt;sup>229</sup> Sezgin 2012, p.219-228.

diameters. While they protected the ridge below the rim, the ridge on the neckshoulder transition has disappeared. They also had cane-shaped handles with a round section and '*rat tail*' extension. They had a narrow and cylindrical foot with a shallow cavity which connects uninterrupted to the lower body. Although the Red Lesbos amphorae from the last quarter of the 6<sup>th</sup> century B.C. were very close in terms of the shape features to the previous examples, they were differentiated by their narrower body shapes, foot and the taller necks. They had a bulbous belly close to the middle of the body. The lower body narrowed towards the foot. They had a tall and cylindrical neck. All example of this period had narrow and cylindrical foot with a shallow cavity connected uninterrupted to the lower body.

It is stated that Lesbian amphorae had a wide range of colors ranging from reddish brown and grey buff to dark grey. The typical grey color of Lesbian amphorae consists in reduction stages of firing. The differences in grey tone and red color are associated with lack or excess of oxygen supplied in this step.<sup>230</sup> It is understood that Lesbian amphorae had mica and coarse inclusions. Red Lesbian amphorae had more intense mica compared to Grey Lesbian amphorae. Besides the color difference in Lesbian amphorae, it is considered that there was a difference in terms of inclusions. Indeed, the Grey Lesbian amphorae had more coarse inclusions than Red Lesbian amphorae that had more refined and fine clay.<sup>231</sup> Lesbos was the most important wine-growing and wine production center in the ancient world. Regarding the Lesbos wine, a wide range of historical information from the Archaic period to the Roman period have been transferred by the ancient sources.<sup>232</sup>

<sup>&</sup>lt;sup>230</sup> Clinkenbeard 1982, p.253, footnote 41.

<sup>&</sup>lt;sup>231</sup> Sezgin 2012, p.204.

<sup>&</sup>lt;sup>232</sup> Clinkenbeard 1982, p.254-256.

#### Lesbian amphorae from Burgaz:

Among the amphora assemblage of Burgaz; amphorae recognized as Lesbian amphorae were represented by 40 rim fragments (29 gray, 11 red Lesbian amphorae) and 17 feet (6 gray, 11 red Lesbian amphorae). The rim diameter of Lesbian amphorae of Burgaz findings changes between 8 and 16 cm.

Table 11 – Lesbian amphorae rim and feet fragment counts by types between the  $7^{th}$  and the  $2^{nd}$  centuries B.C.

			CENTURIES (B.C.)									
LESBOS		7TH	6TH	5TH	4TH	3RD	2ND	UNDATED				
DIMC	GRAY		22	2				1				
KINIS	RED		10	2				3				
FEET	GRAY		3	3								
	RED		5	6								

# **VI-IV- Sporades Islands**

### VI-IV-I- Peparethos & Ikos

According to recent archaeological researches on amphora workshops, it is understood that the islands of Peparethos and Ikos were produced amphorae (Plate LIV-182,183) which had same morphological characteristics.<sup>233</sup> Peparethos was an important production center between the 2<sup>nd</sup> half of the 5<sup>th</sup> century and the beginning to the Hellenistic period; and about the middle of the 4<sup>th</sup> century B.C. it became one major center that exported wine.<sup>234</sup>

During the surveys on the islands, there were identified three workshops on Peparetos (Staphylos, Agnondas Bay and Panermos) and one workshop (Tsoukalia

<sup>&</sup>lt;sup>233</sup> Doulgeri-Intessiloglou & Garlan 1990, p.371; Şenol 2006, p.114-118.

<sup>&</sup>lt;sup>234</sup> Doulgeri-Intessiloglou & Garlan 1990, p.379.

Bay) on Ikos.<sup>235</sup> According to the morphological studies it is identified two types amphorae. In addition to the two main types of amphorae, there were a small group of amphorae with cylindrical or conical foots (especially produced at Staphylos workshop) that were close to the Chian production.<sup>236</sup> There also was a group of amphora with yellowish clay that was totally different from these two main types.<sup>237</sup> They have a short neck that widens up and ends with a slightly drooping mushroom lip; the transition to the shoulder is angular; the handles are not long and have oval cross section; and at the bottom of the body is tacked a biconical knob toe.

The first type of Peparethian amphorae $^{238}$  is a slender amphora that has a long cylindrical neck. The hemmed lip is high of 1,5 to 2 cm. The curve is more or less marked that may even be almost flat and separated from the neck by a slight groove. The neck has a slightly oblique profile; it is connected to the shoulder by a smooth curve, while the transition of the shoulder to the body is substantially angular. The handles, in one body and just regular oval section, take their departure almost in contact with the lip, quickly begin a sharp curvature that does not rise above the bottom of the lip, and then descend vertically to the shoulder. They do not deviate from the neck of 4 or 5 cm. At the point of connection of the shoulders there is a finger print as a deep cavity of small diameter. The walls of the body, slightly swollen (almost straight), have a conical profile and terminate with a more or less high and provided with a foot ducted knob whose base is recessed to a more or less extent cavity. The shape of the knob is more diverse. Generally the foot tapers slightly downwards, before connecting to the knob, so that this part is more or less biconical -the transition designing a smooth curve or angle. The top of the knob is sometimes profiled by bands with variable height. Its lower cavity also varies in width and depth.

<sup>&</sup>lt;sup>235</sup> Ibid, p.368-371.

<sup>&</sup>lt;sup>236</sup> Ibid, p.376.

<sup>&</sup>lt;sup>237</sup> Ibid, p.376.

<sup>&</sup>lt;sup>238</sup> Ibid, p.376.

The second type of Peparethian amphorae<sup>239</sup> is represented by few examples, which are, however, present in all workshops. This type has a large ovoid body, short neck, short handles in oval section and an angular drooping lip. The transition between the neck, shoulder and body follows a continuous smooth curve. At the bottom of the body is attached a small biconical knob, similar in shape to that of the first type amphorae.

Types I and II are the same clay components: clay of these amphorae, in all workshops, generally has a fairly uniform orange color. It contains some mica and limestone particles that helped peel the surface. In some cases (Staphylos, Agnondas), it was observed the presence of a dark or whitish slip.<sup>240</sup>

### The amphorae of Ikos:

The exterior distribution of the amphorae of Ikos<sup>241</sup> has long been attested by sporadic stamped handles finds which carrying ethnic IKION without other characteristics have been known so far. What we know today of its amphorae, according Tsoukalia workshop, certainly remains partial, since it concerns only the profile of the lips and feet, as well as the appearance of the clay, it is difficult to distinguish what we encounter in Peparethos.

# VI-IV-Ia- So-called Solokha I and II Amphorae

Two amphorae forms of classical period are named after the Scythian burial mound discovered on the territory of modern Ukraine: Solokha I (Plate LIV, 184-186) and Solokha II.<sup>242</sup> The excavations of the burial mound was conducted by N. I. Veselovskij during 1912-1913 and dated to the 1<sup>st</sup> quarter of the 4<sup>th</sup> century B.C. and

<sup>&</sup>lt;sup>239</sup> Ibid, p.376.

<sup>&</sup>lt;sup>240</sup> Ibid, p.376.

<sup>&</sup>lt;sup>241</sup> Ibid, p.388-389.

<sup>&</sup>lt;sup>242</sup> Sacchetti 2012, p.95.

yielded three examples of Solokha I and eight examples of Solokha II amphorae. The origin of these amphorae is controversial.<sup>243</sup> Because of the diversity in the fabric, it is proposed that the Solokha I and II amphorae were produced by various production centers around the Aegean basin.<sup>244</sup>

According to the typological point of view, the eleven whole amphorae were divided into two groups: Solokha I and II. These two types of Solokha shared some similarities with the Peparethian amphorae. The Peparethos type I is similar to Solokha II and the Peparethos type II is similar to Solokha I.<sup>245</sup>

There were some typological similarities between the Peparethos I and Solokha II:<sup>246</sup> cylindrical neck measuring about one-third of the total height of the amphora; marked shoulder; conical body; slightly stretched foot in the extension of the body and terminating in a slightly salient foot. The clay has in both cases several shades of orange-red, with the addition of fine sand, mica and white limestone particles.

The other three amphorae of kurgan Solokha are prototypes of group Solocha I,<sup>247</sup> which is also prevalent in the late 5<sup>th</sup> to 3<sup>rd</sup> centuries B.C. on the shores of the Black Sea. They are clearly distinguished from the previous by their yellow clay, their size, their overall profile and particularly their mushroom lip drooping slightly, their short neck, their pithoid body and their knob toe rather strongly widened at the base. Between Solokha I and the Peparethian II amphorae, some similarities are identified: dimensions and profile (lip, foot and, to a lesser extent, body). Only difference is the clay: yellow in the first case and orange-red in the second -except that the yellow

<sup>&</sup>lt;sup>243</sup> Doulgeri-Intzessiloglou & Garlan 1990, p.388 with the footnotes 75-77.

<sup>&</sup>lt;sup>244</sup> For detailed discussion of manufacture centres: Sacchetti 2012, p.98-101, Lawall 1995, p.223-230; 234-240.

<sup>&</sup>lt;sup>245</sup> Doulgeri-Intzessiloglou & Garlan 1990, p.380-388.

<sup>&</sup>lt;sup>246</sup> Ibid, p.383.

<sup>&</sup>lt;sup>247</sup> Ibid, p.386.

clay is also attested to Peparethos by a small number of findings that include a neck from Panermos quite comparable to those of Solokha I.

### Peparethian and so-called Solokha I Amphorae from Burgaz:

Among the amphora assemblage of Burgaz; amphorae recognized as Peparethian amphorae were represented by 7 rim fragments and 12 feet. The so-called Solokha I amphorae were represented by 15 rim fragments and 12 feet. Although there are no scientific clay analysis, it can be said that the Burgaz findings of Solocho I amphora fragments are belong to the Peparethian production due to the similarities of clay by a simple eye observation. The amphorae from Ikos could not be determined among the amphora assemblage from Burgaz since there was no significant distinction with the Peparethian amphorae. The rim diameter of Peparethian amphorae of Burgaz findings changes between 11 and 16 cm while the rim diameter of Solokha I amphorae changes between 9 and 14 cm.

Table 12 – Peparethian and Solokha I amphorae rim and feet fragment counts by types between the  $7^{th}$  and the  $2^{nd}$  centuries B.C.

		CENTURIES (B.C.)								
PEPARETHOS &										
SOLOKHA I		7TH	6TH	5TH	4TH	3RD	2ND	UNDATED		
DIMG	PEPARETHOS				7					
KIIVIS	SOLOKHA I				15					
יאומוס	PEPARETHOS				12					
FEE I	SOLOKHA I				12					

# **VI-V- Ionian Region**

# VI-V-I-Klazomenai

This series, first described by M.F. Lambrino<sup>248</sup> as Type B and was then classified by I.B. Zeest<sup>249</sup> in the category called "with broad bands" and found in the bibliography

<sup>&</sup>lt;sup>248</sup> Lambrino 1938, p.114-115, 123-124.

that more generically as "East Greek".<sup>250</sup> The work of E. Döğer<sup>251</sup> and P. Dupont<sup>252</sup> on kilns, wasters and amphora fragments from both the settlement and the necropolis of the city confirmed that Klazomenai was one of the prominent amphora production centers in the Ionian Region (Plate LV). The amphora production at Klazomenai started in the 7<sup>th</sup> century B.C and ended by the Ionian Revolt.<sup>253</sup>

In generally, amphorae decorated with linear glazed bands and horizontal "S" patterns were considered as Chian. However, the examination made by E. Döğer on amphorae found at Klazomenai proved that apart from Chios there were other sites in the region which were produced amphorae with the same morphological and decorative elements.<sup>254</sup> According to the findings from Black Sea, P. Dupont categorized Klazomenai amphorae under the types A, B, C, D, and E.<sup>255</sup>

The typology of Klazomenai amphorae was shaped by the findings from the city itself as well as with the findings from abroad.<sup>256</sup> Amphorae used as *"enchytrismoi"*<sup>257</sup> which were found at the city's necropolis of Yıdıztepe and Akpınar and the excavation at the city itself allowed Sezgin to propose a new chronological typology of the Klazomenai amphorae.<sup>258</sup> According his new typology

<sup>&</sup>lt;sup>249</sup> Zeest 1960, p.70-71.

<sup>&</sup>lt;sup>250</sup> Sezgin 2004, p.169.

<sup>&</sup>lt;sup>251</sup> Döğer 1986, p.461-471.

<sup>&</sup>lt;sup>252</sup> Dupont 1998, p.151-156.

<sup>&</sup>lt;sup>253</sup> Sezgin 2004, p.177 footnote 78.

<sup>&</sup>lt;sup>254</sup> Döğer 1986, p.461-471; Sacchetti 2012,p.77.

<sup>&</sup>lt;sup>255</sup> Dupont 1998, p.151-156.

<sup>&</sup>lt;sup>256</sup> Döğer 1988, Dupont 1998, Sezgin 2004-2012, Dupont & Skarlatidou 2012.

<sup>&</sup>lt;sup>257</sup> Child burial in amphorae.

<sup>&</sup>lt;sup>258</sup> Sezgin 2012.

there are seven types of Klazomenai amphorae that were produced during the 7<sup>th</sup> century B.C till the Ionian Revolt.

The earliest Klazomenaen amphorae which were produced during the 2<sup>nd</sup> half of the 7<sup>th</sup> century B.C. had the same decoration pattern with contemporary Chian amphorae like broad glazed bands and horizontal "S" pattern on the shoulder; however unlike Chian amphorae they were not slipped. They had an everted torus rim, squat cylindrical neck, arching handles, slightly sloping shoulders, bulbous belly, dramatically narrowing lower body and a wide and shallow foot with an outward splaying profile.

The second earliest type of Klazomenaen amphorae were also produced at the 2<sup>nd</sup> half of the 7<sup>th</sup> century B.C. Although they shared some similar decoration pattern such as horizontal "S" on the shoulder with the first type, they were united under a second group since they demonstrated some differences in terms of shapes, decoration pattern and clay composition. E. Döğer classified this group as "Decorated Warehouse Type".<sup>259</sup> They had a torus lip, high cylindrical neck, cane shaped handles with elliptical profile, rounded and receding shoulders, an ovoid body, and a wide and high foot with concave profile. They bore a groove on the neck between the handles. They showed some unity of decoration pattern: horizontal bands on the rim, neck-shoulder transition part and on the body; crossing bands on the neck; and triple vertical bands running down the handles to the lower part of the body. In some examples they had horizontal "S" on the shoulder.

The third type of Klazomenaen amphorae were produced at the last quarter of the 7<sup>th</sup> century B.C. They had an everted torus rim, low cylindrical neck, shaped arching handles with oval profile, slightly sloping shoulders, bulbous belly, dramatically narrowing lower body, and slightly flaring foot with a deeper cavity at the bottom. The horizontal "S" patterns were disappearing at this group. They were decorated with broad glazed bands: one on the rim, two on the shoulders, and one on the base

<sup>&</sup>lt;sup>259</sup> Döğer 1988, p.137-140; Sezgin & Döğer 2009, p. 79-94.

of the neck. The handles were decorated a circular glazed band at the lower attachments and vertical bands running down to the lower body.

The fourth type of the Klazomenaen amphorae was produced at the end of the 7<sup>th</sup> century and the beginning of the 6<sup>th</sup> century B.C. This type was classified as Type 1 by E. Döğer.<sup>260</sup> They had a beak shaped rim, slightly narrowing neck, arching handles with oval profile, bulbous belly close to the shoulder and a wide toe with a shallow cavity. They had a painted rim, double horizontal bands on the shoulder, one horizontal band in the middle of the belly and the lower body and vertical bands running down the handles to the lower part of the body.

The fifth type of Klazomenaen amphorae were produced at the 1<sup>st</sup> half of the 6<sup>th</sup> century B.C. They were classified as Klaz Type 1 and Type 3 by E. Döğer.<sup>261</sup> They had a torus rim that separated by a sharp angle between lower part of the rim and the rim and the neck, low cylindrical neck, cane shaped handles, elongated body and a flaring foot with a shallow cavity. They shared the same decoration system with the previous type.

The sixth type of the Klazomenaen amphorae was dated to the 3<sup>rd</sup> quarter of the 6<sup>th</sup> century B.C. According to the excavation at Klazomenai, there were found no datable context to the 3<sup>rd</sup> quarter of the 6<sup>th</sup> century due to the Persian invasion. It is assumed that because of the Persian attacks the settlers of the city were left the settlement at the mainland and were moved to the Karantina Island. As a result, there were inadequate data from the settlement itself in order to create a chronological typology; however, this type could be classified according to the datable contexts from other centers. <sup>262</sup> They had an everted torus rim, cylindrical neck, cane shaped

<sup>&</sup>lt;sup>260</sup> Döğer 1988, p.43-50.

<sup>&</sup>lt;sup>261</sup> Ibid, p.50-59.

<sup>&</sup>lt;sup>262</sup> Sezgin & Döğer 2009, p.89.

handles, elongated ovoid body and slightly flaring foot with a deeper cavity at the bottom. They shared the same decoration pattern with the previous two types.

The last type of the Klazomenaen amphorae was produced during the last quarter of the 6<sup>th</sup> century B.C. During this phase, it could be possible to observe standardization in the amphora production. The findings from the Yıldıztepe necropolis and the wastes of the potters' quarters allowed distinguishing two main variants of this group. While the first variant had a bulbous or ovoid body with a conical and splaying foot, the second variant was taller and slimmer with a narrower and cylindrical foot. The decoration pattern has the same system with the previous type.

Nothing allows us to be sure that after the destruction of the Klazomenai by the Persian in 494 B.C. and the end of the Ionian Revolt, the amphora production facilities have remained active in the city. Given the lack of finds of amphorae in the Klazomenaen contexts after this date, Y. Sezgin suggested that it can be considered an interruption of the amphora production.<sup>263</sup> P. Dupont, however, proposed that the finds from abroad may reflect a continuation of the production, at least in the early 5<sup>th</sup> century B.C.<sup>264</sup> The systematic study of Athenian Agora amphora findings by M. Lawall confirmed that exemplars attributable to the Klazomenaen amphora series are present in six deposits closed before 480 B.C. and a deposit closed before the middle of the 5<sup>th</sup> century B.C.<sup>265</sup> Finally, the fact that we can show that in the course of the 4<sup>th</sup> century B.C. amphora workshops at Klazomenai were operating, producing Döger types 6 A-B, as well as the mushroom rim types in kilns dated to the 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C.<sup>266</sup>

<sup>&</sup>lt;sup>263</sup> Sezgin 2004, p.177.

<sup>&</sup>lt;sup>264</sup> Dupont 1982, p.201.

<sup>&</sup>lt;sup>265</sup> Lawall 1995, p.51.

<sup>&</sup>lt;sup>266</sup> Döğer 1986, p.469, fig.15-18.

The dough of the Klazomenaen amphorae is in the form of quite fine clay, micaceous and vacuolar with inclusions of large mica or quartz crystals.<sup>267</sup> Literary sources do not provide much information on agricultural activities of Klazomenai in the Archaic period, but available data for later periods indicate both a wine production<sup>268</sup> and olive oil production<sup>269</sup> which could be intended to export.<sup>270</sup>

## Klazomenaen Amphorae from Burgaz:

Among the Burgaz amphora assemblage, the Klazomenaen amphoarae were represented by 6 rim fragments and 1 foot fragment. The rim diameter of the Klazomenaen amphorae from Burgaz change between 10 and 15 cm.

Table 13 – Klazomenean amphorae rim and feet fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C.

		CENTURIES (B.C.)									
KLAZOMENAI	<b>7TH</b>	6TH	5TH	4TH	3RD	2ND	UNDATED				
RIMS	1	5									
FEET			1								

### VI-V-II- Ephesos

The amphora production in Ephesos is poorly understood. Because of their stamps and the different traits of their clay, V. Grace could gather some amphorae fragments under one group among the findings of Delos and named as Nikandros Group after the name on stamps.<sup>271</sup> At first, the production center remain uncertain, however,

<sup>&</sup>lt;sup>267</sup> Ibid, p.466.

<sup>&</sup>lt;sup>268</sup> Plinius, NH. XIV,74.

<sup>&</sup>lt;sup>269</sup> Pseudo-Aristotle, *Oeconomica*, II, 2, 16.

<sup>&</sup>lt;sup>270</sup> Sezgin 2004, p.178.

<sup>&</sup>lt;sup>271</sup> Grace & Savvationou-Petropoulakou 1970, p.365.

Grace and Savvationou-Petropoulakou suggested Kos as the production centers since the name on stamps were also occurred on Koan amphora stamps. Recent findings from Ephesos and adjacent cities in the region cast new attention on Nikandros Group (Plate LVI).<sup>272</sup> Since the examples of Nikandros Group increased at Ephesos, it becomes possible to suggest that the Nikandros Group might be local production of Ephesos.<sup>273</sup>

Among the various different rim and toe which appeared together, M. Lawall studied on the amphora findings from the Tetragonos Agora in order to understand the chronology of the Nikandros Group.<sup>274</sup> The stratigraphy of the Tetragonos Agora revealed six phases dated between the early 3<sup>rd</sup> century B.C. and the middle of the 1<sup>st</sup> century B.C.<sup>275</sup> : During the first phase, the amphora fragments had a quite widely out-flaring rim and a wide concave or hollowed base with a lipped conical profile toe. At the second phase there were two contemporaneous rim forms: one was widely projecting, turning down with a rounded outer edge and undercut lower surface; the other was thicker, less projecting with less undercutting. The conical knob toe with a deep wide hollow turned to a stemmed piriform shaped toe with a small hollow. In the course of third phase, there were a wide range of rim forms: the previous outprojecting rim was now folded down with a bend under the rim; the thicker rim form from the previous phase became more undercut; there are two rims with concave face and very sharp outer edge while one of them is actually everted and extensively out projecting and the other is markedly thicker from top to bottom, lower edges of these both rims rest on the handles; and there is also a simple rounded rim. The toe of this phase had no hollow underneath, the base was flat, and had a convex to concave profile. In the time of fourth phase, rims with sharp edge had a bend underside while the taller and thicker rims that became less thick from interior to exterior face

<sup>&</sup>lt;sup>272</sup> Lawall 2007, p.48, footnotes 20-23.

<sup>&</sup>lt;sup>273</sup> Gassner 1997, p.107.

<sup>&</sup>lt;sup>274</sup> Lawall 2004, p.177-182, fig.3-8.

<sup>&</sup>lt;sup>275</sup> Lawall 2004, p.179, fig.2.

situated more close to the handle, and the rounded rim last without any changes. During the fifth phase there are no significant development in the form of the rim, however, the toe became peg-like with two degree profile by an encircling rounded cuff of clay. At the last phase, the rims had more vertical outer face; a new rim form with quite tall and narrow profile appeared; rounded rims became more common, and regardless the rim form the neck became more bulging. The toe had a pointed nub base encircled by a cuff of clay.

### **Ephesian Amphorae from Burgaz:**

Among the amphora fragments found at Burgaz, there are 13 rim fragments and 4 feet. The rim diameter of the Ephesian amphorae of Burgaz findings changed between 9 and 13 cm.

Table 14 – Ephesian amphorae rim and feet fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C.

		CENTURIES (B.C.)										
<b>EPHESOS</b>	7TH	7TH 6TH 5TH 4TH 3RD 2ND UNDATE										
RIMS					11	2						
FEET		3 1										

### VI-V-III-Miletus

Throughout the entire Archaic period, as being a leading pottery manufacturer, Miletus was among the major production center of transport amphorae. Until the early 1980's Milesian amphorae (Plate LVII-LIX) were accepted as products of a regional style alongside the Samian amphorae.<sup>276</sup> During the course of the Archaic period, in addition to the undecorated transport amphorae, the city produced amphorae with painted bands which were also exported. These decorated amphorae were most likely be followed by a local geometric tradition that such geometric roots

<sup>&</sup>lt;sup>276</sup> Grace 1971; Lawall 1995, p. 176-195

showed in transport amphorae from Athens, Klazomenai, Chios and Samos.<sup>277</sup> By the increased number of the amphora findings from not only in Miletus and neighboring town like Didyma, but also in surrounding regions as Karia and more distant regions like the colonies in the Black Sea, Magna Garcia, and also by the recent scientific analysis, it is possible to determine the morphological characteristic of Milesian amphorae.<sup>278</sup>

According to the excavations at Kalabaktepe and Zeytintepe revealed that the amphora production at Miletus began in the late 8<sup>th</sup> century- 1<sup>st</sup> half of the 7<sup>th</sup> century B.C.<sup>279</sup> Since there are no complete examples of the Milesian amphorae which is dated to the late 8th century B.C., the earliest examples mostly described by small fragments.<sup>280</sup> They had tall, thick convex rims with many variations. The ridge in the transition between the rim and the neck was a characteristic element since the beginning of the 7<sup>th</sup> century B.C.<sup>281</sup>

Based on the findings from Black Sea, South Aegean and Magna Garcia, P. Dupont developed the most comprehensive typology of Milesian amphorae. He identified three types – early, middle and later - of Milesian amphorae between the end of the 7<sup>th</sup> century B.C and the 6<sup>th</sup> century B.C.<sup>282</sup>

The early type which is dated to the end of the  $7^{th}$  century and the  $1^{st}$  quarter of the  $6^{th}$  century B.C. have an ovoid body, a tapered shape of foot with short hollow and angled handles in biconvex section. The short and slightly flared neck is separated by

<sup>&</sup>lt;sup>277</sup> Birzescu 2012, p.129.

<sup>&</sup>lt;sup>278</sup> Sezgin 2012, p.137, footnotes 669-673.

<sup>&</sup>lt;sup>279</sup> Seifert 2004, Naso 2005.

<sup>&</sup>lt;sup>280</sup> Sezgin 2012, p.145.

<sup>&</sup>lt;sup>281</sup> Naso 2005, fig.2 cat. No 3.

<sup>&</sup>lt;sup>282</sup> Dupont 1998, p.170-177.

a groove. The rim is high, thin and convex. There are one or several ridges just below the rim.<sup>283</sup>

Between the 2<sup>nd</sup> and 3<sup>rd</sup> quarter of the 6<sup>th</sup> century B.C., a new form –middle typewhich is less slender than the previous type, spreads. Because of the diameter of the body which expands as the neck widens, with a slightly convex profile, it takes a swollen appearance. Also, the almond lip - neck and the neck - shoulder transition are distinguished by the grooves. The handles, biconvex section, are angled. The short foot is hollow and tapered shape.<sup>284</sup>

The later types which are dated to the 3<sup>rd</sup> quarter and the 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. distinguished four subtypes according to their bodies. The first subtype is the obvious evolution of the middle type to which it resembles both in shape of the body as that of the neck. The truncated cone shape neck, distinguished from the shoulder and the almond lip by a groove, appears slightly swollen due to its convex profile. The short foot is hollow and tapered shape.<sup>285</sup> The second subtype has the highest ovoid body which is wider than the previous types. The wide foot is low, hollow and tapered shape. The tapered neck is rather narrow compared to the body and distinguished by a groove. It has other grooves just below the lip.<sup>286</sup> The third subtype named as ogival belly has also ovoid body but more broader and flattened shoulder than the previous subtype. The rim and the neck became more flaring. At the transition of the neck and shoulder, there occurs an offset fold. The foot is low, hollow and tapered shape. The handles are bifid.<sup>287</sup> The last subtype has piriform body and very flat shoulders. The foot, in small diameter, is low, hollow and tapered

<sup>&</sup>lt;sup>283</sup> Ibid, p. 174, fig. 23.7, a.

<sup>&</sup>lt;sup>284</sup> Ibid, fig. 23.7, b.

<sup>&</sup>lt;sup>285</sup> Ibid, p. 174-175, fig. 23.7, e.

<sup>&</sup>lt;sup>286</sup> Ibid, p. 174, fig. 23.7, c.

<sup>&</sup>lt;sup>287</sup> Ibid, p. 175, fig. 23.7, d.

shape. The neck is quite distinct from the shoulder and the almond lip is very open.<sup>288</sup>

During the 1<sup>st</sup> half of the 5<sup>th</sup> century B.C., the Milesian transport amphorae reflect a completely different morphological tradition. From several complete examples from Black Sea and around the Mediterranean basin and many fragmentary examples from Miletus and Didyma, it is understood that the vessel transform to a spindle-shaped<sup>289</sup>: The neck become elongated so that the gutter-folding in the neck-shoulder transition moved to the middle of the neck and turned into a simple ridge or groove. The rim has always bent outwards and still high enough, it becomes more massive, and the ridges at the top of the neck disappear. As the neck elongated the handles become longer and broader. The small diameter foot becomes relatively high and the hollow ranges from barely noticeable to deep taper cylindrical. During the 5<sup>th</sup> century B.C., there is also different variant with thicker, squarish rim and massive toe with barely hollowed.<sup>290</sup> Thereafter, the development of Milesian transport amphorae continues at least until the beginning of the 4<sup>th</sup> century B.C.

According to the W. Voigtlander, the clay of the local Milesian pottery contains "golden mica".<sup>291</sup> However, the publication of the clay analysis of the Milesian amphorae by Seifert demonstrated that "golden mica" or "silver mica" was the characteristic of the Milesian pottery but this was a general situation alongside the Meander Basin due to its geological formation.<sup>292</sup> It is believed that the Miletus *chora*, as Samos, were mainly used as olive growing purposes so that the main content of the Milesian amphorae was accepted as olive oil.<sup>293</sup>

<sup>&</sup>lt;sup>288</sup> Ibid, p. 175, fig. 23.7, f.

<sup>&</sup>lt;sup>289</sup> Dupont 1998, p.175; Monachov 2003, p.34-37.

<sup>&</sup>lt;sup>290</sup> Dupont 1998, p.176, fig. 23.9, f-g.

<sup>&</sup>lt;sup>291</sup> Voigtlander 1986, p.46.

<sup>&</sup>lt;sup>292</sup> Seifert 2004, p.51.

<sup>&</sup>lt;sup>293</sup> Dupont 1998, p.175.

## Milesian Amphorae from Burgaz:

Among the amphora fragments found at Burgaz, Milesian amphorae are represented by 172 rim fragments and 28 feet (Figure 10). The rim diameter of the Milesian amphorae of Burgaz findings changes between 10 and 17 cm. Some rim fragments of the Milesian amphorae among the Burgaz amphora assemblage contain paint traces on their lips. By simple eye observation on the clay of the Milesian amphorae and the "Milesian type Knidian amphorae", it can be said that there are some differences regarding the inclusions: the mica in the Milesian amphorae are dense, small in size, usually round in shape; as for the mica in the "Milesian type Knidian amphorae" are less intense, different size and shape.

Table 15 – Milesian amphorae rim and feet fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C.

		CENTURIES (B.C.)											
MILETUS	7TH	6TH	5TH	4TH	3RD	2ND	UNDATED						
RIMS	36	109	7				16						
FEET	1	11	10	6									



Figure 10 – Distribution of amphorae imports from Miletus through all periods.

#### VI-V-IV-Chios

During antiquity, Chios Island is known as the most stable winemakers. According to ancient historians, Athenaeus<sup>294</sup> and Pliny<sup>295</sup>, the wines of Chios were highly regarded. From the last quarter of the 7<sup>th</sup> century B.C. until the 2<sup>nd</sup>-3<sup>rd</sup> centuries A.D., Chios was produced commercial amphorae that easily recognized in the consumer markets which has spread to a wide area from the Moroccan to the Black Sea coast.<sup>296</sup> In the light of recent research, Chios amphorae that change forms over time can be divided into several main types (Plate LX-LXV).

The so-called *white slipped* amphorae were identified as the earliest type of Chian amphorae by P. Dupont.<sup>297</sup> They dated to the 3<sup>rd</sup> quarter of the 7<sup>th</sup> century and to the 3<sup>rd</sup> quarter of the 6<sup>th</sup> century B.C. They are characterized by a wide and ovoid body, a short cylindrical neck with thickened lip, handles with elliptical section, and a ring-shaped foot with a short and wide tapered hollow at the base. They were covered by a creamy white slip on the entire outer surface of the vessel which named after this white slip. They had specific painted decoration: horizontal bands- on the rim, the lower part of the shoulder, at the widest diameter and on the lower part of the body; circles around the upper and lower handle attachments and a large horizontal "S" on the shoulder.

In the course of the 1<sup>st</sup> half and 3<sup>rd</sup> quarter of the  $6^{th}$  century B.C., the morphological evolution of the series is characterized by the appearance of a slimmer form, with the declining shoulder. Then the body has its maximum diameter at mid-height, and the tapered foot has a reduced diameter. Because of its spindle morphology this type

<sup>&</sup>lt;sup>294</sup> Athenaeus I, 29 and 31 to 33.

<sup>&</sup>lt;sup>295</sup> Plinius, *NH*. XIV, ix,73.

<sup>&</sup>lt;sup>296</sup> Döğer 1991, p.82; Şenol 2006, p.94

<sup>&</sup>lt;sup>297</sup> Dupont 1998, p.146.

named as *bobbin type*<sup>298</sup>. There is always the whitish slip and brown-red color decoration similar to the previous *white slipped* type. However, the *bobbin type* has thinner bands and a more elongated lying "S" relative to the *white slipped* type.

Between the end of the 2<sup>nd</sup> and 3<sup>rd</sup> quarter of the 6<sup>th</sup> century B.C., there is the simultaneous production of two types of Chian amphorae. Indeed, while the *white slipped* types are still in production, a new Chian form appears, known as the type name "*Lambrino A1*" or "*Zeest's funnel-necked*" whose production is attested until 510 B.C., when it progresses to type "*Lambrino A2*" documented between 510 and 490 B.C. The forms "*Lambrino A*"<sup>299</sup> do not exhibit the typical spindle shape of the 1<sup>st</sup> half of the century, but rather a piriform profile, a slightly thickened rim and a cylindrical neck that is clearly distinguished from the shoulder. The neck can be long and slightly flared or short and straight profile. The foot, higher than before but also narrower, can be defined cylindrical hollow with annular base. The creamy white slip is hardly present and the decor is simpler than that of the previous types, limited to painting band on the lip, one or two thin horizontal lines on the shoulder and a line running vertically along the handles.

During the transition period between the 6<sup>th</sup> and 5<sup>th</sup> centuries B.C., Chian amphorae adopt a new form marked by swelling neck, which determines the transition between the types "Lambrino A" and the types called *swollen-necked* or *bulging-neck* types, characteristics of the end of the 6<sup>th</sup> and first three quarters of the 5<sup>th</sup> century. B.C. Between the end of the 6<sup>th</sup> and the first three quarters of the 5<sup>th</sup> century B.C., there are four variants of *swollen-necked* amphorae assimilated subtype said early bulgy and subtype later bulgy.<sup>300</sup>

<sup>&</sup>lt;sup>298</sup> Dupont 1998, p.146-148, fig. 23.1,f-h.

<sup>&</sup>lt;sup>299</sup> Ibid, fig. 23.2,a-c.

<sup>&</sup>lt;sup>300</sup> Sacchetti 2012, p.69.

The four variants of the *swollen-necked / early bulgy* type roughly matches the first two variants of *bulging-necked* type designated C / 1 and C / 2 in the classification proposed by U. Knigge<sup>301</sup> for the Keramaikos of Athens, recently taken over by M. Lawall<sup>302</sup> through the study of the Agora findings that could specify the time frame. The subtype known as *later bulgy* finally corresponds with variant C / 3 of U. Knigge. Bulging neck type amphorae begin in the late 6<sup>th</sup> century B.C., and continue to exist while evolving into the current of the 5<sup>th</sup> century B.C. The oldest variant of this type is datable around the passage between the 6<sup>th</sup> and 5<sup>th</sup> century B.C. The examples of this present form contain paint on the lip, painted decoration of two thin horizontal lines on the shoulder, one on the bottom of the body and sometimes small circles on the neck or shoulder.<sup>303</sup> The next evolutionary step of this type must be between the end of the  $6^{th}$  century and 480 B.C. and could match with the variant C / 1 of U. Knigge.<sup>304</sup> The Chian amphorae of this type are characterized by a substantially pear-shaped profile than before, due to a stronger and more flattened shoulder. The handles, circular to elliptical cross section, are short and inset in the bottom. The foot, more markedly cylindrical shape, has in general a deep central cavity and a slightly thickened ring base profile falling down. Based on the observation of many examples, it can be said that both the profile of the foot as the depth and shape of the cavity are quite variable. The painted decorations is limited to the lip, to simple and thin horizontal lines which may be located below the lip or shoulder, and a vertical line sometimes running along the outer surface of handles.<sup>305</sup> The form clearly varies between 480 and 440 B.C., and corresponding to the variant C/2 of U. Knigge.<sup>306</sup> It is characterized by a general noticeably elongated shape and by a more tapered profile. The handles, located on a receding shoulder more than in

<sup>&</sup>lt;sup>301</sup> Knigge 1976, p.23-24.

<sup>&</sup>lt;sup>302</sup> Lawall 1995, p.89-92.

<sup>&</sup>lt;sup>303</sup> Ibid, p.89-90.

<sup>&</sup>lt;sup>304</sup> Knigge 1976, p.23-24; Lawall 1995, p.96-97; Roberts & Glock 1986, p.67, no.419-420, fig.42.

<sup>&</sup>lt;sup>305</sup> Dupont 1998, p.149, fig. 23.2,e.

<sup>&</sup>lt;sup>306</sup> Knigge 1976, p.23-24, Dupont 1998, p.149, fig. 23.2,f; Lawall 1995, p.90-91.

the previous types, are longer and more curved at the top and reentrant least in the lower section, as they descend towards the shoulder while standing closest to the neck. The foot is still the hollow cylindrical type with a ring base and a deep cavity at the base. The profile of the foot would be more returning in the lower part than in the previous variant. The fourth and final variant of the type of early bulgy would date to 450 B.C.<sup>307</sup> Amphorae belonging to this variant would not present substantial differences from the previous variant, except the profile of the foot, always cylindrical hollow type, but slightly concave, not even returning with a carina on the outside, near the ring base.

The subtype of *swollen-necked* namely *later bulgy* that corresponding to the variant C / 3 of U. Knigge is dated to the  $3^{rd}$  quarter of the  $5^{th}$  century B.C.<sup>308</sup> The most significant distinctiveness of this variant concerns the shape of the neck. It is organized in two parts placed one above the other, in the upper bulging profile retains the roundness characteristic of swollen-necked types that have asserted themselves from the late  $6^{th}$  century BC; the lower part is of cylindrical shape opening widely downwards, with a profile in the continuity of the shoulder which adopts a concave shape. The general morphology of the foot is changed from the previous subtype, *early bulgy*, and is now characterized by an enlarged cylindrical shape. The ring base, has a central cavity of moderate depth but somehow susceptible to variations quite secondary.

In the course of the last quarter of the 5<sup>th</sup> century BC, the *swollen-necked* types disappears when the subtype *later bulgy* is replaced by an amphora whose the most obvious originality is the abandonment of the bulging neck character. This new amphora, *straight-neck type*,<sup>309</sup> has a cylindrical neck in straight profile and a higher and flatter shoulder than in the previous series. The foot shape also undergoing

<sup>&</sup>lt;sup>307</sup> Sacchetti 2012, p.72; Grace 1953, p.104, no.150; Grace 1961, fig.44.

<sup>&</sup>lt;sup>308</sup> Sacchetti 2012, p.72.

<sup>&</sup>lt;sup>309</sup> Lawall 1995, p.89, 91-93.

changes since its termination loses the cylindrical shape to adopt a shortened shape with ring base and central cavity.

It is from this type cylindrical neck which remains unchanged until the beginning of the 4<sup>th</sup> century B.C., which will later grow Chian forms of amphorae from the 4<sup>th</sup> century B.C and the following centuries, characterized by a longer neck, the shoulder increasingly flattened, and increasingly high foot.<sup>310</sup> During the 4<sup>th</sup> century B.C., the Chian amphorae are characterized by a tall straight neck with simple rounded rim, sharp-edged shoulder and a conical toe under a narrow conical body.<sup>311</sup> In the period starting from the 4<sup>th</sup> century B.C. up to the end of the 1<sup>st</sup> century B.C., this type of amphora had also seen a change. It is possible to observe in the increase of the height of its neck, body and foot. In fact, over time, the height of its neck reaches half way up the entire height.

During the end of the 1<sup>st</sup> century B.C., in addition to the properties of the prior type, the foot joined with the body and became longer and thinner.<sup>312</sup>

# **Chian Amphorae from Burgaz:**

Among the Burgaz amphora assemblage, the Chian amphoarae were represented by 519 rim fragments and 181 foot fragments (Figure 11). The rim diameter of the Chian amphorae from Burgaz change between 6 and 17cm.

<sup>&</sup>lt;sup>310</sup> Sacchetti 2012 p.73.

<sup>&</sup>lt;sup>311</sup> Lawall 1999, p.202.

<sup>&</sup>lt;sup>312</sup> Döğer 1991, p.87.

Table 16 – Chian amphorae rim and feet fragment counts by types between the  $7^{th}$  and the  $2^{nd}$  centuries B.C.

		CENTURIES (B.C.)											
CHIOS	<b>7TH</b>	6TH	5TH	4TH	3RD	2ND	UNDATED						
RIMS	13	60	323	113			10						
FEET	1	25	88	65	1		1						



Figure 11 – Distribution of amphorae imports from Chios through all periods.

# VI-V-V-Samos

The first identification of Samian amphorae (Plate LXVI-LXVII) made by V. Grace is based on the numismatic method by comparing the actual vessels with the amphora images on the coins of the islands. Since the pioneering work of V. Grace, the work of P. Dupont and Mr. Lawall contributed significantly to clarify a relatively complex situation.<sup>313</sup>

<sup>&</sup>lt;sup>313</sup> Grace 1971, Dupont 1998, Lawall 1995.

The oldest specimens that can be attributed to the production of Samos are traditionally dated, the chronological point of view, in the period between the late 7<sup>th</sup> and about the middle of the 6<sup>th</sup> century. B.C. Among the known older products, there are two series: the first known massive echinus rim type and the second pear-shaped type.<sup>314</sup> These two types, different yet contemporary, share a thick echinus lip that less pronounced in the second type, a short flaring neck, but more or less distinctly demarcated from the shoulder through a fillet. The handles have a curved profile and oval in section. The foot was conical in shape with a hollow at the bottom. These two series varies from one to another by their body shape: ovoid rounded shoulder in the case of massive echinus rim type; piriform body with a receding or flattened shoulder in the pear-shaped type.

In the 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C., the general shape of the container begins to become more slender announcing the morphology of the types of the 5<sup>th</sup> century B.C. The maximum width of the ovoid body is in the middle of the belly and shoulder drops gradually and becomes more receding than in previous forms. This change in the shape of the shoulder, on which are located the lower attachments of the handles causes the elongation thereof which adopt a bent shape slightly raised, and the upper attachment is located not immediately beneath the lip, but the base of the neck as in the earlier specimens. The neck remains rather short and lip thickens but presents more pronounced manner the form "echinus." A sharper variation from the examples of the 1<sup>st</sup> half of the 6<sup>th</sup> century B.C. is manifested in the form of conical foot which is still more massive, but with a streamlined profile and a slightly thickened base ring folded back inside.

The amphora types of the 5<sup>th</sup> century B.C. have more elongated shape at both ends. The neck gradually flows into the sloping shoulders and the fillet around its base replaced by a ridge and moved halfway up. The rim was thicker and sometimes

<sup>&</sup>lt;sup>314</sup> Dupont 1998, p.164-165.

squarish in section. The handles arch outwards. The foot grows higher and develops a kind of hollow at the base.<sup>315</sup>

It is assumed that during the 4<sup>th</sup> century B.C., the Samian amphorae were produced with mushroom rims according to the tradition of the period.<sup>316</sup> They had a large mushroom shaped rim, high neck that expanding down, very gently sloping shoulders and a massive foot. It is hard to separate the Samian amphorae during the last quarter of the 4<sup>th</sup> century and the 3<sup>rd</sup> century B.C. They have an overhanging mushroom rim, a short conical neck and a massive cylindrical foot.

According to the numismatic and papyrological evidences, V. Grace suggested that the main content of the Samian amphorae was olive oil.<sup>317</sup>

### Samian amphorae from Burgaz:

Among the Burgaz amphora assemblage, the Samian amphorae were represented by 347 rim fragments and 121 foot fragments (Figure 12). The rim diameter of the Samian amphorae from Burgaz change between 10 and 15 cm.

Table 17 – Samian amphorae rim and feet fragment counts by types between the  $7^{th}$  and the  $2^{nd}$  centuries B.C.

		CENTURIES (B.C.)										
SAMOS	7TH	7TH 6TH 5TH 4TH 3RD 2ND UNDATE										
RIMS	18	162	67	74	13		14					
FEET	9	52	9	48	3							

<sup>&</sup>lt;sup>315</sup> Ibid, p.168.

<sup>&</sup>lt;sup>316</sup> Grace 1971, p.78.

<sup>&</sup>lt;sup>317</sup> Grace 1971, p.79.



Figure 12 – Distribution of amphorae imports from Samos through all periods.

# **VI-V-VI-** Other Ionian Amphorae

Because of the contradiction on exact determination of the production center the following amphora fragments which show a regional production concept are evaluating as other Ionian transport amphorae.

During the end of the 6<sup>th</sup> century B. C. and the early of the 5<sup>th</sup> century B.C. a new type of transport amphorae appeared. This new type has been named as "Ionia  $\alpha$ " because of its relations with different production centers.<sup>318</sup> They have a rolled or sometimes almond shape rim, a tall neck with a step-ridge placed in the middle, a slim and tall ovoid body, and a high and plastic ring foot. Among the amphora assemblage of Burgaz, they are represented by 12 rim fragments and 4 feet (Plate LXVIII).

<sup>&</sup>lt;sup>318</sup> Sezgin 2012, p.245-258.

A transport amphora found in Nymphaion in 1960 was classified by I. Zeest as Samian amphorae due to the similarity of the clay.<sup>319</sup> After that, many researchers used the term of "Zeest's Samian Amphorae" for this type of transport amphorae. However, it is revealed that these amphorae were produced in different centers of the Northern Ionia, not in the Island of Samos.<sup>320</sup> So that, they were labelled as "Ionian  $\beta$ " by Y. Sezgin.<sup>321</sup> They were first appeared after the middle of the 6<sup>th</sup> century B.C. and divided into three sub-types. The Ionian  $\beta 1$  and the Ionian  $\beta 2$  seem to be contemporary. They had no significant typological differences except their foot structures. They have thick beak rims, conical or sometimes cylindrical neck, ovoid body with a bulbous belly close to the shoulders. They bear a deep and wide groove just beneath the rim between the handles and a ridge on the neck-shoulder transition. The Ionian  $\beta$ 1 have button shape foot with a sharp outer surface, a hollow interior and a flat and wide bottom surface while the Ionian  $\beta$ 2 have ring shaped foot with a sharp bottom surface and a hollow interior with a ridge on the outer surface. The Ionian  $\beta$ 3 appeared in the last quarter of the 6<sup>th</sup> century B.C. They were related with the previous sub-types by their deep and wide groove on the neck and their foot profile. They differed from the previous sub-types by their soft neck-shoulder transition and the bulbous belly close to the middle of the body. Among the amphora assemblage of Burgaz, they are represented by 23 rim fragments (Plate LXIX).

Because of the resemblance on the morphological level and the association of the fabrics with Samos and Miletus, a group of transport amphorae which represented a regional style was called as Samian-Milesian type.<sup>322</sup> They are characterized by thick rolled rim, the offset ridge on the neck and the spindle shape body. Among the amphora assemblage of Burgaz, they are represented by 22 rim fragments and 22 feet (Plate LXX).

<sup>&</sup>lt;sup>319</sup> Zeest 1960, p.70, 79-80.

<sup>&</sup>lt;sup>320</sup> Sezgin 2012, p.259.

<sup>&</sup>lt;sup>321</sup> Ibid, p.259-281.

<sup>&</sup>lt;sup>322</sup> Lawall 1995, p.176-195 with footnotes; Lawall 2011b, p.304-306.

			CENTURIES (B.C.)										
IONIAN													
AMPHORAE		<b>7TH</b>	6TH	5TH	4TH	3RD	<b>2ND</b>	UNDATED					
DIMO	IONIA a		10	2									
	ΙΟΝΙΑ β		19	4									
KINIS	SAMOS-		10	0				1					
	MILET		12	9				1					
	IONIA a		2	2									
PPPT	ΙΟΝΙΑ β												
FEEI	SAMOS-		2	10									
	MILET		3	19									

Table 18 – Ionian amphorae rim and feet fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C

## **VI-VI-South Aegean Region**

# **VI-VI-I-Rhodian Peraea**

Rhodian Peraea was the mainland possessions of the island of Rhodos in Asia Minor that included part of the historical Karia, of which the Loryma Peninsula was always the heart. That part of Asia Minor, that was an integral part of the Rhodian state, populated by Rhodian citizens, was under Rhodian control until the end of the 2<sup>nd</sup> century A.D. <sup>323</sup>

Due to the concentration of the samples which showed different features of clay component among the Rhodian amphorae uncovered in many different excavations, researchers began to seek new production centers that produced Rhodian-like amphorae. Despite the fact that the Peraea was subjected to the Rhodes administratively, it had different clay sources, vineyards and climate. The clay of Rhodian Peraea amphorae were more reddish, occasionally not well fired and calcareous, and without slip (Plate LXXI).<sup>324</sup>

<sup>&</sup>lt;sup>323</sup> Empereur & Tuna 1989, p. 277-299.

<sup>&</sup>lt;sup>324</sup> Şenol, Şenol & Döğer 2004, p. 353.

The surveys of Datça Peninsula conducted by Numan Tuna<sup>325</sup> and the search for amphora workshops around the Rhodian Peraea made by Jean-Yves Empereur and Maurice Picon<sup>326</sup> revealed several amphora workshops: Hisarönü workshop<sup>327</sup>, Turgut workshop<sup>328</sup>, Gelibolu workshop<sup>329</sup>, Çamlı-Çınar and Karaca-Naltaş wokshops<sup>330</sup>.

The Hisarönü workshop was first introduced to the scientific world by N. Tuna following the discovery of the amphora deposits around Çubucak alongside the road between Marmaris-Datça.<sup>331</sup> During 1990s, the excavations revealed that the workshop belong to the producer Hieroteles that his career began in the early 2<sup>nd</sup> quarter of the 3<sup>rd</sup> century B.C. and lasted to c. 230/225 B.C.<sup>332</sup> There has been produced three main types of amphorae. Type 1 had first ribbon then round lip. This round lip becomes standard for all the Hellenistic era from c. 250 B.C. Feet that we associate with these lips are ringlet feet above a rounded stems, in an order that corresponds probably to their chronological evolution: the ring is more or less marked; it is sometimes pointed out one or two fillets or flanked a ring. Ribbon lips lead us in the first two decades of the 3<sup>rd</sup> century B.C. The round lip of Type 2 does not mark big change from the older type, but on the other hand, the foot has lost its ringlet and took the usual Rhodian form. Type 3 began to be produced from the 1<sup>st</sup> century B.C. and displayed a broad development over the next two centuries. It is easily identifiable with horn-shaped handles and its conical foot.

<sup>&</sup>lt;sup>325</sup> Tuna 1983a.

<sup>&</sup>lt;sup>326</sup> Empereur & Picon 1986.

<sup>&</sup>lt;sup>327</sup> Empereur & Tuna 1989, Döğer & Şenol 1994, 1997.

<sup>&</sup>lt;sup>328</sup> Empereur & Picon 1986, p.113-116.

<sup>&</sup>lt;sup>329</sup> Ibid, p.116-117.

<sup>&</sup>lt;sup>330</sup> Döğer & Şenol 1997.

<sup>&</sup>lt;sup>331</sup> Tuna 1983a p. 361, Empereur & Tuna 1989 p. 277-285.

<sup>&</sup>lt;sup>332</sup> Şenol, Şenol & Döğer 2004, p. 353.

It is understood that the workshop near the village Turgut produced the mushroom rim amphorae with either wide foot or hollowed food since the end of the 4<sup>th</sup> century B.C.<sup>333</sup> According to the results of the surveys in the Peraea, amphora deposits from Kallipolis (Gelibolu) proved that there have been produced amphorae from the end of the 4<sup>th</sup> century B.C. (with mushroom rims) to the 1<sup>st</sup> century A.D. (with very sharp, pointed handles).<sup>334</sup>

The deposit of proto-Rhodian amphorae near the village of Çamlı-Çınar yielded amphora fragments with vertical-banded and mushroom rims. There has been found two types of foot: type 1 resembles to the foot types of the Hieroteles whereas type 2 is a knobbed toe with pointed base.<sup>335</sup> The amphora deposits located in the area of Karaca-Naltaş yielded amphora fragments with rolled and banded rims and similar types of foot with Hieroteles.<sup>336</sup>

### **Rhodian Peraea amphorae from Burgaz:**

Among the amphora assemblage of Burgaz; amphorae recognized as Rhodian Peraea were represented by 20 rim fragments and 1 foot. The rim diameter of Rhodian Peraea amphorae of Burgaz findings changes between 8 and 15 cm.

Table 19 – Rhodian Per	raea amphorae rim	and feet	fragment	counts	by types	between
the 7 <sup>th</sup> and the 2 <sup>nd</sup> centu	iries B.C.					

		CENTURIES (B.C.)								
<b>RHODIAN PERAEA</b>	7TH	6TH	5TH	4TH	3RD	2ND	UNDATED			
RIMS				9	9		2			
FEET					1					

<sup>&</sup>lt;sup>333</sup> Empereur & Picon 1986 p.113-116; Empereur & Tuna 1989, p. 289.

<sup>&</sup>lt;sup>334</sup> Empereur & Picon 1986 p.116-117; Empereur & Tuna 1989, p. 289.

<sup>&</sup>lt;sup>335</sup> Döğer & Şenol 1997, p.61-66.

<sup>&</sup>lt;sup>336</sup> Ibid, p.66-71.

### VI- VI -III-Kos

The island of Kos was one of the Greek city states which produced and exported amphorae. By its convenient geographical situation, Kos was very fertile and its economy was based on agricultural activities mainly wine-growing. Its most important source of income was the wine trade.<sup>337</sup>

Although the archaeological data was very limited on the production of amphora in the island, it is supposed that amphora production began in the early 3<sup>rd</sup> century B.C. and continued through the Hellenistic and Romans periods.<sup>338</sup> However, in 1991, the archaeological investigation on an amphora workshop dating to the 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. which was located near the city of Kos (Kos-Meropis) yielded some information that this amphora workshop seemed to have been active since an undetermined date in the 5<sup>th</sup> century B.C.<sup>339</sup>

Among the amphora findings from this workshop, there identified three types of amphorae:<sup>340</sup> Type I amphorae (Plate LXXII) had the characteristic twin-roll handles. They had a broad, projecting, mushroom shaped rim with a shallow groove at the attachment with the neck. The short neck was bulging in the middle and tapers downwards. They had an ovoid body which the maximum diameter was situated just under the rounded shoulders. They had a knob toe that had a sharp angle at its periphery and slightly concave underneath. Type II amphorae (Plate LXXIII) had single handles in elliptical sections with a thumb-print at the lower attachments. They had mushroom rim on top of the tubular and higher neck. They had an ovoid body which the maximum diameter was located at the height of the shoulders. They had small knob toe like Type I but bigger and more concave underneath. Type III had small

<sup>&</sup>lt;sup>337</sup> Georgopoulos 2004, p.129.

<sup>&</sup>lt;sup>338</sup> Papuci-Wladyka 1997, p.48.

<sup>&</sup>lt;sup>339</sup> Ibid, p.48.

<sup>&</sup>lt;sup>340</sup> Georgopoulos 2004, p.130.

triangular lip. They had S-shaped handles with thumb-prints. They had a much angled belly. They had a high foot which flares into a toe with a spherical depression on the underside. These three types of Koan amphorae had the same clay: "red or reddish-buff with more or less inclusions of golden mica, sand and white or dark bits. The surface is often covered with a light coating of slip."<sup>341</sup>

During the excavation at Kardamaina (Ancient Halasarna)<sup>342</sup> there were found many amphora fragments, especially feet. However, they were dated by well-dated published parallels since the strata of the site were very disturbed. The amphora feet from Kardamaina were dated from the 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. to the 2<sup>nd</sup> century B.C. They had the same clay components. There were identified three types of feet: Foot type I was the simple knob toe which had a sharp edge at the top and slightly concave underneath. They were usual shape of foot for the 4<sup>th</sup> century amphorae like mushroom rim shapes. Foot type II had an inverted cone shape which indicated that the amphora became taller. They had a concave form on the underneath and had a circular depression. They were dated to the 1<sup>st</sup> half of the 3<sup>rd</sup> century B.C. Foot type III was the ring toe which had more or less projecting spherical knob. They were dated to the 2<sup>nd</sup> half of the 2<sup>nd</sup> century B.C.

During the Hellenistic period, the production of amphora in the island continued from the end of 270s to the 1<sup>st</sup> century B.C.<sup>343</sup>: the main type of amphora from this period was a continuation of the Type I amphorae with double-barreled handles. However, they became more slender and elongated. They had small rolled lip. Their double-barreled handles emerge just below the lip, rise slightly upwards and then fall to the shoulders which were very abrupt. The shoulders defined with a clear break at the transition to the belly. The neck which was straight but also slightly convex

<sup>&</sup>lt;sup>341</sup> Georgopoulos 2004, p.130, footnote 12.

<sup>&</sup>lt;sup>342</sup> Ibid, p.131-132, fig.1-4.

<sup>&</sup>lt;sup>343</sup> Papuci-Wladyka 1997, p.52.

profile, separated from the shoulders by a light indentation. The foot finished in such a way such as to create "*un bouton rentré*". They had very thin walls.

The Koan amphorae with twin-roll handles, namely Sub-Kos amphorae, continued to be produced from the end of the 2<sup>nd</sup> century B.C. until the middle of the 2<sup>nd</sup> century A.D. They became more popular so that they began to be produced outside of Kos, around the East and West halves of the Mediterranean Basin like the centers as Knidos, Rhodes and the cities of Karia, Egypt, Cyprus. In the West, they were labeled as Dressel 2-4 or Peacock-Williams class 10 and produced in Italy, Spain, Southern France and Britain until the early Roman period.<sup>344</sup>

# Koan amphorae from Burgaz:

Among the amphora assemblage of Burgaz; amphorae identified as Koan amphorae were represented by 30 rim fragments and 36 feet. The rim diameter of Koan amphorae of Burgaz findings changes between 9 and 18 cm.

Table 20 – Koan amphorae rim and feet fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C.

			CENTURIES (B.C.)										
KOS		7TH	6TH	5TH	4TH	3RD	2ND	UNDATED					
	TYPE 1				9								
RIMS	TYPE 2				13								
	KOS?				1	4		1					
	TYPE 1				11								
FEET	TYPE 2				14								
	KOS?				7			4					

<sup>&</sup>lt;sup>344</sup> Papuci-Wladyka 1997, p.53.

#### VI- VI - IV-Rhodes

By having a place in the Mediterranean trade since the beginning of the Archaic period, Rhodes, with the sea law named after her, has also an important authority after Classic period. After *synoikismos*, by reinforcing its commercial activities with its agricultural production, Rhodos managed to present their products to the market.<sup>345</sup> The production of Rhodian amphora (Plate LXXIV-LXXV) appears in the last quarter of the 4<sup>th</sup> century B.C.; however, there are some tentative works on their morphology to set to the mid-3<sup>rd</sup> century B.C., from which it slowly moves up to the 1<sup>st</sup> century B.C. and even until its disappearance during the 2<sup>nd</sup> half of the 2<sup>nd</sup> century A.D.<sup>346</sup>

The earliest Rhodian amphorae are dated to the last quarter of the 4<sup>th</sup> century B.C. They had an everted triangular rim, long cylindrical neck, elongated body and a hollowed knob toe. At the 1<sup>st</sup> quarter of the 3<sup>rd</sup> century B.C., the amphorae became shorter and it is seen that body swollen from the shoulders. They had a narrowangled triangular rim and a hollowed peg toe. During this period, in the end of the 1<sup>st</sup> quarter of the 3<sup>rd</sup> century B.C., the Rhodian amphorae had a high banded rim, more elongated neck. Their oval section handles attached just under the rim and ended on the sharp shoulders. The amphorae ended with a peg toe surrounded by a ringlet. In the mid-3<sup>rd</sup> century B.C. Rhodian amphorae started to be produced in canonical form. They had rolled rim, long cylindrical neck, oval sectioned vertical handles, ovoid body with narrower belly diameter, and a simple toe. During the 2<sup>nd</sup> century B.C., the points where the handles turn down became more tapered and the body seemed to become more ovoid. The most prominent feature of Rhodian amphorae during the 1st century B.C. was its horn-like handles. Accordingly, it is observed that the handles showed slight curvature toward outside. There are important criteria to date Rodian amphorae that they were produced within this evolution until the 2<sup>nd</sup> century A.D.:

<sup>&</sup>lt;sup>345</sup> Şenol 2009, p.122.

<sup>&</sup>lt;sup>346</sup> Empereur & Hesnard 1987, p.18.
lengthening of the height of amphorae, narrowing of the body, sharpening and forming a kind of handle "horn", rounding of the handle section, and thin and tapered to the base. <sup>347</sup>

Although the main content was the wine, it is understood that olive oil, almond, sec fig, carob, honey, cabbage and barley were also traded in Rhodian amphorae. <sup>348</sup> Classical dough of the Rhodian amphora is very fine, generally well cleaned and therefore no visible inclusions. Its color is uniformly in tones of pinkish-beige or sometimes pink supported the broken handles core. A thin slip, very pale buff cream, often covers its surface, but its color may take considerably yellowish tones.<sup>349</sup>

# **Rhodian Amphorae from Burgaz:**

Among the amphora assemblage of Burgaz 83 rim fragments and 21 feet were identified as Rhodian amphorae. The rim diameter of the Rhodian amphorae changes between 8 and 17 cm.

Table 21 – Rhodian amphorae rim and feet fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C.

	CENTURIES (B.C.)								
RHODES	7TH	I 6TH 5TH 4TH 3RD 2ND UNDAT							
RIMS				13	56	2	12		
FEET				19	1		1		

<sup>&</sup>lt;sup>347</sup> Şenol 2006, p.111-114.

<sup>&</sup>lt;sup>348</sup> Göransson 2007, p.160, Şenol 2006, p.105.

<sup>&</sup>lt;sup>349</sup> Finkielsztejn 2001, p.47.

# **VI-VI-IV-Other South Aegean Amphorae**

By the similarities of the morphological traits and the resemblance of the fabric with a simple eye observation, 76 rim fragments and 10 feet were classified as South Aegean (Plate LXXVI-LXXVII). However the production center cannot be identified exactly.

Table 22 – South Aegean amphorae rim and feet fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C.

	CENTURIES (B.C.)								
SOUTH AEGEAN	7TH	6TH	5TH	4TH	3RD	2ND	UNDATED		
RIMS		5		67			4		
FEET			1	5			4		

# **VI-VII-Cyclades Islands**

# **VI-VII-I-Paros**

According to the archaeological researches, J.-Y. Empereur and M. Picon identified six amphora workshops on the island of Paros that is one of the Cyclades Island group.<sup>350</sup> The amphora workshops were situated in the northern part of the island.<sup>351</sup> It is understood that the amphora production took place since the end of the 4<sup>th</sup> century B.C. till the Roman Imperial period. Researches demonstrated that there were produced five types of amphorae, while three of which produced during the Hellenistic period, the others<sup>352</sup> were produced in the Roman Imperial period.

<sup>&</sup>lt;sup>350</sup> Empereur & Picon 1986.

<sup>&</sup>lt;sup>351</sup> Ibid, p.501.

<sup>&</sup>lt;sup>352</sup> For morphological description: Empereur & Picon 1986, p.506-507.

The first type was dated to the 4<sup>th</sup>- early 3<sup>rd</sup> century B.C. They had a mushroomshaped rim, wide neck, relatively long handles with a thumb prints at the lower attachments, and a large knob toe with a depression in its base (Plate LXXVIII). The second type, that took over the type I during the 3<sup>rd</sup> century B.C., has a rounded rim. It had also knob toe but it became narrower in diameter and more hollowed; the passage from the body to the foot was elongated, the flare was less pronounced. The handles had always a thumb mark at the lower attachment. The third type of the 2<sup>nd</sup> century B.C. had also rounded rim but the form of the foot has changed: it became straight and plump; it seemed to be looked like the Rhodian foot.

# Parian Amphorae from Burgaz:

Among the amphora fragments found at Burgaz, there are only 17 rim fragments as Parian amphorae. The diameter of Parian amphorae from Burgaz findings changes between 12 and 14 cm.

Table 23 – Parian amphorae rim fragment counts by types between the  $7^{th}$  and the  $2^{nd}$  centuries B.C.

		<b>CENTIRIES (B.C.)</b>									
PAROS	7TH	7TH 6TH 5TH 4TH 3RD 2ND UNDATED									
RIMS				15							

#### **VI-VIII-Mediterranean Sea Region**

# **VI-VIII-I-Cyprus**

With its unique location in the center of the Eastern Mediterranean, the island of Cyprus has either been frequented transit port for trade or has the opportunity to sell its products both grown and produced in the island to the Mediterranean market.<sup>353</sup>The amphora production on Cyprus was started at the beginning of the Archaic period and mainly occurred at Kourion, Kition, Paphos, and probably Salamis.<sup>354</sup>

The first Cypriot amphorae (Plate LXXIX) were known as basket-handle amphorae that appeared to have been produced from the late 8<sup>th</sup> century B.C.<sup>355</sup> and stayed in used until well into the 4<sup>th</sup> century B.C.<sup>356</sup> They were common around the Eastern Mediterranean region so that it is proposed that they were also produced in Levant.<sup>357</sup> Researches on the basket-handle amphorae have consequently proved that this type of transport amphorae was first produced in Cyprus.<sup>358</sup> During its longevity, the shape of basket-handle amphorae evolved from a biconical to a cylindrical body so that the toe became longer. They had vertical or rolled rim. The round sectioned basket-handles were arched vertically above the rim.<sup>359</sup> They were most probably used to transport olive oil.<sup>360</sup> The color of the clay varies in reddish, pinkish, whitish, pale yellow tones due to the firing process. Their texture was porous and the fabric contained numerous inclusions like limestone, sand, chamotte, quartz, shells, and grit.<sup>361</sup>

It is known that Cypriot amphorae were designed in the form of Greek amphorae from the 4th century B.C. The amphorae produced from the end of the 4<sup>th</sup> century

<sup>&</sup>lt;sup>353</sup> Şenol 2006, p.129.

<sup>&</sup>lt;sup>354</sup> Şenol & Şenol 2013, p.62-63, footnote 16.

<sup>&</sup>lt;sup>355</sup> Greene, Leidwanger & Özdaş 2013, p.24, footnote 14.

<sup>356</sup> Göransson 2013, p.48.

<sup>&</sup>lt;sup>357</sup> Calvet 1986, p.505-514; Şenol 2004, p.10-14.

<sup>&</sup>lt;sup>358</sup> Zoroğlu 2013, p.36.

<sup>&</sup>lt;sup>359</sup> Göransson 2007, p.170 with footnotes.

<sup>&</sup>lt;sup>360</sup> Şenol 2004, p.10; Greene, Leidwanger & Özdaş 2013, p.26.

<sup>&</sup>lt;sup>361</sup> Şenol & Şenol 2013, p.64-68.

and during the 3<sup>rd</sup> century B.C. were used to transport Cypriot wine.<sup>362</sup> These Cypriot amphorae<sup>363</sup> have a high neck with a bead or outer edge. The neck is sometimes distinguished at the level of the upper attachment handles by an edge. The body with triangular profile is however enlarged and ends with a foot in the form of a knob. The vertical handles on the shoulder are close to the neck at the lower attachments. They had a characteristic fabric: coarse texture, significant white or black inclusions, variable color depending on firing, but most often red.

# **Cypriot amphorae from Burgaz:**

Among the amphora assemblage of Burgaz, Cypriot amphorae were represented by 18 rim fragments and 7 feet. The rim diameter of Cyriot amphorae of Burgaz findings changes between 8 and 12 cm.

Table 24 – Cypriot amphorae rim and feet fragment counts by types between the  $7^{\text{th}}$  and the  $2^{\text{nd}}$  centuries B.C.

	CENTURIES (B.C.)									
CYPRUS	<b>7TH</b>	7TH 6TH 5TH 4TH 3RD 2ND UNDAT								
RIMS			10	5			3			
FEET				7						

# VI-IX-Black Sea Region

# VI-IX-I-Heraklea Pontica

Heraclea Pontica is a city which was established in the mid-6<sup>th</sup> century by Megara and Tanagra. Heraclea Pontica is one of the few amphora manufacturer's cities in the northwest of Anatolian coast. The amphora production began at the end of the 5<sup>th</sup> century – the beginning of the 4<sup>th</sup> century B.C. and continued till the mid-3<sup>rd</sup> century

<sup>&</sup>lt;sup>362</sup> Calvet 1986, p.505.

<sup>&</sup>lt;sup>363</sup> Ibid, p.505.

B.C.<sup>364</sup> The main product that carried in Heraclean amphoare was the wine. The fabric of the amphorae produced at Heraclea Pontica was beige-orange to dark orange or brown, occasionally reddish, with great amount of small inclusions like quartz, limestone, and brown and black sands. Although some of them were well-fired, the colors of the core and the surface usually differ. There added a red paint close to the rim and handles and sometimes on the body.<sup>365</sup>

The Heraclean amphorae are divided into three major types:<sup>366</sup> The first type was produced since the 1<sup>st</sup> quarter of the 4<sup>th</sup> century B.C. Although they had many variations, they had an everted rim, long neck, shoulders with relatively smooth transition, and a long foot with a hollow at the bottom which was expanding towards the end. The second type had longer neck, conical body, slightly hollowed cylindrical -but not expanding outward- foot. The shoulders remarkably sharpened. They were produced since the 2<sup>nd</sup> quarter of the 4<sup>th</sup> century till the beginning of the 3<sup>rd</sup> century B.C. They had two sub-types with different capacity. The third type was called as Pseudo- Thasian due to their thoroughly extended biconical bodies. They were produced simultaneously with type 2.

# Heraclean Amphorae from Burgaz:

Among the amphora assemblage of Burgaz; there are only 2 feet recognized as Heraclean amphorae.

Table 25 – Heraclean amphorae feet fragment counts by types between the  $7^{th}$  and the  $2^{nd}$  centuries B.C.

	<b>CENTURIES (B.C.)</b>						
HERACLEA PONTICA	<b>7TH</b>	6TH	5TH	4TH	3RD	<b>2ND</b>	UNDATED
FEET				2			

<sup>&</sup>lt;sup>364</sup> Monakhov 2003, p.123-144.

<sup>&</sup>lt;sup>365</sup> Petrova 2011, p.102.

<sup>&</sup>lt;sup>366</sup> Şenol 2006, p.38-39.

# VI-X-Unidentified Amphorae

These amphorae have not been classified, however they are included in this study to show the variety of types recovered from Ancient Burgaz (Plate LXXX).

Table 26 – Unidentified amphorae rim and feet fragment counts by types between the  $7^{th}$  and the  $2^{nd}$  centuries B.C.

	CENTURIES (B.C.)								
UNIDENTIFIED	<b>7</b> TH	6TH	5TH	4TH	3RD	2ND	UNDATED		
RIMS			1	3			263		
FEET							171		

## **CHAPTER VII**

#### DISCUSSION

The amphora findings uncovered during the excavations carried out between 1993 and 2009 at Ancient Burgaz offer important information about the import and export trade of the city. Among the amphora forms, I could classify the amphorae from Athens and Korinth from Mainland Greece; Akanthos-Amphipolis, Mende and Thasos from North Aegean Region; Lesbos from Aeolian Region; Peparethos–Ikos from Sporades Islands; Klazomenai, Ephesos, Miletus, Chios and Samos from Ionian Region; Rhodian Peraea, Kos and Rhodes from South Aegean Region; Paros from Cyclades Islands; Cyprus from East Mediterranean Region; and Heraklea Pontica from Black Sea Region (Figure 13). Besides these imported amphorae, amphorae thought to be produced in the Knidian Peninsula were the most important results obtained from this study.



Figure 13 - Distribution of amphorae imports from all centers through all periods. NA=North Aegean, IR = Ionian Region, SA = South Aegean, R = rim, F = foot.

The necessities imposed by the location of the Knidian peninsula in the Aegean Sea and the limited natural resources let Knidians into an economic relation dependent on a transmarine trading scheme. However, it can be said that, during the Archaic and Classical periods, Knidian trade was not focused on specialized commodities of agricultural products such as wine or olive oil. They were rather specialized on timber trade and maritime transport.<sup>367</sup> At around mid-4<sup>th</sup> century B.C., whether because of the concern to find new resources to feed the growing population or as a result of the discovery of the transit trade route which would provide an important place in the Mediterranean market, the Knidians moved their city to the Tekir Cape which had two harbor facilities but lacked adequate water supply for agriculture or human consumption. They developed the viticulture by terracing all over the rural lands. Especially because of its cheapness, Knidian wine has taken an important

<sup>&</sup>lt;sup>367</sup> Tuna 1983a, p.64.

position in the trade sector of low priced wine in the ancient world.<sup>368</sup> Since amphorae are necessary for the wine trade, with the increase of wine production, Knidos became one of the biggest amphora production centers in the Western Anatolia.

# **Import Trade**

The amphora assemblage from Burgaz put forth some data about the trade relation of Ancient Burgaz (Figure 14).



Figure 14 – Amount of imported amphorae through all periods

The data revealed that since the end of the 7<sup>th</sup> century B.C. there seemed to have trade relations with the most important Ionian producer centers like Chios, Samos and Miletus. From the end of the 7<sup>th</sup> century B.C. to the 4<sup>th</sup> century B.C., the

<sup>&</sup>lt;sup>368</sup> Şenol 1992, p.11-15.

products of Samos and Miletus were imported to Burgaz within their transport amphorae. While the amount of transport amphorae from Samos and Miletus were equal during the 6<sup>th</sup> century B.C., there occurred some changes during the 5<sup>th</sup> century B.C.: Samian transport amphorae nearly remained the same amount but Milesian amphorae showed a dramatic decrease. This can be explained by the local production of the transport amphorae of "Milesian type Knidian amphorae". From the 6<sup>th</sup> century B.C. to the 4<sup>th</sup> century B.C., the famous Chian wine was imported in its transport amphorae. The amphora fragments identified as Chian demonstrated that the trade started at the beginning of the 6<sup>th</sup> century B.C., intensified at the 5<sup>th</sup> century B.C. and continued in a decreasing scale during the 4<sup>th</sup> century B.C. Apart from the major centers from Ionia, Burgaz has limited relations with Klazomenai during the 6<sup>th</sup> century B.C. and Ephesos during the 3<sup>rd</sup> century B.C. (Figures 15-16)



Figure 15 - Distribution of amphorae imports from Ionian Region through all periods. R = rim, F = foot.



Figure 16 - Distribution of amphorae imports from Ionian Region through all periods. R = rim, F = foot.

The density of the Thasian amphorae found at Burgaz was the most important evidence that Burgaz had also trade relations with the North Aegean centers (Figure 17). The trade relation with Thasos was limited at the 6<sup>th</sup> century B.C., increased at the 5<sup>th</sup> century B.C., then again decreased during the 4<sup>th</sup> century B.C. The transport amphorae from Mende showed that the trade started at the 5<sup>th</sup> century B.C. and continued in a limited amount during the 4<sup>th</sup> century B.C. Apart from the Thasian and Mendean amphorae from North Aegean region, there have been found a small number of amphora fragments from Akanthos-Amphipolis which was among the centers which produced amphorae with similar features during the end of the 5<sup>th</sup> century and the beginning of the 4<sup>th</sup> century B.C. (Figure 18)



Figure 17 - Distribution of amphorae imports from North Aegean Region through all periods. R = rim, F = foot.



Figure 18 - Distribution of amphorae imports from North Aegean Region through all periods. R = rim, F = foot.

During this period, Burgaz had also limited trade relations with Lesbos. By the examination of the transport amphorae from Lesbos it was shown that the trade

relation was strong during the 6<sup>th</sup> century B.C. and decreased almost to none during the 5<sup>th</sup> century B.C.

The amphora fragments from Athens and Korinth proved that Burgaz had trade relations with the centers of Mainland Greece (Figure 19). The trade with Athens was limited within the 7<sup>th</sup> and 6<sup>th</sup> centuries B.C. However, the trade relations with Korinth started from the 7<sup>th</sup> and 6<sup>th</sup> centuries B.C., increased at the 5<sup>th</sup> and 4<sup>th</sup> centuries B.C. and continued but decreased at the 3<sup>rd</sup> century B.C. (Figure 20)



Figure 19 - Distribution of amphorae imports from Mainland Greece through all periods. R = rim, F = foot.



Figure 20 - Distribution of amphorae imports from Mainland Greece through all periods. R = rim, F = foot.

Also Burgaz had continuous trade relations with Cyprus from the 7<sup>th</sup> century B.C. till the 4<sup>th</sup> century B.C. Amphora borne trade with Cyprus started in a low amount at the 7<sup>th</sup> century B.C., continued and increased in the 6<sup>th</sup> century B.C., reached its high level at the 5<sup>th</sup> century B.C. and showed a small decrease at the 4<sup>th</sup> century B.C.

These commercial relationships that lasted until the 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. had resulted in the declination of imported products after this date in Burgaz. This might be the result of either the emergence of the cheap products of the South Aegean in the market or the initiation of large scale local production. The archaeological evidences uncovered in Burgaz also showed that the Southern Aegean centers (Figure 21) directed the Mediterranean trade after the mid-4<sup>th</sup> century B.C. During the 4<sup>th</sup> century B.C., although the trade relations with Korinth, Akanthos-Amphipolis, Mende, Thasos, Chios, Samos and Cyprus still continued in a decreasing amount, there have been developed new relations with Peparethos-Ikos, Rhodian Peraea, Kos, Rhodes and Paros due to their production of cheapest wine (Figure 22).



Figure 21 - Distribution of amphorae imports from South Aegean Region through all periods. R = rim, F = foot.



Figure 22 - Distribution of amphorae imports from South Aegean Region through all periods. R = rim, F = foot.

## Export Trade and New Types of Knidian Amphorae

The researches for amphora workshops of the Knidian Peninsula<sup>369</sup> proved that amphora production started from the 6<sup>th</sup> century B.C. until the 7<sup>th</sup> century A.D.<sup>370</sup> Although the typological development of Knidian amphorae was produced by the findings from the late Classical period and the Hellenistic era mostly from the consumption centers and shipwrecks, the earliest types of Knidian amphorae were less known due to the lack of information. This is filled by the findings from Ancient Burgaz which has yielded many amphora fragments from the earliest stage of Knidian amphora production along with many fragments of known types.

During the Archaic period, as being the most important pottery manufacturer, Miletus affected its surrounding regions like Karia. The amphorae with high and thin convex lips, and shallow ridges at the transition from the rim to the neck and from the neck to the shoulders were also produced at the Knidian Peninsula.<sup>371</sup> The transport amphorae with heavy rounded or echinoid rims and ring toes which have been produced in a very wide region were also manufactured at the Knidian Peninsula since Late Archaic period. Judging by these two earliest Knidian amphora types, it can be deduced that Knidos took part in a regional production of transport amphorae. Following the changes in the social and economic aspects<sup>372</sup> at the beginning of the 4<sup>th</sup> century B.C., like other amphora producer centers did, Knidos become one of the centers which produced transport amphorae with mushroom rim. The examination of the Burgaz amphora findings yielded eight different local mushroom rim types dated to the beginning of the 4<sup>th</sup> century B.C. till the late 3<sup>rd</sup> century B.C. Knidians began to produce their own form with rolled rim and a coneshaped toe that developed into the familiar ringed toe of later forms by the 1<sup>st</sup> quarter

<sup>&</sup>lt;sup>369</sup> Love 1973; Tuna 1982, 1983, 1984, 1990; Empereur & Picon 1986.

<sup>&</sup>lt;sup>370</sup> Tuna, Empereur, Picon & Döğer 1987; Empereur & Tuna 1988; Döğer 1991; Şenol 1992.

<sup>&</sup>lt;sup>371</sup> Şenol 1992, p.31.

<sup>&</sup>lt;sup>372</sup> Hornblower 1982, p.1-105.

of the 3<sup>rd</sup> century B.C. By the mid-3<sup>rd</sup> century B.C., the ring around the toe became more prominent.

Since it is deduced that during the Archaic and Classical periods Knidian amphora production took part in a regional scale and the information on earliest types of Knidian amphorae from consumption centers was limited, the Knidian amphorae were best known from the Late Classical period from findings around the ancient world. The diffusion of Knidian amphorae was mostly studied on the basis of the stamped amphora handles found at the consumption centers. The Knidian amphorae were found at Mainland Greece and Islands (Athens, Korinth, Delos); Asia Minor (Halicarnassus, Assos); North African Coast (Alexendria, Naukratis, Eusperides); and Black Sea Region (European Bosphoros, Asian Bosphoros, Olivia Tira, Khersonesos, NW Crimea, rest).

Knidos was the major source of wine imported into Athens in the Hellenistic period. Knidian wine predominates with a high 67% of all amphora finds. 25.127 Knidian amphora fragments were found around Athens: in the Agora, the Kerameikos, the slopes of the Acropolis, the Olympieion. According to the V. Grace chronology, during the Period 3 (220-188 B.C.) - 4A (188-167B.C.) - 4B (167-146 B.C.) - 5 (146-108 B.C.), there were counted 431 stamped amphora handles.<sup>373</sup> According to the V. Grace's stamped handles chronology, between the Period 3 (220-188 B.C.) and Period 6C (88-78 B.C.), 176 Knidian stamped amphora handles were found in Corinth.<sup>374</sup> 4525 Knidian stamped amphora handles were found in Delos.<sup>375</sup>

From three wells at the Maussolleion at Halicarnassus, there were found 19 Knidian amphora fragments.<sup>376</sup> According to the examination of the stamped amphora

<sup>&</sup>lt;sup>373</sup> Koehler & Matheson 2004, p.163-164.

<sup>&</sup>lt;sup>374</sup> http://www.chass.utoronto.ca/amphoras/aia90.htm

<sup>&</sup>lt;sup>375</sup> Grace & Savvatianou-Petropoulakou 1970, p.281.

<sup>&</sup>lt;sup>376</sup> Norskov 2004, p.287.

handles among the findings between the years 1992 and 1996, 15 stamps were identified as Knidian. It is understood that Knidian wine at Assos was especially popular from the 2<sup>nd</sup> century B.C. to the late 1<sup>st</sup> century B.C.<sup>377</sup>

More than 80.000 Aegean amphorae were found at Alexandria. According to the V. Grace chronology, during the Period 3 (220-188 B.C.) - 4A (188-167B.C.) - 4B (167-146 B.C.) - 5 (146-108 B.C.), there were counted 116 Knidian stamped amphora handles.<sup>378</sup> Since Naukratis had a unique position of liaison between Greek and Egyptian merchants from at least 6<sup>th</sup> century B.C. onwards there was found many Knidian amphorae.<sup>379</sup> At Eusperides, Knidian amphorae were classified under South Aegean Amphorae group and the relative proportion of this group among all the amphorae in the fully quantified contexts (4889 fragments) is 7% (338 fragments).<sup>380</sup>

According to the stamped amphora handles, Knidian export to the North Black Sea Area arrived continuously through the course of the whole Hellenistic period. 1078 Knidian stamps were found, 1047 of them were identified at the sites - European Bosphoros (304), Asian Bosphoros (45), Olivia Tira (402), Khersonesos (100), NW Crimea (84), rest (112).<sup>381</sup>

# The Political Scene of the Trade

Transport amphorae were the most important evidences to interpret the ancient economy. Besides being found in mass amount, transport amphorae are the key source to understand the changing economic conditions. In order to use the transport

<sup>&</sup>lt;sup>377</sup> Şenol 2007, p.110.

<sup>&</sup>lt;sup>378</sup> Koehler & Matheson 2004, p.165, fig.3.

<sup>&</sup>lt;sup>379</sup> Coulson, Wilkie & Rehard 1986, p.535-550

<sup>&</sup>lt;sup>380</sup> Göransson 2007

<sup>&</sup>lt;sup>381</sup> Efremov 1992, p.254-265.

amphorae as data in economic history, they must also be related with the historical events.

As a result of the colonization in the Greek World, which started at the mid-8<sup>th</sup> century B.C. and continued throughout the 7<sup>th</sup> and 6<sup>th</sup> centuries B.C., many colonies were established around the Mediterranean, Marmara and Black Seas. By these colonies, the Greeks founded new cities to transpose their population explosion and created new markets for their major surpluses of wine and olive oil. In return, the Greek satisfied their need for grain or other raw materials from these colonies. The Greek economy, at the beginning, was based on the trade of grain in exchange for wine, olive oil and ceramic products. The increase in trade relations required the production of unique amphora form for each production centers to be able to be recognized in the market. During the late Archaic period, the producer cities created standards in forms, profile and decoration patterns.<sup>382</sup>

The export of wine and olive oil in the East Greek amphorae during the Archaic period was concentrated at the Black Sea colonies, however, the East Greek amphorae were also spread all over the Mediterranean Basin. The trade relations with East Mediterranean region declined since 600 B.C. as a result of the collapse of the Assyrian Empire by Babylon at the end of the 7th century B.C. The trade relations with this region were revived during the Persian era around 525 B.C.

By the mid-6<sup>th</sup> century B.C., the Greek cities increased their relations with the West Mediterranean centers. The amount of the Greek amphorae increased during the last quarter of the 6<sup>th</sup> century B.C. but showed a dramatic decrease after that date and reached a random distribution during the 5<sup>th</sup> century B.C. During the 5<sup>th</sup> century B.C., in the East Mediterranean region, Attic products began to replace the East Greek products.

<sup>&</sup>lt;sup>382</sup> Şenol 2009, p.37.

The severe depression of the Ionian Revolt by the Persians at the beginning of the 5<sup>th</sup> century B.C. affected the amphora production in the West Anatolian centers negatively. However, the island of Chios, Samos and Lesbos continued to produce amphora during the 5<sup>th</sup> century B.C. During this period, there had been an increase in the production of wine and amphora at the islands of Chios, Samos, Lesbos and Thasos. After the 5<sup>th</sup> century, Thasian amphorae were spread around the Aegean and Black Sea regions.

Since the last quarter of the 4<sup>th</sup> century B.C., the conquests of the East world by Alexander the Great remodeled the economic organization. With the increase of Greek population in the East, the need for the Greek wine and olive oil was also increased and in turn the production and trading of these increased. The inability to satisfy the solicitation of the increased demand of wine by the older producer centers like Chios, Samos and others gave rise to new producer cities into the market. Thereby, at the beginning of the Hellenistic period, the demand for the products of the North Aegean centers like Thasos, Lesbos and Chios were depreciated in the market while the products of the South Aegean centers like Rhodes and Knidos increased in value. The increased amount of Knidian amphorae from the consumption centers indicated the condensation of trade relations along with the important intermediary role of Knidos in sea trade rather than using the imported products in local consumption.

# **Imported Products vs Local Products**

During the Archaic and Classical periods, the Knidians had utilized the arable lands of coastal plains in their territorium, and satisfied with the semi-closed agrarian economic system.<sup>383</sup> By the development of the sea-borne trade, the importance of wine production and its trade had increased, leading the Knidians to expand all over

<sup>&</sup>lt;sup>383</sup> Tuna 1983a.

arable agricultural lands mostly with terraces in the peninsula<sup>384</sup>. The less inclined ridges should be covered with olive groves.<sup>385</sup>

According to the antique historians, we learn that Knidos took part in wine economy with its low-priced wine. Although Knidos was famous for its wine, there were other products to be exported: olive oil, Knidian vinegar, some sort of cabbage that was called "salty", onion, locust bean (carob), oil seed, reed (*Cnidus Calamus*) to make pen, some sort of medicinal salve and antivenom.<sup>386</sup>

As it is mentioned before, Knidos was one of the wine producer centers since the archaic period. However, its production in early times was for its own consumption. According to amphora findings, it is assumed that Knidos imported wine from various centers. The amount of imported amphorae found in the domestic units indicated not only the consumption of imported wine/olive oil but also suggested that amphorae, after their content were consumed, they were reused. The amount of the reused amphora was obviously related to the heir availability which in turn was dependent on the important role of Knidians in the maritime trade. However, keeping in mind that the city itself was a wine producer, the amount of imported amphora from Chios, Thasos, and others at 6<sup>th</sup> and 5<sup>th</sup> centuries B.C. is surprising. Considering now that Knidians at that time were merchants, this information can be interpreted as evidence that, at Archaic and Classical periods, Knidians might have served as middlemen. In other words, Burgaz might have been a center for redistribution of the famous products of other centers like Chios, Thasos, and others.

In order to understand the inter-regional trades routes by the examination of transport amphorae, K. Göransson studied the transport amphorae from Euesperides, the

<sup>&</sup>lt;sup>384</sup> Tuna 1990, p. 349-350.

<sup>&</sup>lt;sup>385</sup> Tuna 1983a, p.47.

<sup>&</sup>lt;sup>386</sup> See Chapter III

ancient Cyrenaican city.<sup>387</sup> He used the amphora materials from 1999-2006 excavations to testify the city's trading contacts at 400-250 B.C. He presented the different classes and types of transport amphorae. To identify the local amphorae, he used the study of fabrics along with the morphology of the local transport amphorae. In order to present the relative proportion of each type, he quantified by counting all amphora fragments from selected contexts. Because of the large number of amphorae from various cities seemingly trading the same type of product, he concluded that commodities traded in amphorae were not traded only in regional scale but also they were traded in inter-regional scale. This evidence demonstrated that Euesperides was a node in this system of inter-locking Mediterranean markets.

In his study "Transport Amphoras and Trademarks: Imports to Athens and Economic Diversity in the Fifth Century B.C.", M. L. Lawall focused on the Athenian trade relations during the 5<sup>th</sup> century B.C. He presented the classes, types and forms of the transport amphorae as evidence for the diversity of economic structures of the Greek world. He used the information provided by the amphorae as an index of differences and similarities between local commercial organizations. He analyzed the Athenian interaction with the different producing regions. He concluded that the Athenian imports indicating the changing scale of trade relates closely to organizational changes in the exporting centers. Thus, variation in Aegean economic structures may to be explained by the variation of scale in different producer's exports.<sup>388</sup>

# **Concluding Remarks**

To sum up; the work on amphora fragments found at 1993-2009 seasons revealed that Ancient Burgaz started its trade relations during the 6<sup>th</sup> century B.C., intensified in the 5<sup>th</sup> and 4<sup>th</sup> centuries B.C. and decreased in the 3<sup>rd</sup> and 2<sup>nd</sup> centuries B.C. As a result of the Greek colonization movement, East Greek amphorae were spread all

<sup>&</sup>lt;sup>387</sup> Göransson 2007.

<sup>&</sup>lt;sup>388</sup> Lawall 1995.

around the ancient world. The trade relations with the East Mediterranean region declined after the collapse of the Assyrian Empire, and then they were revived during the Persian era. After the Ionian Revolt, the amphora production in the West Anatolia centres was affected negatively. Miletus was destroyed by Persians. When regained their independence after the Battle of Salamis, Ionian cities with some other Greek cities reunited under the Delian League lead by Athens. The increasing hegemony of Athens restricted the self-management of the allied city-states. This led to many battles between the Greeks led by Athens and Sparta. From the last quarter of the 4<sup>th</sup> century B.C., the economic organization of the Greek world shaped by the conquests of Alexander the Great. The increased amount of demand of the Greek products gave rise to new producer cities into the market.

The most intensive trade of Ancient Burgaz was with Korinth (7<sup>th</sup> to 2<sup>nd</sup> centuries B.C.), Thasos (6<sup>th</sup> to 2<sup>nd</sup> centuries B.C.), Chios (6<sup>th</sup> to 3<sup>rd</sup> centuries B.C.), Milet (7<sup>th</sup> to 5<sup>th</sup> centuries B.C.), Samos (7<sup>th</sup> to 3<sup>rd</sup> centuries B.C.), Kos (4<sup>th</sup> to 2<sup>nd</sup> centuries B.C.), Rhodos (4<sup>th</sup> to 2<sup>nd</sup> centuries B.C.) and Cyprus (7<sup>th</sup> to 4<sup>th</sup> centuries B.C.). From this evidence it is clear that some trade partners of Burgaz were long term and started very early (back to the 7<sup>th</sup> century B.C. lasting till the 3<sup>rd</sup> or 2<sup>nd</sup> centuries B.C.) whilst others were relationships that were formed much later (4<sup>th</sup> century B.C.). Until the 4<sup>th</sup> century B.C. Knidos, in its leading role in the sea-borne trade, was marketing the products of other producer city-states as an intermediary city. During the 4<sup>th</sup> century B.C., the participation in the Mediterranenan trade as a new producer city caused the Knidian transport amphorae types to become more standardised and widespread whilst some imported amphorae showed a relative decrease or even completely disappeared. It is interesting that trade with Cyprus even if it started early it was over by the 4<sup>th</sup> century B.C. an evidence that shows the interruption of trade in the East Mediterranean due to the wars between Athens and Sparta. The end of trade with Miletus at the 5<sup>th</sup> century B.C. may be related to the destruction of the city by the Persians but it is surprising that trade did not started again when the city recovered. Since the beginning of the 4<sup>th</sup> century B.C., there was a revival in the trade routes on the Aegean Sea by the developments in the maritime trade and the

deterioration of the effects of the Peloponnesian War. Some city-states located at the East Aegean coast reorganized their socio-economic structures, one of which was Knidos. Although it is testified that Knidos produced their own amphora from the 6<sup>th</sup> century B.C., it is understood that the earliest types of Knidian amphorae were the product of a regional style dominating by Miletus. After being adjusted to the new socio-economic conditions Knidian began to produce transport amphorae in their own style.

## **CHAPTER VIII**

#### CONCLUSION AND RECOMMENDATION

Transport amphorae are large sized vessels used for moving agricultural foodstuffs from one province to another. They carried mainly olive oil, wine, different kinds of fish products, and dried fruits. Amphorae are therefore very important evidence for studying the vital link between production and consumption in antiquity.

Numerous types of amphorae were manufactured in the East Greek world for storage and transportation of various kinds of goods for long distance trade since the Archaic period. According to the available evidence, Chios, Klazomenai, Lesbos, Samos and Miletus appear to be the major amphora production centers in this era. Each center produced an authentic type of amphora so that it would be recognized in the market.

In this study, in order to understand the trade relations of Ancient Burgaz from Archaic to the mid-4<sup>th</sup> century B.C., the amphora assemblage found within the domestic units were examined. The typological analysis and quantification were used in order to investigate the ancient maritime trade of Ancient Burgaz. The fabric analysis was limited to comparisons with the published descriptions by simple eye observation.

The earliest types of Knidian amphora were presented in this study along with the new types of mushroom rim type's amphorae. 24% of recorded rim and foot count was Knidian amphorae while 75% of recorded rim and foot count was imported transport amphorae.

According to the amphora assemblage, it is understood that Ancient Burgaz took part in a number of inter-regional trade routes. The large number of transport amphorae from various cities confirmed that trade in amphora-borne commodities was not traded only in regional scale but also they were traded in inter-regional scale. The geographical range of imports to Ancient Burgaz is extensive and covers many regions: Athens and Korinth from Mainland Greece; Akanthos-Amphipolis, Mende and Thasos from North Aegean Region; Lesbos from Aeolian Region; Peparethos– Ikos from Sporades Islands; Klazomenai, Ephesos, Miletus, Chios and Samos from Ionian Region; Rhodian Peraea, Kos and Rhodes from South Aegean Region; Paros from Cyclades Islands; Cyprus from East Mediterranean Region; and Heraklea Pontica from Black Sea Region.

It is accepted that the trade was an essential part of the economic life of cities since the Archaic period. Through the investigation of the diffusion of the transport amphorae from various production centers, it can be said that trade had a regional scale along with an inter-regional scale. As mentioned above, although Burgaz was a wine producer, the amount of imported transport amphorae from various center of the ancient world indicates that Burgaz might have been a center for redistribution of the famous products like Chian wine during the Archaic and Classical periods. However, since the 4<sup>th</sup> century B.C., increasing economic vitality in the Mediterranean together with the opening of the trade routes after the Peloponessian War had both influenced the economy of the state of Knidos and resulted in an increased production of wine which in turn caused an increase in amphora production. Knidian amphorae had acquired a substantial part of the Mediterranean market by the right proportion of the city's gained ground in the cheapest market.

As mentioned above, Knidos began to produce its own amphora since the Archaic period. However, the typology of Knidian amphorae was produced by the findings from the Late Classical period and the Hellenistic era from the various consumption sites. The earliest types of Knidian amphorae were not well presented until this study. Yet, in order to verify the morphological traits assigned for earliest Knidian amphora types, it is needed to conduct some fabric analysis so as the exact location of the production of these amphorae can be pointed out. This will allow us to confirm

whether or not these types are indeed local products or come from elsewhere. And, since this study do not included the stamped handles, the study of stamped handles found in Ancient Burgaz will improve our knowledge on Knidian amphorae production.

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# **APPENDICES**

# A. CATALOGUE OF THE TRANSPORT AMPHORAE FOUND IN ANCIENT BURGAZ

This catalogue includes a representative selection of transport amphorae which were found at the northeast and southeast residential quarters of Ancient Burgaz during the 1993-2009 excavation seasons. Munsell Color Catalogue is used to identify their color of clay, slip and paint. The measurements are given in centimeters.

Abbreviations:

Cat. No: Catalogue No Inv. No: Inventory No Diam. of rim: Diameter of rim Diam. of foot: Diameter of foot H: Height cm: centimeter

# PLATE I

Milesian Type Knidian Amphorae Rims

**Cat. No: 1** Inv. No: BZ.09.SE.3.4.A9A.31 Diam. of rim: 12 cm H: 3, 7 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: dense mica Date: 675- 600 B.C. Reference: Sezgin 2012, p.170, Mil1.05

# Cat. No: 2

Inv. No: BZ.06 SE.6.7.C4.2 Diam. of rim: 12, 4 cm H: 10, 5 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: fine white mica Date: 3<sup>rd</sup> quarter of the 7<sup>th</sup> century B.C. Reference: Seifert 2004, Taf.9, kat. no. 26

# Cat. No: 3

Inv. No: BZ.05.SE.7.5.C8A.3 Diam. of rim: 11, 2 cm H: 4 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: dense mica, sand, black inclusions Date: End of the 7<sup>th</sup> century B.C. Reference: Sezgin 2012, p. 171, Mil2.39

# PLATE II

Milesian Type Knidian Amphorae Rims

**Cat. No: 4** Inv. No: BZ.99.NE.5.8.B5A.9 Diam. of rim: 10, 6 cm H: 9 cm Clay Color: 5 YR 6/8 reddish yellow Clay Content: dense mica, quartz Date: 1<sup>st</sup> half of the 6<sup>th</sup> century B.C. Reference: Seifert & Yalçın 1995, fig.5

# Cat. No: 5

Inv. No: BZ.07.SE.5.9.C9.2 Diam. of rim: 18 cm H: 8, 2 cm Clay Color: 2, 5 YR 6/6 light red Clay Content: dense silver mica Date: 575-550 B.C. Reference: Sezgin 2009, Lev.69, Mil3.14

**Cat. No: 6** Inv. No: BZ.09.SE.3.4.A9A.1

Diam. of rim: 10 cm H: 6, 5 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: dense mica Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Dupont 1998, Fig.23.7, f

# PLATE III

Milesian Type Knidian Amphorae Rims

# Cat. No: 7

Inv. No: BZ.00.NE.1.8.B9.137 Diam. of rim: 14 cm H: 7, 3 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: mica Date: Mid-6<sup>th</sup> century B.C. Reference: Dupont 2005, Fig.16.b

## Cat. No: 8

Inv. No: BZ.06.SE.6.8.C5.9 Diam. of rim: 12 cm H: 3, 9 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: little mica, white splinters Date: End of the 3<sup>rd</sup> quarter of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.61, 1231

# Cat. No: 9

Inv. No: BZ.06.SE.6.6.B6.1 Diam. of rim: 13 cm H: 11, 3 cm Clay Color: 2, 5 YR 6/4 light reddish brown Clay Content: dense mica, little white splinters Date: Late 6<sup>th</sup> century B.C. Reference: Sezgin 2009, Lev. 70, Mil3.16

# PLATE IV

Milesian Type Knidian Amphorae Rims

**Cat. No: 10** Inv. No: BZ.09.SW.1.7.B8.27 Diam. of rim: 10 cm H: 9 cm Clay Color: 7, 5 YR 4/6 strong brown Clay Content: mica Date: 520-480 B.C. Reference: Sezgin 2012, p. 172, Mil4.06

# **Cat. No: 11**

Inv. No: BZ.96.NE.4.7.D9.1 Diam. of rim: 13, 8 cm H: 9, 8 cm Clay Color: 5 YR 5/6 yellowish red Clay Content: mica Date: 5<sup>th</sup> century B.C. Reference: Voigtlander 1982, p.70

# Cat. No: 12

Inv. No: BZ.06.SE.6.6.B4.29 Diam. of rim: 9, 8 cm H: 13, 2 cm Clay Color: 2, 5 YR 7/6 light red Clay Content: mica Date: 1<sup>st</sup> – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.21, 3

#### PLATE V

Milesian Type Knidian Amphorae Feet

**Cat. No: 13** Inv. No: BZ.08.SE.11.8.C4.118 Diam. of foot: 3, 7 cm H: 4, 2 cm Clay Color: 5 YR 6/8 reddish yellow Clay Content: mica Date: Late 6<sup>th</sup> century B.C. Reference: Tuchelt, Schneider, Schattner & Baldus 1996, Abb.110, 50

#### **Cat. No: 14**

Inv. No: BZ.98.NE.2.8.A4.26 Diam. of foot: 5, 4 cm H: 4, 1 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: mica Date: Late 6<sup>th</sup> century B.C. Reference: Tuchelt, Schneider, Schattner & Baldus 1996, Abb.110, 48

#### Cat. No: 15

Inv. No: BZ.98.SE.9.7.A11.340 Diam. of foot: 5, 6 cm H: 2, 8 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: mica Date: Late 6<sup>th</sup> century B.C. Reference: Tuchelt, Schneider, Schattner & Baldus 1996, Abb.110, 45

# Cat. No: 16

Inv. No: BZ.00.SE.8.4.B3.16 Diam. of foot: 4, 4 cm H: 4, 5 cm Clay Color: 2, 5 YR 7/6 light red Clay Content: mica Date: Beginning of the 5<sup>th</sup> century B.C. Reference: Tuchelt, Schneider, Schattner & Baldus 1996, Abb.110, 55

# Cat. No: 17

Inv. No: BZ.00.NE.1.8.B5.7 Diam. of foot: 5 cm H: 4, 6 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: mica Date: Beginning of the 5<sup>th</sup> century B.C. Reference: Tuchelt, Schneider, Schattner & Baldus 1996, Abb.110, 54

# **Cat. No: 18**

Inv. No: BZ.03.NE.4.8.A7.245 Diam. of foot: 3, 6 cm H: 6, 5 cm Clay Color: 7, 5 YR 6/6 reddish yellow Date: Beginning of the 5<sup>th</sup> century B.C. Clay Content: mica Reference: Tuchelt, Schneider, Schattner & Baldus 1996, Abb.110, 55

# PLATE VI

Milesian Type Knidian Amphorae Feet

**Cat. No: 19** Inv. No: BZ.09.SE.4.10.A5.19 Diam. of foot: 3, 6 cm H: 4, 7 cm Clay Color: 5 YR 5/6 yellowish red Clay Content: mica Date: Beginning of the 5<sup>th</sup> century B.C. Reference: Tuchelt, Schneider, Schattner & Baldus 1996, Abb.110, 55

# Cat. No: 20

Inv. No: BZ.96.SE.8.5.B.S.3.31 Diam. of foot: 4 cm H: 4, 8 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: mica Date: Beginning of the 5<sup>th</sup> century B.C. Reference: Tuchelt, Schneider, Schattner & Baldus 1996, Abb.110, 55

# Cat. No: 21

Inv. No: BZ.02.NE.3.6.B8A.10 Diam. of foot: 5 cm H: 3, 7 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: mica Date: Beginning of the 5<sup>th</sup> century B.C. Reference: Tuchelt, Schneider, Schattner & Baldus 1996, Abb.110, 55

# Cat. No: 22

Inv. No: BZ.07.SE.6.8.A6A.47 Diam. of foot: 2, 6 cm H: 9, 9 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: 5 YR 6/6 reddish yellow Clay Content: mica Date: Beginning of the 5<sup>th</sup> century B.C. Reference: Tuchelt, Schneider, Schattner & Baldus 1996, Abb.110, 55

Cat. No: 23 Inv. No: BZ.06.SE.6.7.A6A.42 Diam. of foot: 5, 6 cm H: 12, 2 cm Clay Color: 2, 5 YR 6/6 light red Clay Content: mica Date: 5<sup>th</sup> century B.C. Reference: Voigtlander 1982, Abb.29, 191

Cat. No: 24

Inv. No: BZ.95.SE.8.6.D3.9 Diam. of foot: 4 cm H: 2, 9 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: mica Date: 5<sup>th</sup> century B.C. Reference: Tuchelt, Schneider, Schattner & Baldus 1996, Abb.110, 54

# PLATE VII

Samo-Milesian Type Knidian Amphorae Rims

# Cat. No: 25

Inv. No: BZ.09.SE.2.6.C3.3 Diam. of rim: 11, 4 cm H: 5, 3 cm Clay Color: 5 YR 5/6 yellowish red Clay Content: lime inclusions Date: 1<sup>st</sup> quarter of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.53, 1065

# Cat. No: 26

Inv. No: BZ.99.NE.2.7.D12.14 Diam. of rim: 13, 2 cm H: 5, 2 cm Clay Color: 5 YR 5/6 yellowish red Clay Content: lime inclusions, little mica Date: 2<sup>nd</sup> quarter of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.52, 1053

# Cat. No: 27

Inv. No: BZ.09.SE.2.9.B6.95 Diam. of rim: 11, 6 cm H: 4, 2 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: black inclusions, mica Date: 1<sup>st</sup> half of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.53, 1068

# PLATE VIII

Samo-Milesian Type Knidian Amphorae Rims

**Cat. No: 28** Inv. No: BZ.01.SE.4.8.A7.24 Diam. of rim: 13, 2 cm H: 6, 3 cm Clay Color: 5 YR 5/6 yellowish red Clay Content: lime inclusions, dense mica Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.51, 1026

# Cat. No: 29

Inv. No: BZ.09.SE.10.9.C17.18 Diam. of rim: 10, 8 cm H: 5, 6 cm Clay Color: 5 YR 6/8 reddish yellow Clay Content: white inclusions Date: ca. 525 B.C. Reference: Birzescu 2012, Taf.53, 1079

# Cat. No: 30

Inv. No: BZ.06.SE.6.6.D10.2 Diam. of rim: 12, 4 cm H: 6 cm Clay Color: 2, 5 YR 5/6 red Clay Content: dense mica, light and dark splitters Date: End of the 3<sup>rd</sup> quarter of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.52, 1055

# PLATE IX

Samo-Milesian Type Knidian Amphorae Rims

**Cat. No: 31** Inv. No: BZ.05.SE.7.5.D7.6 Diam. of rim: 11, 6 cm H: 6 cm Clay Color: 7, 5 YR 6/6 reddish yellow Slip Color: 10 YR 8/3 very pale brown Clay Content: dense mica, white and black inclusions Date: Late 6<sup>th</sup> century B.C. Reference: Lawall 2010b, Pl.290, L4

#### Cat. No: 32

Inv. No: BZ.09.SE.3.4.C5.2 Diam. of rim: 13, 4 cm H: 16, 1 cm Clay Color: 5 R 4/4 reddish brown Slip Color: 5 R 7/6 reddish yellow Clay Content: lime specklings Date: Late 6<sup>th</sup> century B.C. Reference: Lawall 2010b, Pl.290, L1

#### Cat. No: 33

Inv. No: BZ.07.SE.9.7.B4A.12 Diam. of rim: 11 cm H: 7, 5 cm Clay Color: 5 YR 6/8 reddish yellow Clay Content: lime inclusions Date: Late 6<sup>th</sup> century B.C. Reference: Lawall 2010a, Pl.93, 8

# PLATE X

Samo-Milesian Type Knidian Amphorae Rims

#### Cat. No: 34

Inv. No: BZ.05.SE.7.4.B1.3 Diam. of rim: 9, 6 cm H: 8, 9 cm Clay Color: 2, 5 YR 6/8 light red Clay Content: lime inclusions Date: 520-480 B.C. Reference: Roberst & Glock 1986, Fig.42, 422

# Cat. No: 35

Inv. No: BZ.06.SE.6.6.B8.2 Diam. of rim: 13 cm H: 7, 1 cm Clay Color: 7, 5 YR 6/6 reddish yellow Clay Content: mica, sparse lime bits Date: Late 6<sup>th</sup> – Early 5<sup>th</sup> century B.C. Reference: Lawall 2010b, Pl.290, L2

# Cat. No: 36

Inv. No: BZ.99.NE.5.8.B9.1 Diam. of rim: 11, 5 cm H: 7, 9 cm Clay Color: 2, 5 YR 6/8 light red Clay Content: lime Date: 6<sup>th</sup> century B.C. Reference: Voigtlander 1982, p. 45

# PLATE XI

Samo-Milesian Type Knidian Amphorae Rims

**Cat. No: 37** Inv. No: BZ.97.NE.2.6.C5.9 Diam. of rim: 9, 6 cm H: 6, 4 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: lime Date: Mid-4<sup>th</sup> century B.C.

# Cat. No: 38

Inv. No: BZ.03.NE.4.8.A6.119 Diam. of rim: 16 cm H: 17, 4 cm Clay Color: 5 YR 5/6 yellowish red Clay Content: lime

# Cat. No: 39

Inv. No: BZ.08.SE.11.8.D5.35 Diam. of rim: 12, 8 cm H: 8, 2 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 5 YR 8/2 pinkish white Clay Content: lime

# PLATE XII

Samo-Milesian Type Knidian Amphorae Feet

**Cat. No: 40** Inv. No: BZ.00.NE.1.8.B15.32 Diam. of foot: 3, 8 cm H: 3, 7 cm Clay Color: 7, 5 YR 6/4 light brown Clay Content: dense mica, dark inclusions Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.55, 1142

**Cat. No: 41** Inv. No: BZ.02.SE.6.3.A11.9 Diam. of foot: 5, 6 cm H: 3, 6 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: little mica, light and dark inclusions Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.55, 1127

# Cat. No: 42

Inv. No: BZ.96.NE.3.7.B10.99 Diam. of foot: 4, 6 cm H: 4 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: mica, light and dark inclusions Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.55, 1145

# Cat. No: 43

Inv. No: BZ.99.SE.12.8.C2.21 Diam. of foot: 5 cm H: 2, 4 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: mica, light and dark inclusions Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.55, 1145

# PLATE XIII

Knidian Mushroom Rim Amphorae Rims - Type 1

# Cat. No: 44

Inv. No: BZ.08.SE.2.7.D5.1 Diam. of rim: 12, 4 cm H: 24, 6 cm Clay Color: 7, 5 YR 4/6 strong brown Slip Color: 7, 5 YR 7/4 pink Clay Content: lime, golden mica, sand Date: Mid – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.71, 5

## Cat. No: 45

Inv. No: BZ.08.SE.3.9.D4.11 Diam. of rim: 15 cm H: 8, 5 cm Clay Color: 5 YR 6/8 reddish yellow Slip Color: 7, 5 YR 8/2 pinkish white Clay Content: lime, golden mica, sand Date: Mid – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.71, 6 **Cat. No: 46** Inv. No: BZ.07.SE.6.8.A4.3 Diam. of rim: 14, 2 cm H: 8, 1 cm Clay Color: 7, 5 YR 6/6 reddish yellow Clay Content: lime, golden mica, sand Date: 2<sup>nd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.71, 1

## PLATE XIV

Knidian Mushroom Rim Amphorae Rims - Type 1

## Cat. No: 47

Inv. No: BZ.07.SE.8.7.B7A.23 Diam. of rim: 13, 8 cm H: 11, 8 cm Clay Color: 2, 5 YR 5/8 red Clay Content: lime, golden mica, sand Date: Late 4<sup>th</sup> century B.C. Reference: Norskov 2004, p. 288, Fig.4

# Cat. No: 48

Inv. No: BZ.05.SE.7.5.D8.8 Diam. of rim: 11, 2 cm H: 5, 6 cm Clay Color: 2, 5 YR 5/6 red Slip Color: 7, 5 YR 8/3 pink Clay Content: lime, golden mica, sand Date: 2<sup>nd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.71, 2

#### Cat. No: 49

Inv. No: BZ.05.SE.6.5.B6A.5 Diam. of rim: 15, 6 cm H: 4, 7 cm Clay Color: 7, 5 YR 7/6 reddish brown Clay Content: lime, golden mica, sand Date: Mid – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.71, 7

# PLATE XV

Knidian Mushroom Rim Amphorae - Type 2

# Cat. No: 50

Inv. No: BZ.97.SE.9.6.B5B.1 Diam. of rim: 11 cm Diam. of foot: 3 cm H: 92, 2 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: lime, golden mica, sand Date: 2<sup>nd</sup> – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.72, 6

## PLATE XVI

Knidian Mushroom Rim Amphorae Rims - Type 2

# Cat. No: 51

Inv. No: BZ.99.SE.7.3.B7.76 Diam. of rim: 12, 8 cm H: 23, 4 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: lime, golden mica, sand Date: 2<sup>nd</sup> – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.72, 8

## Cat. No: 52

Inv. No: BZ.04.NE.6.7.A6.9 Diam. of rim: 11, 5 cm H: 20, 4 cm Clay Color: 2, 5 YR 6/8 light red Slip Color: 7, 5 YR 8/6 reddish yellow Clay Content: lime, golden mica, sand Date: Mid – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.71, 5

# PLATE XVII

Knidian Mushroom Rim Amphorae Rims - Type 2

# Cat. No: 53

Inv. No: BZ.09.SE.11.7.B11.44 Diam. of rim: 14, 4 cm H: 13, 7 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 10 YR 7/4 very pale brown Clay Content: lime, golden mica, sand Date: Mid - 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monokhov 2003, Taf.71.6

Cat. No: 54 Inv. No: BZ.95.SE.8.5.C4.2 Diam. of rim: 12, 2 cm H: 13 cm Clay Color: 7, 5 YR 6/6 reddish yellow Clay Content: lime, golden mica, sand Date: Last quarter of the 4<sup>th</sup> century B.C. Reference: Şenol & Aşkın 2007, Kat. No. 56

# PLATE XVIII

Knidian Mushroom Rim Amphorae Rims – Type 3 (Cat. No: 55) and Type 4 (Cat. No: 56-57)

# Cat. No: 55

Inv. No: BZ.08.SE.3.9.D4.3 Diam. of rim: 13, 4 cm H: 5, 4 cm Clay Color: 5 YR 5/8 yellowish red Slip Color: 2, 5 YR 7/3 light reddish brown Clay Content: lime, golden mica, sand Date Mid – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.71, 6

**Cat. No: 56** Inv. No: BZ.01.SE.4.4.B5.4 Diam. of rim: 15, 6 cm H: 10, 9 cm Clay Color: 5 YR 5/6 yellowish red Clay Content: lime, golden mica, sand Date: Late 4<sup>th</sup> century B.C. Reference: Norskov 2004, fig.4

**Cat. No: 57** Inv. No: BZ.07.SE.9.8.D2.6 Diam. of rim: 18, 2 cm H: 5 cm Clay Color: 5 YR 6/8 reddish yellow Clay Content: lime, golden mica, sand Date: Late 4<sup>th</sup> century B.C. Reference: Norskov 2004, fig.4

# PLATE XIX

Knidian Mushroom Rim Amphorae Rims - Type 5

## Cat. No: 58

Inv. No: BZ.08.SE.11.8.A1.2 Diam. of rim: 11, 8 cm H: 4 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: lime, golden mica, sand Date: 2<sup>nd</sup> – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.72, 7

# Cat. No: 59

Inv. No: BZ.98.NE.2.8.A5.25 Diam. of rim: 11 cm H: 5, 2 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: lime, golden mica, sand Date: 2<sup>nd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.71, 3

# PLATE XX

Knidian Mushroom Rim Amphorae Rims - Type 6

## **Cat. No: 60**

Inv. No: BZ.07.SE.5.9.D2.3 Diam. of rim: 11, 6 cm H: 4, 6 cm Clay Color: 5 YR 5/6 yellowish red Clay Content: lime, golden mica, sand Date: 325 – 3<sup>rd</sup> century B.C. Reference: Norskov 2004, fig. 4

## Cat. No: 61

Inv. No: BZ.08.SE.11.8.D5A.2 Diam. of rim: 10, 6 cm H: 5, 2 cm Clay Color: 2, 5 YR 7/6 light red Clay Content: lime, golden mica, sand Date: 325 – 3<sup>rd</sup> century B.C. Reference: Norskov 2004, fig. 4

# PLATE XXI

Knidian Mushroom Rim Amphorae Rims – Type 7 (Cat. No: 62) and Type 8 (Cat. No: 63)

**Cat. No: 62** Inv. No: BZ.09.SE.12.7.A6.3 Diam. of rim: 11, 4 cm H: 9 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 5 YR 7/6 reddish yellow Clay Content: mica, sparse white lime Date: Late 4<sup>th</sup> – Early 3<sup>rd</sup> century B.C. Reference: Lawall 2010b, Pl.297, L277

# Cat. No: 63

Inv. No: BZ.99.SE.12.8.C2.96 Diam. of rim: 10 cm H: 7, 7 cm Clay Color: 7, 5 YR 7/8 reddish yellow Clay Content: mica, white lime Date: Late 3<sup>rd</sup> century B.C. Reference: Lawall 2010b, Pl.295, L124

# PLATE XXII

Knidian Mushroom Rim Amphorae Feet

**Cat. No: 64** Inv. No: BZ.07.SE.5.2.A6B.5 Diam. of foot: 3 cm H: 9 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: 5 YR 6/3 light reddish brown Clay Content: lime, golden mica, sand Date: 2<sup>nd</sup> – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.72, 7

**Cat. No: 65** Inv. No: BZ.08.SE.2.6.A5.39 Diam. of foot: 4, 6 cm H: 14 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: lime, golden mica, sand Date:  $2^{nd} - 3^{rd}$  quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.72, 5

#### **Cat. No: 66**

Inv. No: BZ.09.SE.10.9.C5A.31 Diam. of foot: 4 cm H: 14, 4 cm Clay Color: 7, 5 YR 6/6 reddish yellow Slip Color: 7, 5 YR 7/6 reddish yellow Clay Content: lime, golden mica, sand

# Cat. No: 67

Inv. No: BZ.06.SE.6.8.D4B.17 Diam. of foot: 3, 4 cm H: 13, 8 cm Clay Color: 2, 5 YR 5/6 red Slip Color: 2, 5 YR 7/4 light reddish brown Clay Content: lime, golden mica, sand Date: 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.72, 4

# Cat. No: 68

Inv. No: BZ.08.SE.1.7.D5.12 Diam. of foot: 4, 6 cm H: 2, 3 cm Clay Color: 5 YR 6/6 reddish yellow Date: 2<sup>nd</sup> quarter of the 4<sup>th</sup> century B.C. Clay Content: lime, golden mica, sand Reference: Monakhov 2003, Taf.71, 1

# Cat. No: 69

Inv. No: BZ.07.SE.8.8.D3.10 Diam. of foot: 4, 6 cm H: 7, 6 cm Clay Color: 10 R 5/6 red Clay Content: lime, golden mica, sand Date: Mid – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.72, 5

# PLATE XXIII

Knidian Amphorae Rims

**Cat. No: 70** Inv. No: BZ.08.SE.10.8.B4.3 Diam. of rim: 10 cm H: 6, 1 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: lime, golden mica, sand Date: 1<sup>st</sup> decades of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.76, 1

**Cat. No: 71** 

Inv. No: BZ.08.SE.11.8.C3.11 Diam. of rim: 8, 8 cm H: 8, 5 cm Clay Color: 2, 5 YR 7/8 light red Clay Content: lime, golden mica, sand Date: 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.73, 2

# Cat. No: 72

Inv. No: BZ.09.SE.11.7.B11.43 Diam. of rim: 10 cm H: 26 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: 10 YR 7/4 very pale brown Clay Content: lime, golden mica, sand Date: 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.73, 2

# PLATE XXIV

Knidian Amphorae Rims

**Cat. No: 73** Inv. No: BZ.99. SE.8.8.B7B.4 Diam. of rim: 8, 4 cm H: 4, 4 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: yellow lime, little golden mica, fine snad Date: Mid-3<sup>rd</sup> century B.C. Reference: Şenol & Aşkın 2007, Kat. No.33

**Cat. No: 74** Inv. No: BZ.09.SE.10.9.C16.1 Diam. of rim: 10, 2 cm H: 9, 3 cm Clay Color: 5 YR 7/8 reddish yellow Slip Color: 5 YR 7/4 pink Clay Content: lime, golden mica, sand Date: Last decades of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.74, 6 **Cat. No: 75** Inv. No: BZ.99.SE.12.8.C2.106 Diam. of rim: 9, 8 cm H: 8, 1 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: lime, golden mica, sand Date: Last decades of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.73, 6

# PLATE XXV

Knidian Amphorae Rims

Cat. No: 76

Inv. No: BZ.99.SE.12.8.D3A.12 Diam. of rim: 16 cm H: 6, 1 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: lime, golden mica, sand Date: Last decades of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.75, 3 **Cat. No: 77** Inv. No: BZ.08.SE.11.8.C4A.1 Diam. of rim: 10 cm H: 6, 4 cm Clay Color: 2, 5 YR 6/6 light red Clay Content: lime, little mica, sand Date: 280-270 B.C. Reference: Şenol &Aşkın 2007, Kat. No. 34

# **Cat. No: 78**

Inv. No: BZ.98.SE.10.7.B4A.1 Diam. of rim: 10 cm H: 4, 2 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: yellow lime, little golden mica, fine sand Date: Mid-3<sup>rd</sup> century B.C. Reference: Şenol &Aşkın 2007, Kat. No. 33

# PLATE XXVI

Knidian Amphorae Rims

**Cat. No: 79** Inv. No: BZ.09.SE.11.7.B11.62 Diam. of rim: 13 cm H: 11, 4 cm Clay Color: 7, 5 YR 6/6 reddish yellow Slip Color: 7, 5 YR 7/3 pink Clay Content: lime, little mica, sand Date: 280-270 B.C. Reference: Şenol & Aşkın 2007, Kat. No.34

Cat. No: 80 Inv. No: BZ.08.SE.10.8.C3B.1 Diam. of rim: 12 cm H: 6, 8 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: lime, golden mica, sand Date: Mid-3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.77, 4

# Cat. No: 81

Inv. No: BZ.99.SE.12.8.D3A.19 Diam. of rim: 9 cm H: 3, 4 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: lime, golden mica, sand Date: Mid-3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.77, 4

# PLATE XXVII

Knidian Amphorae Rims

**Cat. No: 82** Inv. No: BZ.08.SE.11.8.B5.45 Diam. of rim: 10, 8 cm H: 13, 1 cm Clay Color: 2, 5 YR 6/6 light red Slip Color: 2, 5 YR 7/4 light reddish brown Clay Content: lime, golden mica, sand Date: Mid-3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.77, 4

**Cat. No: 83** Inv. No: BZ.08.SE.11.8.C1.2 Diam. of rim: 12, 4 cm H: 7, 5 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: yellow lime, little golden mica, fine sand Date: Mid-3<sup>rd</sup> century B.C. Reference: Şenol &Aşkın 2007, Kat. No. 33

# **Cat. No: 84** Inv. No: BZ.99.SE.12.8.C2.4 Diam. of rim: 9, 8 cm H: 8, 5 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: lime, golden mica Date: Mid-3<sup>rd</sup> century B.C. Reference: Şenol &Aşkın 2007, Kat. No. 36

# PLATE XXVIII

Knidian Amphorae Feet

# Cat. No: 85

Inv. No: BZ.08.SE.11.8.C1.20 Diam. of foot: not taken H: 7, 8 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: lime, mica, fine sand Date: Last quarter of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.75-76 - Şenol &Aşkın 2007, Kat. No. 39

# Cat. No: 86

Inv. No: BZ.08.SE.11.8.C3.42 Diam. of foot: 1 cm H: 7, 5 cm Clay Color: 7, 5 YR 6/4 light brown Date: 2<sup>nd</sup> half of the 4<sup>th</sup> century B.C. Clay Content: lime, mica, sand

# Cat. No: 87

Inv. No: BZ.08.SE.11.8.C4.113 Diam. of foot: not taken H: 8, 4 cm Clay Color: 10 R 6/8 light red Clay Content: lime, mica fine sand Date: Last quarter of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.75-76 - Şenol &Aşkın 2007, Kat. No. 39

# Cat. No: 88

Inv. No: BZ.99.SE.12.8.D3C.9 Diam. of foot: not taken H: 10 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: lime, mica, fine sand Date: Last quarter of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Şenol &Aşkın 2007, Kat. No. 39
Inv. No: BZ.08.SE.11.8.D3.18 Diam. of foot: 0, 8 cm H: 8, 5 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: lime, golden mica, sand Date: End of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.74, 2

**Cat. No: 90** Inv. No: BZ.08.SE.11.8.C4.116 Diam. of foot: 1, 9 cm H: 10, 1 cm Clay Color: 5 YR 5/4 reddish brown Clay Content: lime, golden mica, sand Date: Last decades of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.73, 5

# PLATE XXIX

Knidian Amphorae Feet

**Cat. No: 91** Inv. No: BZ.08.SE.11.8.D5.19 Diam. of foot: 3, 4 cm H: 5, 7 cm Clay Color: 2, 5 YR 8/4 pink Clay Content: lime, golden mica, sand Date: Last decades of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.74, 1

Cat. No: 92

Inv. No: BZ.08.SE.11.8.C1.17 Diam. of foot: 3, 3 cm H: 9 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: lime, golden mica, sand Date: End of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.74, 1

**Cat. No: 93** Inv. No: BZ.99.SE.12.8.C2.127 Diam. of foot: 2, 8 cm H: 8, 4 cm Clay Color: 7, 5 YR 7/8 reddish yellow Clay Content: lime, golden mica, sand Date: End of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.74, 1

### Cat. No: 94

Inv. No: BZ.08.SE.11.8.B6.43 Diam. of foot: 2, 2 cm H: 8, 3 cm Clay Color: 7, 5 YR 6/6 reddish yellow Slip Color: 7, 5 YR 8/3 pink Clay Content: lime, golden mica, sand Date: 2<sup>nd</sup> Half of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.74, 2

### Cat. No: 95

Inv. No: BZ.99.SE.12.8.C3.18 Diam. of foot: 3 cm H: 7, 5 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: lime, golden mica, sand Date: End of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.73, 4

### Cat. No: 96

Inv. No: BZ.99.SE.12.8.C2.119 Diam. of foot: 3, 4 cm H: 7, 4 cm Clay Color: 2, 5 YR 6/8 light red Clay Content: lime, golden mica, sand Date: End of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.73, 4

# PLATE XXX

Knidian Amphorae Feet

**Cat. No: 97** Inv. No: BZ.05.SE.7.5.B3.6 Diam. of foot: 1, 6 cm H: 5, 6 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: little lime, mica, sand Date: 280 B.C. Reference: Şenol &Aşkın 2007, Kat. No. 37

**Cat. No: 98** Inv. No: BZ.09.SE.10.9.C8.9 Diam. of foot: 1, 6 cm H: 10, 2 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: little lime, mica, sand Date: 280 B.C. Reference: Şenol &Aşkın 2007, Kat. No. 37

## Cat. No: 99

Inv. No: BZ.09.SE.10.9.C14.15 Diam. of foot: 2 cm H: 9, 2 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: little lime, mica, sand Date: 280 B.C. Reference: Şenol &Aşkın 2007, Kat. No. 37

### Cat. No: 100

Inv. No: BZ.95.SE.8.6.DY.24 Diam. of foot: not taken H: 9, 9 cm Clay Color: 2, 5 YR 6/6 light red Clay Content: little lime, mica, sand Date: 280 B.C. Reference: Şenol &Aşkın 2007, Kat. No. 37

### Cat. No: 101

Inv. No: BZ.08.SE.11.8.C1.19 Diam. of foot: not taken H: 8, 8 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: little lime, mica, sand Date: 280 B.C. Reference: Şenol &Aşkın 2007, Kat. No. 37

### Cat. No: 102

Inv. No: BZ.99.SE.12.8.C2.16 Diam. of foot: not taken H: 11. 4 cm Clay Color: 2, 5 YR 5/6 red Clay Content: little lime, mica, sand Date: 280 B.C. Reference: Şenol &Aşkın 2007, Kat. No. 37

# PLATE XXXI

Knidian Amphorae Feet

**Cat. No: 103** Inv. No: BZ.05.SE.7.5.A1.4 Diam. of foot: not taken H: 8 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: lime, golden mica, sand Date:  $3^{rd}$  decades of the  $3^{rd} - 2^{nd}$  century B.C. Reference: Monakhov 2003, Taf.77-78

# Cat. No: 104

Inv. No: BZ.95.NE.13.1.C4.1 Diam. of foot: not taken H: 6, 1 cm Clay Color: 7, 5 R 4/1 dark reddish gray Clay Content: lime, golden mica, sand Date: 270 B.C. Reference: Grace 1986, fig.1, 1

# Cat. No: 105

Inv. No: BZ.09.SE.10.9.C5C.12 Diam. of foot: 1 cm H: 12, 2 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: lime, golden mica, sand Date: 270 B.C. Reference: Grace 1986, fig.1, 1

## Cat. No: 106

Inv. No: BZ.09.SE.10.9.C4.12 Diam. of foot: 1, 3 cm H: 11, 5 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: lime, golden mica, sand Date: 270 B.C. Reference: Grace 1986, fig.1, 1

#### Cat. No: 107

Inv. No: BZ.05.NE.6.7.B4A.11 Diam. of foot: not taken H: 11, 4 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: lime, golden mica, sand Date: 3<sup>rd</sup> decades of the 3<sup>rd</sup> – 2<sup>nd</sup> century B.C. Reference: Monakhov 2003, Taf.77-78

**Cat. No: 108** Inv. No: BZ.08.SE.11.8.C4A.13 Diam. of foot: 1, 6 cm H: 11, 5 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: lime, golden mica, sand Date: Late 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.78

# PLATE XXXII

Attic "à la brosse" Amphorae Rims - Agora 1501-1503 Type (Cat. No: 109-110), Agora 1502 Type (Cat. No: 111-113)

# Cat. No: 109

Inv. No: BZ.06.SE.7.6.D13.5 Diam. of rim: 13, 8 cm H: 6, 2 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: white and dark inclusions, some mica Paint Color: 2, 5 YR 4/8 red Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Dupont 1996, Fig.2

# Cat. No: 110

Inv. No: BZ.09.SW.1.7.B1.1 Diam. of rim: 11, 2 cm H: 4, 6 cm Clay Color: 5 YR 6/8 reddish yellow Clay Content: white and dark inclusions, some mica Date: End of the 7<sup>th</sup> century B.C. Reference: Dupont 1996, Fig.5

# Cat. No: 111

Inv. No: BZ.96.NE.3.7.B10.48 Diam. of rim: 15, 6 cm H: 4, 1 cm Clay Color: 7, 5 YR 7/4 pink Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Clay Content: white and dark inclusions, some mica Reference: Dupont 1996, Fig.4

Inv. No: BZ.00.NE.1.8.B9.126 Diam. of rim: 13, 8 cm H: 5, 1 cm Clay Color: 7, 5 YR 8/4 pink Clay Content: white and dark inclusions, some mica Date: Mid-6<sup>th</sup> century B.C. Reference: Sacchetti 2012, Fig.20

**Cat. No: 113** Inv. No: BZ.09.SE.3.4.C8.3 Diam. of rim: 17, 8 cm H: 3, 3 cm Clay Color: 5 YR 7/6 reddish yellow Paint Color: 5 YR 3/2 dark reddish brown Clay Content: white and dark inclusions, some mica Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.70, 1377a

# PLATE XXXIII

Korinthian A Amphorae Rims (Cat. No: 114-116) and Feet (Cat. No: 117-119)

**Cat. No: 114** Inv. No: BZ.96.NE.3.7.B10.32

Diam. of rim: 18 cm H: 5, 9 cm Clay Color: 5 YR 6/8 reddish yellow Clay Content: coarse mudstone, limestone and volcanic rock, some fine quartz Date: 2<sup>nd</sup> half of the 7<sup>th</sup> century B.C. Reference: Saccehetti 2012, fig. 2

## Cat. No: 115

Inv. No: BZ.00.NE.1.8.B9.112 Diam. of rim: 18 cm H: 7, 1 cm Clay Color: 2, 5 y 8/3 pale yellow Clay Content: coarse mudstone, limestone and volcanic rock, some fine quartz Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Sourisseau 2006, Fig.5 and 8, Type 4b, Göransson 2007, Fig.119

# Cat. No: 116

Inv. No: BZ.08.SE.11.8.C3.1 Diam. of rim: 11, 8 cm H: 8, 6 cm Clay Color: 2, 5 Y 7/4 pale yellow Clay Content: coarse mudstone, limestone and volcanic rock, some fine quartz Date: 4<sup>th</sup> century B.C.

### Cat. No: 117

Inv. No: BZ.95.SE.8.5.B7.88 Diam. of foot: 9 cm H: 9, 3 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: coarse mudstone, limestone and volcanic rock, some fine quartz Date: 520-480 B.C. Reference: Sourisseau 2006, Fig.5 and 8, Type 4c

# Cat. No: 118

Inv. No: BZ.09.SE.3.4.B10.6 Diam. of foot: 5, 4 cm H: 5, 6 cm Clay Color: 7, 5 YR 7/4 pink Clay Content: coarse mudstone, limestone and volcanic rock, some fine quartz Date: Mid-5<sup>th</sup> century B.C. Reference: Koehler 1981, Fig.1, d

**Cat. No: 119** Inv. No: BZ.09.SE.10.9.C3.18 Diam. of foot: 1, 6 cm H: 6, 9 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 2, 5 Y 8/3 pale yellow Clay Content: coarse mudstone, limestone and volcanic rock, some fine quartz Date: 4<sup>th</sup> century B.C. Reference: Koehler 1978, Pl.16, 51

# PLATE XXXIV

Korinthian A' Amphorae Rim (Cat. No: 120) and Foot (Cat. No: 121)

**Cat. No: 120** Inv. No: BZ.09.SE.11.7.B8.39 Diam. of rim: not taken H: 8, 9 cm Clay Color: 10 YR 7/4 very pale brown Slip Color: 10 YR 8/4 very pale brown Clay Content: fine quartz sand, chert, lime Date: 3<sup>rd</sup> century B.C. Reference: Koehler 1978, Pl.18, 85

Inv. No: BZ.02.SE.3.7.A7.10 Diam. of foot: 3 cm H: 8, 9 cm Clay Color: 5 YR 7/4 pink Clay Content: fine quartz sand, chert, lime Date: Mid-5<sup>th</sup> century B.C. Reference: Koehler 1981, Fig.1, b

# PLATE XXXV

Korinthian B Amphorae Rims

## Cat. No: 122

Inv. No: BZ.03.NE.4.8.A6.41 Diam. of rim: 13 cm H: 9, 4 cm Clay Color: 5 YR 8/3 pink Clay Content: fine inclusions of quartz and chert Date: 6<sup>th</sup> to 5<sup>th</sup> century B.C. Reference: Koehler 1978, Pl.39, 212

# Cat. No: 123

Inv. No: BZ.08.SE.2.8.D3.9 Diam. of rim: 12, 4 cm H: 6, 4 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: fine inclusions of quartz and chert Date: 6<sup>th</sup> to 5<sup>th</sup> century B.C. Reference: Koehler 1978, Pl.39, 228

## Cat. No: 124

Inv. No: BZ.05.NE.6.5.A6.2 Diam. of rim: 15 cm H: 6, 8 cm Clay Color: 7, 5 YR 7/6 reddish yellow Slip Color: 10 YR 7/6 very pale yellow Clay Content: fine inclusions of quartz and chert Date: Last quarter of the 5<sup>th</sup> century B.C. Reference: Saccehetti 2012, fig. 13

# Cat. No: 125

Inv. No: BZ.06.SE.7.6.D9A.31 Diam. of rim: 12, 6 cm H: 5, 8 cm Clay Color: 7, 5 YR 8/3 pink Slip Color: self-same ware/fabric color Clay Content: fine inclusions of quartz and chert Date: 4<sup>th</sup> century B.C. Reference: Koehler 1978, Pl.40, 239

**Cat. No: 126** Inv. No: BZ.09.SE.3.4.D5.4 Diam. of rim: 14, 6 cm H: 5, 7 cm Clay Color: 10 YR 7/4 very pale brown Clay Content: fine inclusions of quartz and chert Date: Early or Mid-4<sup>th</sup> century B.C. Reference: Göransson 2007, Fig.127

# PLATE XXXVI

Korinthian B Amphorae Feet

**Cat. No: 127** Inv. No: BZ.05.SE.6.5.B5A.12 Diam. of foot: not taken H: 6, 5 cm Clay Color: 7, 5 YR 8/6 reddish yellow Clay Content: fine inclusions of quartz and chert Date: 6<sup>th</sup> to 5<sup>th</sup> century B.C. Reference: Koehler 1978, Pl.39, 231

Cat. No: 128 Inv. No: BZ.06.SE.5.5.C1.17 Diam. of foot: 5 cm H: 5, 9 cm Clay Color: 2, 5 Y 7/3 pale yellow Clay Content: fine inclusions of quartz and chert Date: 6<sup>th</sup> to 5<sup>th</sup> century B.C. Reference: Koehler 1978, Pl.39, 216

**Cat. No: 129** Inv. No: BZ.09.SE.11.7.B11.175 Diam. of foot: 1 cm H: 11, 5 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 10 YR 8/4 very pale brown Clay Content: fine inclusions of quartz and chert Date: Mid-5<sup>th</sup> century B.C. Reference: Koehler 1981, Fig.1a

# PLATE XXXVII

Akanthian-Amphipolis Amphorae Rims

# Cat. No: 130

Inv. No: BZ.96.NE.4.7.D4.4 Diam. of rim: 8, 4 cm H: 3, 5 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: dense mica Date: Late 5<sup>th</sup> - 4<sup>th</sup> century B.C. Reference: Lawall 1995, Fig.55

## Cat. No: 131

Inv. No: BZ.99.SE.12.8.C2.116 Diam. of rim: 12, 6 cm H: 8, 3 cm Clay Color: 2, 5 YR 6/8 light red Clay Content: dense mica Date: Late 5<sup>th</sup> – 4<sup>th</sup> century B.C. Reference: Lawall 1995, Fig.55

## PLATE XXXVIII

Mendean Amphorae Rims

## Cat. No: 132

Inv. No: BZ.09.SE.2.6.C7.12 Diam. of rim: 7, 2 cm H: 7, 1 cm Clay Color: 7, 5 YR 7/4 pink Clay Content: dense mica, quartz inclusions Date: 3r quarter of the 5<sup>th</sup> century B.C. Reference: Lozanov 2010, Pl.52, 3

## Cat. No: 133

Inv. No: BZ.09.SE.3.4.D6A.6 Diam. of rim: 11, 8 cm H: 9 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 5 YR 7/3 pink Clay Content: dense mica, quartz inclusions Date: Mid – 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.67, 1321

Inv. No: BZ.09.SE.3.4.C5.5 Diam. of rim: 11 cm H: 4, 5 cm Clay Color: 2, 5 YR 6/8 light red Slip Color: 5 YR 6/8 reddish yellow Clay Content: dense mica, quartz inclusions Date: 5<sup>th</sup> century B.C.

# Cat. No: 135

Inv. No: BZ.06.SE.5.6.A9B.2 Diam. of rim: 10, 6 cm H: 5, 3 cm Clay Color: 7, 5 YR 5/6 reddish yellow Clay Content: dense mica, quartz inclusions Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B. C. Reference: Monakhov 2003, Taf.62, 5

# Cat. No: 136

Inv. No: BZ.07.SE.8.7.B6.6 Diam. of rim: 12, 2 cm H: 7, 9 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: 10 YR 8/3 very pale brown Clay Content: dense mica, quartz inclusions Date: 2<sup>nd</sup> – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.65, 5

# Cat. No: 137 Inv. No: BZ.09.SE.3.5.C7A.1 Diam. of rim: 7 cm H: 9, 1 cm Clay Color: 5 YR 7/8 reddish yellow Slip Color: 5 YR 8/4 pink Paint Color: 10 R 4/8 red Clay Content: dense mica, quartz inclusions Date: 2<sup>nd</sup> – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.63, 5

## PLATE XXXIX

Mendean Amphorae Feet

**Cat. No: 138** Inv. No: BZ.95.SE.8.6.C11.35 Diam. of foot: 3, 4 cm H: 24, 5 cm Clay Color: 5 YR 7/6 reddish yellow Slip Color: 10 YR 8/2 very pale brown Paint Color: 2.5 YR 5/8 red Clay Content: dense mica, quartz inclusions Date: 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Lawall 1998, Fig.2

# Cat. No: 139

Inv. No: BZ.99.SE.12.8.C6.15 Diam. of foot: 3, 8 cm H: 12, 2 cm Clay Color: 2, 5 YR 5/4 reddish brown Clay Content: dense mica, quartz inclusions Date: 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Lawall 1998, Fig.2

## Cat. No: 140

Inv. No: BZ.08.SE.11.8.C4.114 Diam. of foot: 3, 4 cm H: 9, 1 cm Clay Color: 5 YR 6/4 light reddish yellow Clay Content: dense mica, quartz inclusions Date: 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Lawall 1998, Fig.2

#### Cat. No: 141

Inv. No: BZ.06.SE.6.8.C5C.24 Diam. of foot: 4, 2 cm H: 4, 7 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: dense mica, quartz inclusions Date: 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.61, 5

## Cat. No: 142

Inv. No: BZ.09.SE.3.4.C8.56 Diam. of foot: 2, 7 cm H: 6, 7 cm Clay Color: 5 YR 7/8 reddish yellow Slip Color: 5 YR 8/4 pink Paint Color: 2, 5 YR 5/8 red Clay Content: dense mica, quartz inclusions Date: ca. 440-425 B.C. Reference: Papadopoulos & Paspalas 1999, Fig.2 **Cat. No: 143** Inv. No: BZ.08.SE.11.8.C2.42 Diam. of foot: 2, 7 cm H: 6, 9 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: dense mica, quartz inclusions Date:  $2^{nd} - 3^{rd}$  quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.64, 3

## PLATE XL

Thasian Amphorae Rims

# Cat. No: 144

Inv. No: BZ.09.SE.3.4.A4A.70 Diam. of rim: 16 cm H: 7 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: dense mica, dark inclusion Date: End of the 3<sup>rd</sup> quarter of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.64, 1351

# Cat. No: 145

Inv. No: BZ.00.SE.8.7.A10.38 Diam. of rim: 13, 4 cm H: 3, 9 cm Clay Color: 2, 5 YR 6/6 light red Clay Content: golden mica, light inclusions Date: ca. 525 B.C. Reference: Birzescu 2012, Taf.66, 1312

# Cat. No: 146

Inv. No: BZ.01.SE.4.4.D11.3 Diam. of rim: 10, 8 cm H: 7, 5 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: little mica, light and brown inclusions Date: 1<sup>st</sup> half of the 5<sup>th</sup> century Reference: Birzescu 2012, Taf.65, 1307

# PLATE XLI

Thasian Amphorae Rims

# Cat. No: 147

Inv. No: BZ.07.SE.8.8.C7.3 Diam. of rim: 11 cm H: 10, 3 cm Clay Color: 5 YR 6/8 reddish yellow Clay Content: mica Date: 5<sup>th</sup> century B.C.

# Cat. No: 148

Inv. No: BZ.03.SE.2.7.C14.1 Diam. of rim: 11, 8 cm H: 14, 7 cm Clay Color: 5 YR 7/4 pink Slip Color: self-same ware/fabric color Clay Content: mica Date: 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Lazanov 2010, Pl.51, 2

# Cat. No: 149

Inv. No: BZ.09.SE.3.4.A4A.66 Diam. of rim: 12, 8 cm H: 10, 6 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: dense mica Date: 1<sup>st</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.65, 1302

# PLATE XLII

Thasian Amphorae Rims

## Cat. No: 150

Inv. No: BZ.03.NE.4.8.A6.123 Diam. of rim: 11, 2 cm H: 11, 5 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: mica Date: Late  $5^{th} - 1^{st}$  half of the  $4^{th}$  century B.C. Reference: Grace 1956, fig.7, 8

Inv. No: BZ.07.SE.6.8.A6A.4 Diam. of rim: 14 cm H: 5, 5 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: mica Date: Late 5<sup>th</sup> – 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Grace 1956, fig.7, 8

**Cat. No: 152** Inv. No: BZ.09.SE.3.4.D6A.9 Diam. of rim: 11, 6 cm H: 10, 3 cm Clay Color: 2, 5 YR 6/8 light red Slip Color: 2, 5 YR 7/4 light reddish brown Clay Content: dense mica, light inclusions Date: 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.65, 1309

# PLATE XLIII

Thasian Amphorae

#### Cat. No: 153

Inv. No: BZ.01.SE.4.4.C7.3 Diam. of rim: 11, 4 cm Diam. of foot: 3, 5 cm H: 57, 5 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: mica Date: 4<sup>th</sup> century B.C Reference: Lawall 1995, Fig.45

### PLATE XLIV

Thasian Amphorae Rims

**Cat. No: 154** Inv. No: BZ.09.SE.12.7.B15.1 Diam. of rim: 9, 8 cm H: 22, 8 cm Clay Color: 2, 5 YR 4/8 red Slip Color: 5 YR 6/6 reddish yellow Paint Color: 10 R 4/8 red Clay Content: mica Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.48, 6

Inv. No: BZ.09.SE.3.4.D6A.7 Diam. of rim: 8, 5 cm H: 11, 3 cm Clay Color: 10 YR 5/4 yellowish brown Slip Color: 10 YR 6/4 light yellowish brown Clay Content: mica Date: ca. 340 B.C. Reference: Grandjean 1992, Fig.5, 34

## PLATE XLV

Thasian Amphorae Rims

### Cat. No: 156

Inv. No: BZ.06.SE.5.6.C5.2 Diam. of rim: 9, 4 cm H: 6, 6 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: mica Date: 4<sup>th</sup> century B.C.

# Cat. No: 157

Inv. No: BZ.03.NE.4.8.A8.48 Diam. of rim: 10, 6 cm H: 12, 8 cm Clay Color: 5 YR 6/6 reddish yellow Paint Color: 2, 5 YR 5/6 red Clay Content: mica Date: 3<sup>rd</sup> century B.C.

## Cat. No: 158

Inv. No: BZ.00.NE.4.7.C6.10 Diam. of rim: 18 cm H: 5 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: mica Date: End of the 2<sup>nd</sup> century B.C. Reference: Grandjean 1992, Fig.16, 103

# PLATE XLVI

Thasian Amphorae Feet

**Cat. No: 159** Inv. No: BZ.00.SE.8.7.B3.10 Diam. of foot: 4, 6 cm H: 9, 8 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: mica Date: 2<sup>nd</sup> half of the 5<sup>th</sup> century B.C. Reference: Monakhov 1999, fig. 28.7

**Cat. No: 160** Inv. No: BZ.08.SE.11.8.C2.40 Diam. of foot: 4, 1 cm H: 12, 2 cm Clay Color: 5 YR 5/4 reddish brown Clay Content: mica Date: 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Lozanov 2010, Pl.51, 2

# Cat. No: 161

Inv. No: BZ.96.NE.3.7.D6B.27 Diam. of foot: 7, 4 cm H: 4, 7 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: dense mica Date: 1<sup>st</sup> half of the 5<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.68, 1332

## PLATE XLVII

Thasian Amphorae

**Cat. No: 162** Inv. No: BZ.01.SE.4.4.C5.16 Diam. of foot: 3, 5 cm H: 68, 9 cm Clay Color: 5 YR 6/4 light reddish brown Slip Color: 7, 5 YR 8/2 pinkish white Clay Content: white lime, mica, little chamotte Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Şenol & Aşkın 2007, kat. No. 10

# PLATE XLVIII

Thasian Amphorae Feet

**Cat. No: 163** Inv. No: BZ.02.SE.2.7.B3.13 Diam. of foot: 3, 8 cm H: 12, 6 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: mica, lime, sand Date: Mid-4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.44, 5 - Şenol &Aşkın 2007, Kat. No.9

# Cat. No: 164

Inv. No: BZ.06.SE.5.8.C6A.20 Diam. of foot: 3, 4 cm H: 15, 5 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: mica Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.43, 4

# Cat. No: 165

Inv. No: BZ.09.SE.3.4.A4A.108 Diam. of foot: 4 cm H: 10, 3 cm Clay Color: 2, 5 YR 6/8 light red Clay Content: sand, lime, mica Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Şenol & Aşkın 2007, kat. No. 7

# PLATE XLIX

Thasian Amphorae Feet

## Cat. No: 166

Inv. No: BZ.09.SE.3.5.D2.9 Diam. of foot: 3, 4 cm H: 13, 8 cm Clay Color: 2, 5 YR 4/6 red Slip Color: 5 YR 7/4 pink Clay Content: mica Date: Last quarter of the 4<sup>th</sup> century B.C. Reference: Grandjean 1992, Fig.8, 53

# Cat. No: 167

Inv. No: BZ.95.SE.8.5.B7.4 Diam. of foot: 3 cm H: 9, 9 cm Clay Color: 7, 5 YR 5/6 strong brown Clay Content: mica Date: Mid – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.16, 1 **Cat. No: 168** Inv. No: BZ.99.SE.8.8.B7A.6 Diam. of foot: 2, 4 cm H: 10, 5 cm Clay Color: 2, 5 YR 6/4 light reddish brown Clay Content: mica Date: Last quarter of the 4<sup>th</sup> century B.C. Reference: Grandjean 1992, Fig.8, 57

# PLATE L

Other North Aegean Amphorae Rims

## Cat. No: 169

Inv. No: BZ.07.SE.6.8.A2.26 Diam. of rim: 9, 8 cm H: 13, 9 cm Clay Color: 5 YR 5/4 yellowish red Clay Content: mica Date: 480 B.C. Reference: Lawall 1995, Fig.57

## Cat. No: 170

Inv. No: BZ.09.SE.6.10.D5B4.13 Diam. of rim: 12 cm H: 17, 1 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: mica Date: 480 B.C. Reference: Lawall 1995, Fig.49

# Cat. No: 171

Inv. No: BZ.09.SE.4.9.B8.13 Diam. of rim: 12, 2 cm H: 5, 8 cm Clay Color: 2, 5 YR 5/8 red Slip Color: 7, 5 YR 6/2 pinkish gray Clay Content: mica

# PLATE LI

Other North Aegean Amphorae Feet

**Cat. No: 172** Inv. No: BZ.05.SE.4.5.C11.23 Diam. of foot: 4, 8 cm H: 18, 6 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: 5YR 6/6 reddish yellow Clay Content: little lime, low mica, sand Date: 2<sup>nd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Şenol & Aşkın 2007, kat. No. 15

# Cat. No: 173

Inv. No: BZ.03.NE.5.7.C6A.35 Diam. of foot: 3, 6 cm H: 27, 3 cm Clay Color: 7, 5 YR 77& reddish yellow Clay Content: dense mica, black inclusions Date: ca. 325 B.C. Reference: Lawall 2004, Pl.197, 8

# Cat. No: 174

Inv. No: BZ.07.SE.4.3.D4B.2 Diam. of foot: 2, 6 cm H: 26, 3 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: mica

# PLATE LII

Grey Lesbian Amphorae Rims (Cat. No.175-176) and Feet (Cat. No.177-178)

# Cat. No: 175

Inv. No: BZ.07.SE.8.7.B7A.24 Diam. of rim: 10, 2 cm H: 6, 3 cm Clay Color: 7, 5 YR 4/2 dark brown Clay Content: mica, white inclusion Date: 530-520 B.C. Reference: Birzescu 2012, Taf.9, 101

## Cat. No: 176

Inv. No: BZ.09.SW.1.7.B3B.16 Diam. of rim: 9, 4 cm H: 3, 9 cm Clay Color: 5 YR 4/3 reddish brown Clay Content: mica, white inclusions Date: 6<sup>th</sup> century B.C.

**Cat. No: 177** Inv. No: BZ.09.SW.1.7.B8.40 Diam. of foot: 2 cm H: 7, 4 cm Clay Color: 5 YR 4/1 dark gray Clay Content: mica, light and dark inclusions Date: End of the 6<sup>th</sup> century B.C. Reference: Birzescu 21012, Taf.7, 91

**Cat. No: 178** Inv. No: BZ.98.SE.9.7.A6.112 Diam. of foot: 4 cm H: 5 cm Clay Color: 2, 5 YR 6/4 light reddish brown Clay Content: mica, white inclusions Date: 1<sup>st</sup> half of the 5<sup>th</sup> century B.C. Reference: Döğer 1991, fig.105

## PLATE LIII

Red Lesbian Amphorae Rim (Cat. No.179) and Feet (Cat. No.180-181)

## Cat. No: 179

Inv. No: BZ.96.SE.7.7.D7A.4-10 Diam. of rim: 12 cm H: 12, 7 cm Clay Color: 2, 5 YR 5/8 red Clay Content: fine gritty flakes, mica, quartz specks Date: 1<sup>st</sup> half of the 6<sup>th</sup> century B.C. Reference: Lazanov 2010, Pl. 49, 4

# Cat. No: 180

Inv. No: BZ.06.SE.6.6.C4.9 Diam. of foot: 3, 1 cm H: 9, 9 cm Clay Color: 10 R 5/8 red Clay Content: dense mica, small dark inclusions Date: 550-525 B.C. Reference: Sezgin 2012, p.242, Kles2.03

## Cat. No: 181

Inv. No: BZ.05.SE.4.5.A7B.9 Diam. of foot: not taken H: 6, 5 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: dense mica Date: Mid-5<sup>th</sup> century B.C. Reference: Monakhov 1999, fig.22

# PLATE LIV

Peparethian (Cat. No: 182-183) and So-Called Solokha I (Cat. No: 184-186) Amphorae Rims and Feet

### Cat. No: 182

Inv. No: BZ.98.SE.9.7.A6.455 Diam. of rim: 12, 6 cm H: 2 cm Clay Color: 5 YR 7/4 pink Clay Content: mica, limestone particles Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Doulgeri-Intzessiloglou & Garlan 1990, Fig.29

#### Cat. No: 183

Inv. No: BZ.07.SE.8.7.B5.14 Diam. of foot: 2, 2 cm H: 8 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: mica, limestone particles Date: 4<sup>th</sup> century B.C. Reference: Doulgeri-Intzessiloglou & Garlan 1990, Fig.18

### Cat. No: 184

Inv. No: BZ.06.SE.5.7.B6B.15 Diam. of rim: 10 cm H: 6, 8 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: self-same ware/fabric color Clay Content: fine sand, mica, white limestone particles Date: 4<sup>th</sup> century B.C. Reference: Doulgeri-Intzessiloglou & Garlan 1990, Fig.35.c

#### Cat. No: 185

Inv. No: BZ.08.SE.11.8.C5.6 Diam. of rim: 13, 8 cm H: 5, 2 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: fine sand, mica, white limestone particles Date: 350-325 B.C. Reference: Vaag, Norskov & Lund 2002, Pl. 23, G92

### Cat. No: 186

Inv. No: BZ.05.NE.6.6.B9.5 Diam. of foot: 2, 5 cm H: 6, 8 cm Clay Color: 5 YR 4/6 yellowish red Slip Color: 10 YR 7/4 very pale brown Clay Content: fine sand, mica, white limestone particles Date: 4<sup>th</sup> century B.C. Reference: Doulgeri-Intzessiloglou & Garlan 1990, Fig.35, e

## PLATE LV

Klazomenaen Amphorae Rims (Cat. No: 187-191) and Foot (Cat. No: 192)

## Cat. No: 187

Inv. No: BZ.05.NE.6.5.A2.2 Diam. of rim: 11, 2 cm H: 4, 4 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: mica, quartz Date: Late 7<sup>th</sup> – Early 6<sup>th</sup> century B.C Reference: Monakhov 1999, fig.6

# Cat. No: 188

Inv. No: BZ.06.SE.6.6.B8.3 Diam. of rim: 13, 2 cm H: 6, 6 cm Clay Color: 2, 5 YR 6/6 light red Paint Color: 5 YR 4/1 very dark gray Clay Content: sand, sparse quartz and lime Date: 525-500 B.C. Reference: Sezgin 2012, p.78, Kla7.04

# Cat. No: 189

Inv. No: BZ.05.SE.7.5.A6.2 Diam. of rim: 14, 4 cm H: 3, 4 cm Clay Color: 2, 5 YR 5/8 red Paint Color: 5 YR 4/4 reddish brown Clay Content: mica, quartz Date: 6<sup>th</sup> century B.C.

## Cat. No: 190

Inv. No: BZ.06.SE.6.6.C6.1 Diam. of rim: 12, 2 cm H: 8, 5 cm Clay Color: 5 YR 6/4 light reddish brown Clay Content: mica, quartz Paint Color: 10 R 4/4 red

Inv. No: BZ.96.NE.3.7.B11.50 Diam. of rim: 15 cm H: 4, 4 cm Clay Color: 7, 5 YR 6/4 light brown Clay Content: mica, quartz Paint Color: 2, 5 YR 4/8 red

# Cat. No: 192

Inv. No: BZ.01.SE.4.4.D10.5 Diam. of foot: 4, 6 cm H: 8, 9 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: mica, quartz Date: Last quarter of the 6<sup>th</sup> – beginning of the 5<sup>th</sup> century B.C. Reference: Döğer 1991, fig.115

## PLATE LVI

Ephesian Amphorae Rims (Cat. No: 193-195) and Feet (Cat. No: 196-197)

## Cat. No: 193

Inv. No: BZ.00.SE.8.8.A1.11 Diam. of rim: 13 cm H: 4, 9 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: dense mica, little lime Date: 270-220 B.C. Reference: Lawall 2004, Fig.4

# Cat. No: 194

Inv. No: BZ.09.SE.10.9.C10A.1 Diam. of rim: 13, 4 cm H: 3, 5 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: 5 YR 7/6 reddish yellow Clay Content: dense mica, little lime Date: Late 3<sup>rd</sup> century B.C. Reference: Lawall 2004, Fig.5

### Cat. No: 195

Inv. No: BZ.08.SE.11.8.C1.12 Diam. of rim: 12, 2 cm H: 4, 6 cm Clay Color: 2, 5 YR 5/6 red Clay Content: dense mica, little lime Date: Mid-2<sup>nd</sup> century B.C. Reference: Lawall 2004, Fig.6

### Cat. No: 196

Inv. No: BZ.09.SE.11.7.B11.176 Diam. of foot: 1, 4 cm H: 10, 5 cm Clay Color: 5 YR 4/4 reddish brown Slip Color: 5 YR 6/4 light reddish brown Clay Content: dense mica, little lime Date: 270-220 B.C. Reference: Lawall 2004, Fig.4

## Cat. No: 197

Inv. No: BZ.09.SE.11.7.B11.177 Diam. of foot: not taken H: 12 cm Clay Color: 2, 5 YR 6/6 light red Slip Color: 5 YR 7/6 reddish yellow Clay Content: dense mica, little lime Date: 270-220 B.C. Reference: Lawall 2004, Fig.4

# PLATE LVII

Milesian Amphorae Rims

## Cat. No: 198

Inv. No: BZ.05.NE.6.6.C4.6 Diam. of rim: 15 cm H: 5, 8 cm Clay Color: 10 YR 7/4 very pale brown Paint Color: 5 YR 4/3 reddish brown Clay Content: silver mica Date: 2<sup>nd</sup> quarter until the end of the 7<sup>th</sup> century B.C. Reference: Seifert 2004, Taf. 5, kat no. 15

#### Cat. No: 199

Inv. No: BZ.06.SE.6.7.A6A.35 Diam. of rim: 12, 4 cm H: 10, 2 cm Clay Color: 5 YR 5/4 reddish yellow Slip Color: 5 YR 5/3 reddish brown Clay Content: dense mica Date: End of the 7<sup>th</sup> century B.C. Reference: Dupont 1998, fig.23.8a

Inv. No: BZ.96.NE.3.7.B9.11 Diam. of rim: 13, 4 cm H: 7, 3 cm Clay Color: 7, 5 YR 7/4 pink Clay Content: silver mica Date: 3<sup>rd</sup> quarter of the 7<sup>th</sup> century B.C. Reference: Seifert 2004, Taf. 11, kat no. 33

#### Cat. No: 201

Inv. No: BZ.07.SE.5.9.C12.10 Diam. of rim: 14, 4 cm H: 10, 4 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 10 YR 7/4 very pale brown Clay Content: dense silver mica Date: 575-550 B.C. Reference: Sezgin 2009, Lev.69 Mil3.14

# Cat. No: 202

Inv. No: BZ.09.SE.5.9.A8.34 Diam. of rim: 12, 4 cm H: 5 cm Clay Color: 5 YR 5/3 reddish brown Slip Color: self-same ware/fabric color Clay Content: mica, black inclusion Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.58, 1187

# Cat. No: 203

Inv. No: BZ.96.NE.3.7.B10.46 Diam. of rim: 14 cm H: 9, 5 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: dense silver mica Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Seifert 2004, Taf. 37, kat no. 98

# PLATE LVIII

Milesian Amphorae Rims

**Cat. No: 204** Inv. No: BZ.96.SE.8.4.A4.2 Diam. of rim: 13, 2 cm H: 5, 4 cm Clay Color: 7, 5 YR 7/4 pink Clay Content: mica Date:  $2^{nd} - 3^{rd}$  quarter of the 6<sup>th</sup> century B.C. Reference: Dupont 1998, fig.23.8b

# Cat. No: 205

Inv. No: BZ.07.SE.5.4.C13.1 Diam. of rim: 12, 8 cm H: 3, 4 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: 7, 5 YR 7/8 reddish yellow Paint Color: 2, 5 YR 5/6 red Clay Content: dense mica, dark brown and light splitters Date: 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.57, 1182

# Cat. No: 206

Inv. No: BZ.05.NE.6.8.C7.3 Diam. of rim: 14, 2 cm H: 5, 8 cm Clay Color: 7, 5 YR 6/3 light brown Clay Content: mica Date: 1<sup>st</sup> half of the 6<sup>th</sup> century B.C. Reference: Monakhov 1999, fig.9

## Cat. No: 207

Inv. No: BZ.04.NE.6.5.C12.1 Diam. of rim: 16 cm H: 12, 5 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: 7, 5 YR 6/3 light brown Clay Content: dense silver mica Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Seifert 2004, Taf.39, kat no. 101

# Cat. No: 208

Inv. No: BZ.07.SE.5.4.C14.2 Diam. of rim: 15, 9 cm H: 4, 2 cm Clay Color: 5 YR 6/8 reddish yellow Slip Color: 7, 5 YR 8/4 pink Clay Content: mica Date: 5<sup>th</sup> century B.C. Reference: Voigtlander 1982, p.70, Fig182

Inv. No: BZ.96.NE.4.7.D5.65 Diam. of rim: 13, 4 cm H: 5, 9 cm Clay Color: 5 YR 5/1 gray Clay Content: mica Date: 5<sup>th</sup> century B.C. Reference: Voigtlander 1982, p.70

## PLATE LIX

Milesian Amphorae Feet

## Cat. No: 210

Inv. No: BZ.00.NE.1.8.B14.6 Diam. of foot: 3, 6 cm H: 4, 4 cm Clay Color: 5 YR 6/4 light reddish brown Clay Content: mica Date: 3<sup>rd</sup> quarter of the 6<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.18, 2

#### Cat. No: 211

Inv. No: BZ.03.NE.3.8.A16.18 Diam. of foot: 4, 8 cm H: 6, 8 cm Clay Color: 7, 5 YR 6/6 reddish yellow Clay Content: mica Date: 1<sup>st</sup> half of the 6<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.17, 2

#### Cat. No: 212

Inv. No: BZ.08.SE.11.8.D3A.3 Diam. of foot: 3, 2 cm H: 10, 1 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: mica Date:  $1^{st} - 3^{rd}$  quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.21, 3

# Cat. No: 213

Inv. No: BZ.09.SE.2.9.C9.42 Diam. of foot: 1, 9 cm H: 6, 7 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 7, 5 YR 8/4 pink Clay Content: mica Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.21, 4

# PLATE LX

Chian Amphorae Rims

**Cat. No: 214** Inv. No: BZ.01.SE.3.9.D8.2 Diam. of rim: 9, 2 cm H: 7, 4 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: mica, lime, sand Date: Mid-7<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.1, 1

**Cat. No: 215** Inv. No: BZ.03.NE.4.8.A10.44 Diam. of rim: 12, 2 cm H: 11, 3 cm Clay Color: 7, 5 YR 6/6 reddish yellow Paint Color: 2, 5 YR 5/6 red Clay Content: mica, lime, sand Date: Late 6<sup>th</sup> – 480 B.C. Reference: Lawall 2010a, Pl.93, 13

**Cat. No: 216** Inv. No: BZ.09.SE.1.7.D2.1 Diam. of rim: 11, 2 cm H: 5.8 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: mica, lime, sand Date: 510- 480 B.C. Reference: Dupont 2005, Fig.22, b

# PLATE LXI

Chian Amphorae Rims

Cat. No: 217 Inv. No: BZ.07.SE.5.9.D13.6 Diam. of rim: 12, 4 cm H: 14 cm Clay Color: 7, 5 YR 6/6 reddish yellow Slip Color: 10 YR 8/2 very pale brown Paint Color: 10 R 4/8 red Clay Content: mica, lime, sand Date: 2<sup>nd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Kakhidze-Khalvashi 2010, Pl.74, 1

# Cat. No: 218

Inv. No: BZ.07.SE.6.8.A5A.23 Diam. of rim: 9, 6 cm H: 11, 4 cm Clay Color: 2, 5 YR 6/8 light red Slip Color: 7, 5 YR 7/4 pink Clay Content: mica, lime, sand Date: 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Mattingly 1981, fig.1

# Cat. No: 219

Inv. No: BZ.07.SE.8.7.B4.4 Diam. of rim: 10 cm H: 13, 1 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: mica, lime, sand Date: Late 5<sup>th</sup> – 4<sup>th</sup> century B.C. Reference: Petrova 2011, fig.3-24

# PLATE LXII

Chian Amphorae Rims

# Cat. No: 220

Inv. No: BZ.05.SE.7.5.B4.2 Diam. of rim: 13, 2 cm H: 7, 5 cm Clay Color: 5 YR 6/8 reddish yellow Clay Content: mica, lime, sand Date: 2<sup>nd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Vaag, Norskov & Lund 2002, Pl.30, H39

# Cat. No: 221

Inv. No: BZ.09.SE.3.4.D4.1 Diam. of rim: 9, 4 cm H: 4, 7 cm Clay Color: 5 YR 5/6 yellowish red Clay Content: mica, lime, sand Date: 370-360 B.C. Reference: Vaag, Norskov & Lund 2002, Pl.31, H38 **Cat. No: 222** Inv. No: BZ.09.SE.12.7.B16.1 Diam. of rim: 14, 8 cm H: 10, 2 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 5 YR 8/4 pink Clay Content: mica, lime, sand Date: 1<sup>st</sup> – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.12, 1

#### PLATE LXIII

Chian Amphorae Feet

**Cat. No: 223** Inv. No: BZ.95.NE.3.7.C7.100 Diam. of foot: 5, 2 cm H: 13, 1 cm Clay Color: 5 YR 7/4 pink Clay Content: mica, lime, sand Date: Last quarter of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012, Taf.24, 451

Cat. No: 224 Inv. No: BZ.09.SE.10.9.C17.26 Diam. of foot: 4 cm H: 7, 1 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 5 YR 7/6 reddish yellow Clay Content: mica, lime, sand Date: Last quarter of the 6<sup>th</sup> – beginning of the 5<sup>th</sup> century B.C. Reference: Sezgin 2012, p. 135, Khi6.44-46

### PLATE LXIV

Chian Amphorae Feet

**Cat. No: 225** Inv. No: BZ.95.SE.8.6.D5.13 Diam. of foot: 3, 8 cm H: 7, 7 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: mica, lime, sand Date: 2<sup>nd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.3, 5

Inv. No: BZ.00.SE.8.4.D6.10 Diam. of foot: 4, 2 cm H: 8, 7 cm Clay Color: 7, 5 YR 8/6 reddish yellow Clay Content: mica, lime, sand Date: 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Kakhidze-Khalvashi 2010, Pl.74, 6

**Cat. No: 227** Inv. No: BZ.06.SE.5.6.C6.3 Diam. of foot: 4, 2 cm H: 16, 4 cm Clay Color: 2, 5 YR 5/3 reddish brown Slip Color: 2, 5 YR 8/3 pink Clay Content: mica, lime, sand Date: Last quarter of the 5<sup>th</sup> century B.C. Reference: Kakhidze-Khalvashi 2010, Pl.74, 7

# Cat. No: 228

Inv. No: BZ.07.SE.8.7.B4.32 Diam. of foot: 3, 2 cm H: 18, 5 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 7, 5 YR 8/3 pink Clay Content: mica, lime, sand Date: Last quarter of the 5<sup>th</sup> century B.C. Reference: Kakhidze-Khalvashi 2010, Pl.74, 7

# PLATE LXV

Chian Amphorae Feet

## Cat. No: 229

Inv. No: BZ.09.SE.3.4.D6A.63 Diam. of foot: 3, 8 cm H: 15, 8 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: self-same ware/fabric color Clay Content: mica, lime, sand Date: Mid-4<sup>th</sup> century B.C. Reference: Lawall 2010b, Pl.292, L31

Inv. No: BZ.06.SE.5.6.B8.29 Diam. of foot: 2, 4 cm H: 31, 6 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 5 YR 7/6 reddish yellow Clay Content: mica, lime, sand Date: 1<sup>st</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Kakhidze-Khalvashi 2010, Pl.74, 8

**Cat. No: 231** Inv. No: BZ.05.SE.7.5.B7.99 Diam. of foot: 2, 8 cm H: 13, 1 cm Clay Color: 2, 5 YR 6/4 light reddish brown Clay Content: mica, lime, sand Date: Mid-4<sup>th</sup> century B.C. Reference: Lawall 2010b, Pl.292, L31

# PLATE LXVI

Samian Amphorae Rims

**Cat. No: 232** Inv. No: BZ.95.SE.8.6.A4.110 Diam. of rim: 13, 6 cm H: 4, 2 cm Clay Color: 5 YR 6/3 light reddish brown Clay Content: dense mica Date: 1<sup>st</sup> half of the 6<sup>th</sup> century B.C. Reference: Birzescu 2012 Taf.62, 1282

**Cat. No: 233** Inv. No: BZ.09.SW.1.7.B2.2 Diam. of rim: 15 cm H: 3, 7 cm Clay Color: 5 YR 7/6 reddish yellow Paint Color: 5 YR 3/2 dark reddish brown Clay Content: dense mica, sand, black and white inclusions Date: End of the 7<sup>th</sup> – 1<sup>st</sup> half of the 6<sup>th</sup> century B.C Reference: Dupont 1998, Fig.23.6a

**Cat. No: 234** Inv. No: BZ.08.SE.11.8.C5A.1 Diam. of rim: 15 cm H: 6, 7 cm Clay Color: 5 YR 7/8 reddish yellow Clay Content: dense white inclusions, dense mica Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Sezgin 2012, p.199, Sam4.06

## Cat. No: 235

Inv. No: BZ.09.SE.10.9.C14.2 Diam. of rim: 16, 4 cm H: 6, 8 cm Clay Color: 5 YR 7/6 reddish yellow Slip Color: 10 YR 7/4 very pale brown Clay Content: dense white inclusions, dense mica Date: 2<sup>nd</sup> half of the 6<sup>th</sup> century B.C. Reference: Sezgin 2012, p.199, Sam4.06

#### Cat. No: 236

Inv. No: BZ.06.SE.5.7.A12.1 Diam. of rim: 15 cm H: 7, 6 cm Clay Color: 7, 5 YR 5/4 brown Clay Content: dense mica, sand, black and white inclusions

### Cat. No: 237

Inv. No: BZ.09.SW.1.7.B8.8 Diam. of rim: 16, 6 cm H: 8, 1 cm Clay Color: 2, 5 YR 5/6 red Clay Content: dense mica, sand, black and white inclusions Date: 2<sup>nd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Grace 1971, Fig.3, 1

## Cat. No: 238

Inv. No: BZ.05.SE.4.5.B9.8 Diam. of rim: 12, 4 cm H: 5, 9 cm Clay Color: 5 YR 6/8 reddish yellow Slip Color: 10 YR 7/4 very pale brown Clay Content: dense mica, sand, black and white inclusions Date: 4<sup>th</sup> century B.C. Reference: Grandjean 1992, Fig.5, 36

## Cat. No: 239

Inv. No: BZ.09.SE.3.4.D6A.25 Diam. of rim: 11, 6 cm H: 5, 4 cm Clay Color: 5 YR 7/8 reddish yellow Slip Color: 7, 5 YR 8/4 pink Clay Content: lime, dense mica, sand Date: 360 B.C. Reference: Şenol &Aşkın 2007, Kat. No. 45

# PLATE LXVII

Samian Amphorae Feet

Cat. No: 240 Inv. No: BZ.03.NE.4.8.A8.128 Diam. of foot: 5, 8 cm H: 3, 3 cm Clay Color: 7, 5 YR 6/6 reddish yellow Slip Color: 5 YR 7/4 pink Clay Content: dense white inclusions, dense mica Date: 630-600 B.C. Reference: Sezgin 2012, p.196, Sam4.06

**Cat. No: 241** Inv. No: BZ.09.SE.5.9.A6.14 Diam. of foot: 5, 8 cm H: 5, 5 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 10 YR 7/4 very pale brown Clay Content: dense mica, sand, black and white inclusions Date: ca. 500 B.C. Reference: Grace 1971, Fig.2, 4

Cat. No: 242 Inv. No: BZ.99.SE.12.8.C3.19 Diam. of foot: 3 cm H: 8, 5 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: dense mica, sand, black and white inclusions Date: Last quarter of the 6<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.15, 6

**Cat. No: 243** Inv. No: BZ.96.NE.3.7.D6B.24 Diam. of foot: 4, 1 cm H: 8, 5 cm Clay Color: 5 YR 6/4 reddish brown Clay Content: dense mica, sand, black and white inclusions Date: Last quarter of the 5<sup>th</sup> century B.C. Reference: Grace 1971, Fig.3, 3

Inv. No: BZ.09.SE.10.9.C15.27 Diam. of foot: 2, 4 cm H: 8.2 cm Clay Color: 7, 5 YR 4/4 brown Slip Color: 10 YR 6/4 light yellowish Brown Clay Content: dense mica, sand, black and white inclusions Date: Last quarter of the 5<sup>th</sup> century B.C. Reference: Grace 1971, Fig.3, 3

### Cat. No: 245

Inv. No: BZ.08.SE.2.8.D2.57 Diam. of foot: 4, 4 cm H: 9, 4 cm Clay Color: 2, 5 YR 6/6 light red Slip Color: 5 YR 8/2 pinkish white Clay Content: dense mica, sand, black and white inclusions Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Vaag, Norskov & Lund 2002, Pl. 23, G98

# Cat. No: 246

Inv. No: BZ.09.SE.4.10.A1.8 Diam. of foot: 4, 4 cm H: 8, 5 cm Clay Color: 5 YR 7/6 reddish yellow Slip Color: 2, 5 y 8/3 pale yellow Clay Content: dense mica, sand, black and white inclusions Date: Mid – 3<sup>rd</sup> quarter of the 4<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.16, 1

# Cat. No: 247

Inv. No: BZ.99.SE.3.2.C9.39 Diam. of foot: 3 cm H: 10, 6 cm Clay Color: 5 YR 7/3 pink Slip Color: 10 YR 8/1 white Clay Content: dense mica, sand, black and white inclusions Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Vaag, Norskov & Lund 2002, Pl. 23, G98
## PLATE LXVIII

Other Ionian Region Amphorae – Ionia  $\alpha$  Amphorae Rim (Cat. No: 248) and Feet (Cat. No: 249-250)

#### Cat. No: 248

Inv. No: BZ.07.SE.9.8.D5A.1 Diam. of rim: 11, 6 cm H: 3, 5 cm Clay Color: 5 YR 5/6 yellowish red Clay Content: sparse mica Date: End of the 6<sup>th</sup> century B.C. Reference: Sezgin 2012, p.257, Ionia.α.09

#### Cat. No: 249

Inv. No: BZ.02.SE.6.4.D9.33 Diam. of foot: 3 cm H: 5 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: sparse mica Date: End of the 6<sup>th</sup> century B.C. Reference: Sezgin 2012, p.257, Ionia.α.09

#### Cat. No: 250

Inv. No: BZ.09.SE.6.10.D5B4.16 Diam. of foot: 5 cm H: 5 cm Clay Color: 7, 5 YR 6/4 light brown Clay Content: sparse mica Date: End of the 6<sup>th</sup> century B.C. Reference: Sezgin 2012, p.257, Ionia.α.09

#### PLATE LXIX

Other Ionian Region Amphorae – Ionia  $\beta$  Amphorae Rim

#### Cat. No: 251

Inv. No: BZ.00.NE.4.7.C5.11 Diam. of rim: 15, 4 cm H: 7, 2 cm Clay Color: 10 R 6/6 light red Clay Content: sand, mica Date: 525-500 B.C. Reference: Sezgin 2012, p.281, Ionia.β3.03

#### Cat. No: 252

Inv. No: BZ.06.SE.5.5.C6.4 Diam. of rim: 16 cm H: 5, 4 cm Clay Color: 5 YR 7/6 reddish yellow Clay Content: mica Date: 550-525 B.C. Reference: Sezgin 2012, p.279, Ionia.β1.02

**Cat. No: 253** Inv. No: BZ.09.SE.10.9.C16.18 Diam. of rim: 14, 6 cm H: 6, 6 cm Clay Color: 5 YR 6/8 reddish yellow Slip Color: 5 YR 7/8 reddish yellow Clay Content: mica Date: 550- 500 B.C. Reference: Sezgin 2012, p.279, Ionia.β2.02

### PLATE LXX

Other Ionian Region Amphorae - Samos-Miletus Amphorae Rim (Cat. No: 254) and

Feet (Cat. No: 255-257)

#### Cat. No: 254

Inv. No: BZ.95.SE.8.6.A4.67 Diam. of rim: 14, 8 cm H: 3, 1 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: mica Date: 1<sup>st</sup> quarter – 1<sup>st</sup> 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.25, 3

**Cat. No: 255** Inv. No: BZ.00.SE.4.1.C3A.2 Diam. of foot: 3 cm H: 4, 3 cm Clay Color: 2, 5 YR 6/8 light red Clay Content: mica Date: End of the 6<sup>th</sup> – beginning of the 5<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.23, 5

**Cat. No: 256** Inv. No: BZ.06.SE.7.6.D13.15 Diam. of foot: 4, 4 cm H: 20, 4 cm Clay Color: 5 YR 7/6 reddish yellow Slip Color: 7, 5 YR 6/3 light brown Clay Content: mica Date: 400 B.C. Reference: Lawall 1995, Fig.75

**Cat. No: 257** Inv. No: BZ.07.SE.8.7.B4.33 Diam. of foot: 3 cm H: 12, 5 cm Clay Color: 2, 5 YR 5/4 reddish brown Clay Content: mica Date: 1<sup>st</sup> quarter – 1<sup>st</sup> 3<sup>rd</sup> quarter of the 5<sup>th</sup> century B.C. Reference: Monakhov 2003, Taf.25, 6

#### PLATE LXXI

Rhodian Peraea Amphorae Rims

**Cat. No: 258** Inv. No: BZ.09.SE.11.7.B11.61 Diam. of rim: 12, 8 cm H: 10, 5 cm Clay Color: 7, 5 YR 7/6 reddish yellow Slip Color: 7, 5 YR 7/6 reddish yellow Clay Content: calcareous Date: End of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Döğer & Şenol 1997, Fig.8

**Cat. No: 259** Inv. No: BZ.08.SE.11.8.B6.20 Diam. of rim: 11, 4 cm H: 6, 1 cm Clay Color: 5 YR 5/8 yellowish red Slip Color: 7, 5 YR 8/3 pink Clay Content: calcareous Date: End of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Döğer & Şenol 1997, Fig.9

**Cat. No: 260** Inv. No: BZ.08.SE.11.8.C5.4 Diam. of rim: 12, 8 cm H: 9, 6 cm Clay Color: 2, 5 YR 5/6 red Clay Content: calcareous Date: 2<sup>nd</sup> quarter of the 3<sup>rd</sup> century B.C. Reference: Döğer & Şenol 1997, Fig.5

#### Cat. No: 261

Inv. No: BZ.09.SE.11.9.D7A.1-28/D8A.2 Diam. of rim: 11, 8 cm H: 9, 8 cm Clay Color: 7, 5 YR 6/6 reddish yellow Slip Color: 7, 5 YR 7/6 reddish yellow Clay Content: calcareous Date: 1<sup>st</sup> half of the 3<sup>rd</sup> century B.C. Reference: Döğer 1994, Fig.1

#### PLATE LXXII

Koan Amphorae Type 1 Rim (Cat. No: 262) and Foot (Cat. No: 263)

#### Cat. No: 262

Inv. No: BZ.01.SE.3.8.A7.12 Diam. of rim: 14, 2 cm H: 17, 6 cm Clay Color: 2, 5 YR 7/6 light red Clay Content: golden mica, sand, white and dark bits Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Papuci-Wladyka 1997, Fig.1, 1

#### Cat. No: 263

Inv. No: BZ.06.SE.5.6.A10.11 Diam. of foot: 4, 8 cm H: 9, 2 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: 10 YR 8/3 very pale brown Clay Content: golden mica, sand, white and dark bits Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Papuci-Wladyka 1997 Fig.1, 1

## PLATE LXXIII

Koan Amphorae Type 2 Rim (Cat. No: 264) and Foot (Cat. No: 265)

**Cat. No: 264** Inv. No: BZ.09.SE.3.4.C9A.1 Diam. of rim: 11, 4 cm H: 25, 1 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: 5 YR 8/3 pink Clay Content: golden mica, sand, white and dark bits Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Papuci-Wladyka 1997 Fig.1, 2 **Cat. No: 265** Inv. No: BZ.06.SE.5.7.B6B.25 Diam. of foot: 4 cm H: 10, 9 cm Clay Color: 7, 5 YR 5/6 strong brown Clay Content: golden mica, sand, white and dark bits Date: 1<sup>st</sup> half of the 4<sup>th</sup> century B.C. Reference: Papuci-Wladyka 1997 Fig.1, 2

#### PLATE LXXIV

Rhodian Amphorae Rims

## Cat. No: 266 Inv. No: BZ.96.SE.6.7.D5.2 Diam. of rim: 11 cm H: 5, 8 cm Clay Color: 7, 5 YR 7/4 pink Clay Content: low mica, low lime, low fine sand

#### Cat. No: 267

Inv. No: BZ.09.SE.11.7.B11.42 Diam. of rim: 15, 4 cm H: 26, 5 cm Clay Color: 5 YR 6/8 reddish yellow Slip Color: 5 YR 7/4 pink Clay Content: low mica, low lime, low fine sand Date: 1<sup>st</sup> quarter of the 3<sup>rd</sup> century B.C. Reference: Cankardeş-Şenol 2006, Fig.164

## Cat. No: 268

Inv. No: BZ.08.SE.11.8.B5.72 Diam. of rim: 12, 6 cm H: 14, 5 cm Clay Color: 5 YR 7/6 reddish yellow Slip Color: 7, 5 YR 7/4 pink Clay Content: low mica, low lime, low fine sand Date: 2<sup>nd</sup> quarter of the 3<sup>rd</sup> century B.C. Reference: Monakhov 2003, Taf.79, 6

#### Cat. No: 269

Inv. No: BZ.05.NE.6.7.B7.4 Diam. of rim: 7, 5 cm H: 13 cm Clay Color: 5 YR 7/6 reddish yellow Slip Color: 2, 5 YR 8/1 white Clay Content: low mica, low lime, low fine sand Date: End of the 3<sup>rd</sup> – beginning of the 2<sup>nd</sup> century B.C. Reference: Şenol & Aşkın 2007, kat. No.29

## Cat. No: 270

Inv. No: BZ.97.SE.6.2.A11.1 Diam. of rim: 16, 6 cm H: 7, 8 cm Clay Color: 5 YR 6/6 reddish yellow Clay Content: low mica, low lime, low fine sand Date: 2<sup>nd</sup> half of the 2<sup>nd</sup> – 1<sup>st</sup> century B.C. Reference: Monakhov 2003, Taf.84, 1

## PLATE LXXV

Rhodian Amphorae Feet

## Cat. No: 271

Inv. No: BZ.08.SE.11.8.D4A.20 Diam. of foot: 2, 6 cm H: 9, 2 cm Clay Color: 5 YR 8/4 pink Clay Content: low mica, low lime, low fine sand Date: Late 4<sup>th</sup> century B.C. Reference: Lawall 2011, Pl.282

## Cat. No: 272

Inv. No: BZ.09.SE.11.7.B11.178 Diam. of foot: not taken H: 10, 3 cm Clay Color: 5 YR 6/6 reddish yellow Slip Color: 7, 5 YR 8/4 pink Clay Content: low mica, low lime, low fine sand Date: Late 4<sup>th</sup> century B.C. Reference: Lawall 2011c, Pl.282

## Cat. No: 273

Inv. No: BZ.09.SE.2.6.A6.24 Diam. of foot: 2, 6 cm H: 24, 8 cm Clay Color: 2, 5 YR 6/8 light red Clay Content: low mica, low lime, low fine sand Date: Late 4<sup>th</sup> century B.C. Reference: Lawall 2011c, Pl.282

## PLATE LXXVI

Other South Aegean Region Amphorae Rims

Cat. No: 274 Inv. No: BZ.00.NE.4.7.C5C.5 Diam. of rim: 13 cm H: 3, 2 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: lime, dense mica, sand

#### Cat. No: 275

Inv. No: BZ.09.SE.4.10.A3.1 Diam. of rim: 11, 5 cm H: 8, 7 cm Clay Color: 2, 5 YR 5/6 red Slip Color: 7, 5 YR 8/4 pink Clay Content: lime, dense mica, sand Date: Mid-4<sup>th</sup> century B.C. Reference: Lawall 2002, Fig.12, 84

#### Cat. No: 276

Inv. No: BZ.09.SE.3.4.D6A.27 Diam. of rim: 14, 6 cm H: 4, 6 cm Clay Color: 10 YR 6/3 pale brown Slip Color: 5 Y 7/1 light gray Clay Content: lime, dense mica, sand Date: 4<sup>th</sup> century B.C. Reference: Lawall 2002, Fig.12, 78

## PLATE LXXVII

Other South Aegean Region Amphorae Feet

**Cat. No: 277** Inv. No: BZ.09.SE.1.6.B4.6 Diam. of foot: 4, 8 cm H: 5, 8 cm Clay Color: 5 YR 6/8 reddish yellow Slip Color: 5 YR 6/6 reddish yellow Clay Content: lime, dense mica, sand Date: End of the 4<sup>th</sup> century B.C. Reference: Şenol &Aşkın 2007, Kat. No. 60 **Cat. No: 278** Inv. No: BZ.08.SE.4.10.C3.17 Diam. of foot: 3, 4 cm H: 9, 2 cm Clay Color: 5 YR 5/6 yellowish red Slip Color: 5 YR 7/3 pink Clay Content: lime, dense mica, sand Date: Early 4<sup>th</sup> century B.C. Reference: Coulson 1996, fig.29, 507

## PLATE LXXVIII

Parian Amphorae Rim

Cat. No: 279 Inv. No: BZ.06.SE.5.7.D6.2 Diam. of rim: 14 cm H: 5, 2 cm Clay Color: 5 YR 6/6 reddish yellow Date: End of the 4<sup>th</sup> – beginning of the 3<sup>rd</sup> century B.C. Reference: Cankardeş-Şenol 2006, Fig.176

## PLATE LXXIX

Cypriot Amphorae Rims (Cat. No: 280-281) and Feet (Cat. No: 282-283)

**Cat. No: 280** Inv. No: BZ.03.NE.4.8.A7.60 Diam. of rim: 12 cm H: 6 cm Clay Color: 10 YR 8/3 very pale brown Clay Content: limestone, sand, chamotte, quartz, shells and grit. Date: 7<sup>th</sup> to 6<sup>th</sup> century B.C. Reference: Zemer 1977, Pl.6, Fig.17

**Cat. No: 281** Inv. No: BZ.03.NE.4.8.A7.52 Diam. of rim: 11 cm H: 3, 8 cm Clay Color: 7, 5 YR 7/6 reddish yellow Clay Content: limestone, sand, chamotte, quartz, shells and grit. Date: 7<sup>th</sup> to 6<sup>th</sup> century B.C. Reference: Zemer 1977, Pl.6, Fig.16

#### Cat. No: 282

Inv. No: BZ.08.SE.11.8.A8.7 Diam. of foot: not taken H: 5, 5 cm Clay Color: 2, 5 YR 7/8 light red Clay Content: limestone, sand, chamotte, quartz, shells and grit. Date: 6<sup>th</sup> to 4<sup>th</sup> century B.C. Reference: Zemer 1977, Pl.7, Fig.20

**Cat. No: 283** Inv. No: BZ.09.SE.10.9.C5A.7 Diam. of foot: not taken H: 7 cm Clay Color: 2, 5 YR 5/8 red Clay Content: limestone, sand, chamotte, quartz, shells and grit. Date: 6<sup>th</sup> to 4<sup>th</sup> century B.C. Reference: Zemer 1977, Pl.7, Fig.20

### PLATE LXXX

Unidentified Amphorae Rim (Cat. No: 284) and Feet (Cat. No: 285-286)

## **Cat. No: 284** Inv. No: BZ.06.SE.6.6.B4.24 Diam. of rim: 16 cm H: 7, 3 cm Clay Color: 10 R 4/6 red Slip Color: 2, 5 YR 5/6 red

**Cat. No: 285** Inv. No: BZ.05.SE.4.8.D4.18 Diam. of foot: 6 cm H: 9, 7 cm Clay Color: 5 YR 6/8 reddish yellow Slip Color: 5 YR 6/6 reddish yellow

**Cat. No: 286** Inv. No: BZ.05.SE.4.5.C3.13 Diam. of foot: 4, 4 cm H: 5, 7 cm Clay Color: 2, 5 Y 6/4 pale yellow

**B.PLATES** 









## PLATE III



## PLATE IV



# PLATE V

















PLATE IX



PLATE X



PLATE XI



PLATE XII



## PLATE XIII





PLATE XV









## PLATE XVIII



## PLATE XIX



PLATE XX



PLATE XXI





PLATE XXII



PLATE XXIV







## PLATE XXVII






# PLATE XXX



PLATE XXXI



أليبينا

# PLATE XXXII



# PLATE XXXIII



. لىبىيا

# PLATE XXXIV



# PLATE XXXV



"لىتىتا

# PLATE XXXVI









### PLATE XXXVII



# PLATE XXXVIII



PLATE XXXIX



ألىبىل



PLATE XLI



° sen









PLATE XLIII



PLATE XLIV







PLATE XLV



# PLATE XLVI



# PLATE XLVII



### PLATE XLVIII



# PLATE XLIX



PLATE L



PLATE LI



# PLATE LII



0 5 cm.

# PLATE LIII



# PLATE LIV



PLATE LV





PLATE LVI





- ليبينا

PLATE LVIII



# PLATE LIX



`لىبىنا

# PLATE LX



PLATE LXI



PLATE LXII



# PLATE LXIII






## PLATE LXIV



PLATE LXV



PLATE LXVI



0 5 cm.

## PLATE LXVII



## PLATE LXVIII







## PLATE LXIX









# PLATE LXX



`لىبىيا

## PLATE LXXI









## PLATE LXXIII





0 5 cm.

PLATE LXXIV



## PLATE LXXV



## PLATE LXXVI



## PLATE LXXVII







PLATE LXXVIII



## PLATE LXXIX



0 5 cm.

## PLATE LXXX



### C. CURRICULUM VITAE

### PERSONAL INFORMATION

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### **EDUCATION**

Degree	Institution	Year of Graduation
MS	METU Settlement Archaeology	2003
BS	Ege Univ. Classical Archaeology	1998
High School	Lycée de Saint Benoit, İstanbul	1994

### WORK EXPERIENCE

Year	Place	Enrollment
2000- Present	METU TACDAM	Research Assistant
2001–Present	Burgaz Excavations	Excavation House Coordinator

### **FOREIGN LANGUAGES**

Advanced French Advanced English

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### D. TURKISH SUMMARY/TÜRKÇE ÖZET

Trade Relations of Ancient Burgaz from Archaic to Mid 4th Centuries: The Amphorae Evidence within the Domestic Units / Arkaik Dönemden İ.Ö. 4. yy Ortasına Kadar Burgaz'ın (Eski Knidos) Ticari İlişkileri: Evsel Kontekst İçerisindeki Amphora Buluntuları Yoluyla başlıklı çalışmanın temel veri kaynağı Burgaz (Eski Knidos) yerleşiminde kazılan güneydoğu ve kuzeydoğu konut sektörlerinde ele gecen ticari amphoralardır. Ticari amphoralar bir merkezden diğerine tarımsal artı ürünlerin taşınmasını sağlayan büyük boyutlu kaplardır. Genellikle, sarap, zeytinyağı, çeşitli balık ürünleri ve kuru meyve taşımacılığında kullanılmaktadırlar. Bu yüzden, ticari amphoralar antik çağ ekonomisini yorumlamada önemli bir kaynaktır. Ayrıca, eski çağ ticaretini anlamada ve antik çağ deniz yollarını oluşturmada büyük rol oynarlar. Bu çalışmada, iki önemli amaç vardır. İlk olarak, Burgaz'ın ithalat yaptığı merkezlerin tespit edilmesi ile Akdeniz, Ege ve Karadeniz Bölgeleri'nde kurduğu ticari bağları anlamak; ikinci olarak da Knidos amphoralarının erken tiplerini tanıtmak. Bu amacları gerçeklestirmek için, Burgaz'da, güneydoğu ve kuzeydoğu sektörlerinde 1993-2009 yılları arasında kazılmış olan konut alanlarından ele geçirilen amphora parçaları kullanılmıştır. Amphoraların tipolojik olarak çalışılmasının yanı sıra değişen ticari ilişkileri göstermesi için istatistiksel olarak da değerlendirilmesi yapılmıştır.

Knidos, Arkaik ve Klasik dönemler boyunca, uzun bir yarımadanın bugün Burgaz olarak bilinen güney tarafında bulunmaktadır. Burgaz'daki yerleşim iyi korunmuş duvarları ve bol miktardaki yüzey buluntuları ile 19. yüzyıldan itibaren araştırmacılar tarafından bilinmektedir. 1993 yılından itibaren yürütülen kazı çalışmalarında Geometrik dönemden Klasik dönem sonuna kadar olan yapı katları ortaya çıkarılmıştır. İ.Ö. geç 4. yüzyılda Burgaz'da yani Eski Knidos'da yerleşim düzeninde bazı değişikliklerin ortaya çıktığı anlaşılmıştır. Yürütülen kazı çalışmalarında, aşamalı olarak terk edildiği anlaşılan yerleşimde konut alanlarının bazı yerlerinde yapılan değişiklikler ile konutların bir kısmının atölye alanı olarak yeniden yapılandırıldığı ve bir üretim merkezine dönüştürüldüğü arkeolojik veriler ışığında anlaşılmıştır. İ.Ö. 4. yüzyılın üçüncü çeyreğinde şehir yarımadanın ucunda bulunan Tekir Burnu'na taşınmıştır. Dönemin politik koşulları ile sosyo-politik değişikliklerin genel bir yeniden yapılanma sürecini başlatması ve İ.Ö. 4. yüzyılda Knidos'un market ekonomisinde yerini alması Knidos'luların toprak kullanımında da yeniden düzenlemeler yapmalarına sebep olmuştur. Knidos'lular elverişli tüm yamaçları teraslandırarak tarım için uygun hale getirmiş ve şarap üretimi için bağcılığı geliştirilmiştir. Yarımadada yürütülen yüzey araştırmaları ve kazılar ile antik bağ teraslarının varlığı ve amphora atölyeleri ile yoğun depozitler yarımadada Arkaik dönemden İ.S. 7. yüzyıla kadar yoğun bir ticari amphora üretimi yapıldığını ortaya koymuştur. Burgaz'da ele geçen ticari amphoraları yerel üretimin boyutlarını anlamamıza katkı sağlayacağı gibi Knidos amphoralarına yeni tipler ekleyecek ve ithal ticari amphoralar da Eski Knidos'un ticari ilişkilerini ortaya çıkarmaya yardımcı olacaktır.

Bu çalışmada yukarıda bahsedilen amaçları gerçekleştirmek için Burgaz'da güneydoğu ve kuzeydoğu sektörlerinde 1993-2009 yılları arasında kazılmış olan ve Arkaik dönemden İ.Ö. 4. yüzyıl ortasına tarihlenen konut alanlarından ele geçirilen ticari amphora parçaları kullanılmıştır. İ.Ö. 4. yüzyıl ortasından sonrasına tarihlenen konut dolguları çalışma kapsamı dışında bırakılmıştır çünkü bu tarihten sonra aşamalı olarak terkedilen yerleşimin konut alanlarında görülen atölyeleşme faaliyetleri konut alanlarında değişime sebep olmuştur. Burgaz'daki ticari amphoralar genellikle parçalar halinde bulunmuş olup çok az miktarda tüm veya tüme yakın amphora ele geçmiştir. Ele geçen ticari amphora parçaları kronolojik ve tipolojik olarak incelenerek Burgaz'ın yani Eski Knidos'un ticari ilişkileri kurulmaya çalışılmıştır. Önemli bir çalışma alanı olan amphora mühürleri bu çalışma kapsamına alınmamış olup sadece ağız parçasına bağlı bulunan kulplarda yer alan mühürler bu çalışmaya dahil edilmiştir. Ayrıca diğer bir önemli çalışma konusu olan Roma dönemi ticari amphoraları da bu çalışmada yer almamıştır. Çalışma sırasında amphoraların sınıflandırılması kil analizinden ziyade tipolojik özelliklerine göre yapılmıştır.

Eski Knidos'un ticari iliskilerini ortaya çıkarmayı amaçlayan bu çalışmada 1993-2009 yılları arasında ele geçmiş 5283 (3862 ağız parçası, 1421 dip) ticari amphora parçası incelenmiştir. Süregelen kazı çalışmaları yoğun bir ticari amphora buluntusu ortaya çıkarmış olup çoğu içinde taşıdığı ürün boşaltıldıktan sonra parçalanarak yeniden yapılanma süreçlerinde taban yükseltmek için yapılan tesviye dolgularında diğer malzemelerle birlikte dolgu malzemesi olarak kullanılmıştır. Kazı çalışmaları boyunca tüm veya tüme yakın amphoralar az miktarda bulunmuştur. Bu çalışmada sadece kayıt altına alınan ağız ve dip parçaları incelenmiştir. Kazı boyunca bulunan tüm seramik parçaları arazide özenle toplanarak kazı evine getirilmekte, yıkanıp kuruduktan sonra açma başkanları tarafından tabakayı tarihlemeye yarayacak iyi korunmus parçalar seçilerek diğer parçalar formlarına ve kabın neresine ait olduğuna (ağız, kulp, boyun, gövde, dip) göre sayılarak atılmaktadır. Amphora parçalarının yoğun olduğu bazı depozitlerde amphora parçaları sayılmamış olup kazı evi istatistiksel çalışmada atılan parçalar deposunda tutulmakta olduğundan kullanılmamıştır. Seçim esnasında aynı kaba ait birleşen veya birleşmeyen parçalar tespit edilip tek olarak numaralandırılmaktadır. Seçilen parçalar tabakalarına göre etiketlendirilerek numaralandırılıp kebir defterlerine işlenmektedir. Ayrıca seçilen tüm parçalar özelliklerine göre kodlanmaktadır. Aynı kaba ait birleşen veya birleşmeyen parçaların gözden kaçırıldığı ve ayrı ayrı numaralandığı kodlama esnasında fark edildiğinde, aynı tabakada ise bu parçalara tek numara verilir ya da farklı tabakalarda ise ilişkili oldukları parçaların tabaka ve parça numaraları belirtilerek kayıt altına alınır ve daha sonraki çalışmalarda tek parça olarak ele alınması sağlanır.

Eski Knidos'un ticari ilişkilerini anlamak için yapılan istatistiksel çalışmada parça sayısı yöntem olarak seçilmiştir. Bu yöntem parçalanmaya bağlı olarak önyargılı bir biçimde eleştirilmektedir: parça sayısı mevcut çanak çömleklerin orijinal sayısından ziyade kırık parçaların sayısını vermekte olup kabın kırılganlığını yansıtmaktadır. Ancak bu çalışmada, gövde parçaları ile kulp parçaları istatistiksel çalışmalara katılmamış –bazı dolgularda atılan parçalar içerisinde amphora parçalarının sayılmadan kazı evi deposunda tutulması uygun görülmüştür- ve kullanılan veri tanımlanmış parçaların (ağız ve dip) sayılması ile oluşturulmuş olduğundan parça sayısı metodu istatistiksel yöntem olarak uygun bulunmuştur. Parça sayısı yöntemi kullanımı sırasında dip parçaları tek olarak sayılmıştır. Ağız parçalarında ise, aynı kaba ait kırık ağız parçalarının tek tek sayılmasını önlemek için parçalar sınıflandırılarak profilleri, kil özellikleri, yüzey işleme tipleri, bezeme özellikleri göz önünde bulundurularak yeniden incelenmiş ve gözden kaçmış aynı kaba ait birleşen ve birleşmeyen parçalar yeniden tespit edilmeye çalışılmıştır.

Diğer bir istatistiksel yöntem olan minimum çanak çömlek sayısı bu çalışmada tercih edilmemiştir. Bu yöntem ele geçen tüm parçaların tartılması ve daha sonra elde edilen ağırlığın bilinen tam bir örneğin ağırlığına bölünmesi ile oluşturtulmaktadır. Bu yöntemin tercih edilmemesinin nedenleri olarak öncelikle kazı sırasında parça ağırlığının alınmamış olması gelmekle birlikte az sayıda tüm amphoranın ele geçmesi gösterile bilinir. Ayrıca her amphora formunun kendi içerisinde farklı boyutlarda örneklerinin olması bu yöntemin kullanılmasını zorlaştırmaktadır.

Bu çalışmada, ağız parçalarından minimum çanak çömlek sayısını elde etmek için başka bir yöntem daha denenmiştir. Ağız parçalarının çapları belirlenerek korunan ağız yayının yüzdesi ölçülmüştür. Buna göre, 3862 ağız parçası içerisinde 41 adet ağız parçasının %100, 86 adet ağız parçasının %50-99, 2829 adet ağız parçasının %50'nin altında ve 906 adet ağız parçasının ise ölçülemeyecek kadar küçük korunduğu anlaşılmıştır. Bu ölçümlerden elde edilen veriler ile %100 ve %50-99 arası korunmuş ağız parçaları tek olarak sayılmıştır. %50'nin altında korunan ağız parçalarında ise korunan yüzdeler toplanmış ve bu toplam 100'e bölünerek minimum çanak çömlek sayısı bulunmaya çalışılmıştır. Ancak bu işlemi yapabilmek için aynı form içinde aynı çap değerine sahip amphoraların olması gerekmektedir. Yapılan ölçümlerde aynı formda farklı ağız çapları elde edilmiştir. Ayrıca bu yöntem, çalışma için uygun olan ağız parçalarının sayısını oldukça düşürmüştür, kaldı ki yapılan ölçümlerde çok sayıda yüzdesi alınamayan ağız parçaları da yer almaktadır. Dolayısıyla bu yöntemde bu çalışmada istatistiksel metot olarak tercih edilmemiş

olup korunan yüzdeleri ne olursa olsun kesin bir şekilde tanımlanan tüm ağız parçaları sayısal veride kullanılmıştır.

Yapılan tüm bu çalışma sonucunda kesin olarak tanımlanan ve tarihlenen ağız parçaları ve diplerden oluşan bir sayı tablosu oluşturulmuştur. Bu tablo kronolojik bir süreç içerisinde menşelerine göre Burgaz'da bulunan ticari amphoraların sayısal dağılımını göstermektedir. Burgaz'da bulunan ticari amphoraların ağız parçaları ve dip sayısına göre dağılımını gösteren bu tablo aynı amphoranın hem ağız hem de dipte sayılmış olma olasılığından dolayı bir eleştiri konusu olabilir. Ancak, Burgaz amphora buluntularının incelenmesinden oluşan bu çalışmada tespit edilen amphora tipleri bu tabloda hem ağız parçalarının hem de diplerin yer almasını gerekli kılmıştır. Tablo incelendiğinde görüleceği gibi, sayısal dağılım tablosuna ağız parçaları dahil edilmediğinde, örneğin, Atina üretimi amphoraların varlığının göz ardı edilmiş olacağı anlaşılmaktadır. Bahsedilen tüm ikilemlere rağmen Burgaz amphora buluntularının sayısal dağılım tablosunda hem ağız parçalarının hem de diplerin ayrı ayrı yer alması Burgaz'ın ticari ilişkilerini yansıtması açısından uygun bulunmuştur.

Burgaz amphora buluntuları genellikle parçalar halinde ele geçmiş olup çok az sayıda tüm veya tüme yakın amphora bulunmuştur. Burgaz'ın ticari ilişkilerini ortaya çıkarmak için yapılan bu çalışmada kuzeydoğu ve güneydoğu sektörlerindeki konut alanlarından gelen seçilmiş amphora parçaları (ağız parçaları ve dipler) form, boyut, kil özellikleri ve yüzey işleme tipleri göz önüne alınarak menşelerine göre sınıflandırılmıştır. Genel sınıflandırılması yapılan amphoralar, morfolojik özelliklerinin süreç içerisinde gösterdikleri değişimler itibariyle tanıtılmıştır. Her amphora sınıfı için kronolojik sayısal dağılım tablosu oluşturularak Burgaz'ın bu üretim merkezleri ile ticari ilişkisinin zamansal değişimleri yansıtılmıştır. Her sınıf için en tipik örneklerden bir katalog oluşturulmuştur.

Datça yarımadası 19. yüzyıldan itibaren birçok araştırmacının ilgi odağı olmuştur. Antik dünyanın önemli merkezlerinde bulunan mühürlü amphora kulplarından yola çıkarak Knidos'un Akdeniz şarap ticaretinde önemli bir konuma sahip olduğu söylenebilmekteydi. Ancak bu bulguların Knidos topraklarında arkeolojik veriler ile desteklenmesi 1973 yılında Mesudiye'deki kurtarma kazıları ile başlamıştır. 1980'li yıllarda yürütülen yüzey araştırmaları ile yarımadada amphora üretiminin İ.Ö. 6. yüzyılda başlayıp İ.S. 7. yüzyıla kadar sürdüğünü ortaya çıkarmıştır.

Yapılan yüzey araştırmalarında yarımada üzerinde 10 adet amphora atölyesi tespit edilmiştir: Kovanlıkönü/Hızırşah, Alandömü/Hızırşah, Körmen Limanı, Ölgün Boğazı, Gökcedere/Kabakkuyu, Mersincik, Muhaltepe, Mesudiye, Uzunazmak ve Kiliseyanı/Reşadiye. Yarımada üzerindeki amphora atölyeleri, genellikle, nakliye imkanlarının daha kolay olduğu kıyı ovalarında kurulmuştur. Bu atölyelerde Rhodos ve Kos amphoralarının taklitleri, badem ağızlı amphoralar, mantar ağızlı amphoralar, Dressel 4 amphoralarının üretildikleri tespit edilmiştir. Bu atölyelerin İ.Ö. 4. yüzyıl ile M.S. 1. yüzyıl arasında uzun bir dönem faaliyette kaldıkları anlaşılmıştır. Yarımada üzerinde yer alan atölyelerden biri olan Kiliseyanı/Reşadiye atölyesi 1988-1992 yılları arasında kazılmıştır. Özel coğrafi konumundan dolayı Reşadiye amphora atölyelerinin konumu diğerlerinden farklıdır. Reşadiye atölyeleri o dönemde düzenli bir rejime sahip olan bir akarsu kenarında kurulmuş olup 1 km²'lik bir alana yayılmaktadır. Yüzey araştırmalarının sonuçlarına göre bu atölyeler 1400 yıl boyunca kesintisiz olarak faaliyetlerini sürdürmüştür, ancak atölyelerin büyüklüğü ve malzemelerin yoğunluğu her dönemde farklılıklar göstermektedir. Mantar ağazlı amporalar, Hellenistik Dönem mühürlü amphoraları, İ.S. 1. yy Geç Knidos amphoraları, Dressel 4 amphoraları ve dipsiz Geç Roma 1 tipi amphoralar Reşadiye atölyelerinin üretiminin çeşitliliğine örnek teşkil ederler.

Yapılan yüzey araştırmaları ve kazılar ile Knidos'un İ.Ö. 6. yüzyıldan İ.S. 7. yüzyıla kadar amphora ürettiği anlaşılmış olmasına rağmen Knidos amphora tipolojisi antik dünyanın çeşitli merkezlerinde bulunmuş olan geç Klasik ve Hellenistik dönem buluntuları ile yapılmıştır. Knidos'un sistematik bir şekilde şarap ihraç etmeye başlaması ile birlikte İ.Ö. 4. yüzyılın ikinci çeyreğinden itibaren Güney Ege'de yaygın olarak kullanılan mantar ağızlı amphora kullandıkları görülmektedir. Daha

sonra, İ.Ö. 4. yüzyıl sonu ile İ.Ö. 3. yüzyılın ilk yarısında Knidos tipik morfolojik özellikleri ile daha çeşitli amphoralar üretmeye başlamıştır. Bundan sonra, geç örneklerinin Serçe Limanı batığında bulunan yüksek boyunlu ve plastik halkalı sivri dipli amphoralar olan *pithoid* gövdeli topaç dipli amphora formunu almaktadır. İ.Ö. 3. yüzyıl sonlarından İ.Ö. tüm 2. yüzyıl boyunca Knidos amphoralrının boyunları ve boyları uzayıp gövdeleri incelmiş olup kaidede bulunan plastik halka daha da belirginleşmiştir.

Burgaz amphora buluntuları ile yaklaşık 1000 yıl boyunca yoğun bir amphora üretimi yapmış olan Knidos'un amphora tipolojisinde bugüne kadar yeterli olmayan veriler yüzünden belirlenemeyen Arkaik ve Klasik dönem Knidos amphora tipleri belirlenmiş ve mantar ağızlı Knidos amphoralarının tipolojisi çeşitlenmiştir.

Arkaik dönmede önemli bir seramik üretim merkezi olan ve etrafındaki bölgeleri etkileyen Miletos amphora tipleri açısından da büyük bir etkiye sahiptir. İ.Ö. 6. yüzyıl boyunca Miletos tipi amphoraların Karia bölgesindeki yoğunluğu, bu tip amphoraların bölgede yerel olarak üretildiğini düşündürmekte olup Reşadiye kazılarında da Arkaik depozitlerde bu tip amphoraların bulunmuş olması dikkat çekicidir. Knidos'un erken tiplerinden biri olan yüksek ve ince ağız kenarlı, ağız-boyun geçişinde bir veya birkaç setli ve boyun-omuz geçişinde plastik çıkıntılı amphoralar Arkaik Miletos tipi amphoralara benzerliğinden dolayı bu çalışmada "Miletos tipi Knidos amphoraları" olarak adlandırılmaktadır. Form açısından Arkaik Miletos amphoralarına benzemesine rağmen "Miletos tipi Knidos amphoraları" kil özellikleri bakımından Miletos örneklerinden ayrılmaktadır. Çıplak gözle yapılan basit bir gözlem ile Miletos örneklerindeki mika katkısının çok yoğun, çok küçük ve genellikle yuvarlak olduğu görülürken, "Miletos tipi Knidos amphoralarının" killerinde bulunan mika katkısının daha az yoğun, değişik ebatlarda ve şekillerde oldukları gözlenmektedir.

Burgaz kazılarında ele geçen amphora buluntuları içerisinde bu tip amphoralar 314 ağız parçası ve 140 dip ile temsil edilmektedir. Bu amphoralar içerisinde iki tip ağız kenarı tespit edilmiştir. İlki yüksek ve ince ağız kenarlı, ağız-boyun geçişinde bir veya birkaç setli ve boyun-omuz geçişinde plastik çıkıntılı amphoralar olup ikincisi badem ağızlı ve kısa boyunludurlar. Ayrıca diplerde de iki halka tip belirlenmiştir. İlki biraz köşeli kesitli dışa eğimli iken diğeri yüksek dikdörtgen kesitli diktir. Oturma düzlemi birincide yuvarlak olmasına rağmen, ikincide kare şeklindedir.

Geç Arkaik dönmede, Samos ve Miletos'un yuvarlak veya *ekinoid* ağız kenarlı ve halka dipli amphoralar ile amphora üretimine egemen oldukları düşünülmektedir. Ancak, Küçük Asya'nın birçok merkezinden elde edilen veriler ve yapılan bilimsel analiz sonuçları ile bu tip amphoraların çok geniş bir coğrafyada –en kuzeyde Erythrai ile en güneyde Karia hatta Lykia- üretildiği düşünülmektedir. Farklı buluntu merkezlerinde yapılan bilimsel analizler ve buluntu yoğunluğu bu tip amphoraların Güney Ege ve komşu adalarda yaygın bir şekilde üretildiği fikrini desteklemektedir. Bu bilgiler ışığında, Burgaz amphora buluntuları içerisinde bu genel gruba ait amphoraların %20 oranında bulunması ile Knidos'un bu tip amphora üreten merkezler arasında yer aldığı söylenebilir. Ne yazık ki tam örnekler bulunamadığı için tam bir profil tanımı yapmak mümkün değildir. Ancak bazı küçük farklar gözlemlenmiştir: ağız kenarı daha kalın ve yuvarlak olup boyunda tam dudak altında bir veya iki kazıma yiv bulunmaktadır.

İ.Ö. 4. yüzyılın başından itibaren, diğer amphora üreticisi merkezlerde görüldüğü gibi, Knidos'da mantar ağızlı amphora üretmeye başlamıştır. Burgaz amphora buluntuları içerisinde 292 adet yerel üretim mantar ağızlı amphora tespit edilmiştir. 1993-2009 yılları arasında yapılan kazılarda sadece bir adet tam profil mantar ağızlı amphora bulunmuş olup bu çalışmada Tip 2 olarak ele alınmıştır. Yapılan tipolojik inceleme sonucunda, İ.Ö. 4. yüzyılın başından İ.Ö. geç 3. yüzyıla kadar olan süreç içerisinde 8 değişik mantar ağız tipi saptanmıştır. Mantar ağızlı amphoralar genellikle düğme dip ile son bulmaktadır.

Tip 1: Bu tip Reşadiye atölyesinde bulunmuş olan amphoralara benzemekte olup Şenol Tip 1 ile eşleşmektedir. Geniş açılı üçgen profillidir. Tip 2: Ele geçen tam örnekte diğer örneklerde olduğu gibi ağız kısmı keskin eğimli dış yüzeye sahip olup içbükey alt yüzeylidir. Uzun boyun ağız altında hafif bombelidir. Yuvarlak omuzlu ve armudi gövdelidir. Kulplar boyunda yer alan hafif bombeden omuz üst kısmına bağlanmaktadır. Düğme dip altta hafif içbükey kavislidir.

Tip 3: Bu tip üst ve alt yüzeyleri benzer bir uzunluğa sahip olan yuvarlak yüzlü profillidir.

Tip 4: Bu tip geniş kavisli bir üst yüzeyi ile dar dış kenara sahip bir çevre kenarına sahiptir.

Tip 5: Bu tip hafif dışa çekik bir iç profile sahiptir.

Tip 6: Bu tip Reşadiye atölyelerinde bulunmuş olan Şenol Tip 2 ile eşleşmektedir. Ağız kaba üçgen bir profile sahiptir.

Tip 7: Bu tip sivri üst, içbükey iç profil ve hafif dikey olarak aşağı eğimli dış yüzeye sahiptir.

Tip 8: Mantar ağız yuvarlak profile sahiptir.

Zaman ilerledikçe, formunun gelişmesi sonucunda, üçgen kesit kenarların açısı iyice daralarak kalın bant ağız haline dönüşmüştür. Genellikle altında içi hafif oyuk topaç biçimindeki dibin yanı sıra içi daha oyuk ve daha stilize topaç dip ile son bulmaktadırlar.

İ.Ö. 3. yüzyılın ilk çeyreğinden itibaren Knidos kendine has amphora üretmeye başlamıştır. Bu yeni tip, bilezik formunda ağız kenarına, kalın bir boyna, üst birleşme noktasında hafif kavisli dik kulplara, boyun omuz geçişinde keskine yakın profilli ve aşağıya doğru daralan geniş bir gövdeye ve topaç dipten gelişmiş, belirdikçe

tarihleme için bir ölçüt oluşturacak ve plastik halka eklentiye dönüşecek formda kozalak bir dibe sahiptir. İ.Ö. 3. yüzyılın ortasından itibaren boyun-omuz geçişindeki keskinlik gövde altı ile uyum sağlayacak şekilde yumuşamıştır. Dipte yer alan plastik halka daha belirgin bir hale gelmiştir. İ.Ö. 3. yüzyıl boyunca boyunda görülen karakteristik bombe yüzyılın sonunda azalarak görülmektedir.

İ.Ö. 2. yüzyılın ikinci yarısına kadar boyunlarının ve dolayısıyla boylarının uzadığı görülür. Kulplar yukarı doğru hafif kavis yaparak omuz gövde geçişinin hemen üstünde son bulur. Bu yüzyılın ortasından itibaren dipte görülen halka profili keskinleşmiştir. İ.Ö. 2. yüzyılın sonu – İ.Ö. 1. yüzyılın başında dipte yer alan halkadan sonra görülen sivri kısmın boyu uzamaktadır. İ.Ö. 1. yüzyılda üretilen amphoraların kulpları oldukça sivri bir şekilde yükselmektedir.

1993-2009 yılları arasında yürütülen kazılarda ele geçen amphora parçaları Burgaz'ın ticari ilişkileri açısından önemli veriler sağlamaktadır. Yapılan çalışma sonucunda; Atina, Korinth, Akanthos-Amphipolis, Mende, Thasos, Lesbos, Peparethos-Ikos, Klazomenai, Ephesos, Miletos, Chios, Samos, Rhodos Peraiası, Kos, Rhodos, Paros, Kıbrıs, Heraklea Pontica Burgaz'ın ticari ilişkisi olan merkezler olarak tespit edilmiştir.

Bilinen ilk Yunan amphorası, İ.Ö. 8. yüzyılda üretilmiş, Atina ile Euboia zeytinyağının ticaretinde kullanılmış ve boynundaki bezemeden dolayı "SOS" amphoraları olarak adlandırılan amphoralardır. Daha sonra bu amphoraları, M. Lambrino tarafından '*à la brosse*' olarak adlandırılan ve İ.Ö. 6. yüzyıldan İ.Ö. 5. yüzyıl başına kadar üretilmiş olan amphoralar takip etmektedir. Bu amphoraların tipolojisi Atina Agorası'nda bulunan amphoralar ile yapılmıştır. Buna göre iki tip vardır: Agora 1501-1503 ile Agora 1502. Agora 1501-1503 tipinin halka ağızı, evaze boynu, yuvarlak omuzları, ovoid gövdesi ve yüksek evaze halka kaidesi vardır. Kavisli yuvarlak kulplar boyundan omza birleşmektedir. Boyun ve kulplar rezerve bırakılmış olup ağız kenarı, omuzlar, gövde ve kaide kısmı çizgili kahverengi sır ile bezenmiştir. İ.Ö. 6. yüzyılın ilk çeyreği ile İ.Ö. 6. yüzyılın son iki onluğu arasına

tarihlenmektedir. Agora 1502 tipinin dışa çekik yuvarlak ağızı, içbükey boynu, geniş küresel gövdesi, yuvarlatılmış omuzları, küçük, alçak halka kaidesi ve kalın şerit kulpları vardır. Bezeme üslubu Agora 1501-1503 ile aynıdır. Bu tip İ.Ö. 6. yüzyıl ortası – İ.Ö. 5. yüzyıl ikinci çeyreği arasında üretilmiştir.

Arkaik dönemden itibaren Korinth önemli bir seramik üreticisidir. İ.Ö. 8. yüzyıldan itibaren amphora üretmeye başlamıştır. Tipolojik çalışmalar sonucu Tip A, Tip A' ve Tip B olarak üç tipe ayrılmıştır. Farklı morfolojik özellikleri olmasına rağmen bu üç tip eşzamanlı olarak üretilmişlerdir. Korinth Tip A amphoraları İ.Ö. 8. yüzyıl ortasından kesintisiz bir şekilde İ.Ö. 4. yüzyıl sonu – İ.Ö. 3. yüzyıl başına kadar üretilmiştir. Bu amphoralar zeytinyağı ticaretinde kullanılmışlardır. Korinth'te İ.Ö. 5. yüzyıla tarihlenen "Punic Amphora Binası" buluntuları arasında yerel üretim olduğu anlaşılan üçüncü bir tipin varlığını ortaya çıkarmıştır. Bu tip, Korinth Tip A'ya olan morfolojik benzerliklerinden dolayı Korinth Tip A' olarak adlandırılmıştır. En erken örnekleri İ.Ö. geç 6. yüzyılda ortaya çıkan bu tip kentin İ.Ö. 146 yılında yıkılmasına kadar üretilmiştir. Korinth Tip A' amphoraları kabuklu yemiş ve kuru meyve gibi kuru erzak ticaretinde kullanılmıştır. Korinth Tip B amphoralarının üretimi İ.Ö. 6. yüzyıl sonundan başlayıp kentin İ.Ö. 146 yılında yıkılmasına kadar devam etmiştir. Bu tip amphoraların içinde bulunan reçine kalıntısından dolayı şarap ticaretinde kullanıldığı varsayılmaktadır.

Arkaik dönemden itibaren Kuzey Ege bölgesi –batıda Axios nehri ile doğuda Thasos adası ile sınırlanan- önemli bir şarap üretim bölgesi olarak bilinmektedir. Bu bölgede yer alan merkezlerde üretilen amphoralar bölgesel bir benzerlik göstermektedirler. Kuzey Ege bölgesinde yer alan Akanthos ve Amphipolis merkezlerinde üretilen amphoralar henüz çok iyi anlaşılabilmiş değillerdir. Akanthos amphoraları tekerlek şeklindeki mühürleri ile tanınmaya başlanmıştır. Bu mühürler ilk önce Thasos adası üretimi amphoralara atfedilmiş olsa da killerindeki, ağız şekillerindeki ve kuplarındaki farklılıklar başka bir merkez arayışını doğurmuştur. Akhantos nekropolünde ve Amphipolis'de yapılan kazılarda bu mühürlerin bolca ele geçmesi ile bu amphoraların bu merkezlerin üretimi olabileceği görüşü ağırlık kazanmıştır. Bu amphoralar muhtemelen şarap ticaretinde kullanılmış olmalıdırlar. En erken örneklerinin İ.Ö. 5. yüzyılın ilk yarısında üretildiği anlaşılan bu amphoralar yoğun olarak İ.Ö. 4. yüzyıl boyunca üretilmişlerdir.

Atina, Korinth ve Porticello Batığında bulunan amphoralar ile İ.Ö. 6. yüzyılın son çeyreğinden İ.Ö. 4. yüzyıla kadar üretilmiş olan Mende amphoraları tanınmıştır. İlk kez elinde bir kantharos tutan ve eşeğe ters binmiş Dionysos'un tasvir edildiği bir mühüre sahip olan bir amphora parçasının yardımı ile İ.Ö. 5. yüzyıl buluntuları arasında yer alan bazı amphoralar ortak morfolojik özelliklerinden dolayı V. Grace tarafından Mende üretimi olarak belirlenmişlerdir. M. Lawall Atina Agora'sında bulunan amphoralar üzerine yaptığı çalışmada Mende amphoralarının İ.Ö. 5. yüzyıl tipolojisini oluşturmuştur. Mende amphoraları bölgede üretilen iyi kalitedeki şarabın ihracatında kullanılmışlardır.

Thasos adasında amphora üretimi İ.Ö. geç 6. yüzyılda başlamış ve İ.Ö. 2. yüzyıla kadar devam etmiştir. M. Picon ve Y. Garlan tarafından yürütülen araştırmalar ile adada kuzey, doğu, güney ve güneybatı kıyılarında yer alan amphora üretim atölyeleri belirlenmiştir. Thasos adasında çok çeşitli tipte amphora üretilmiştir. İ.Ö. geç 6 – erken 5. yüzyılda çift bantlı ağız kenarlı amphoralar en erken örnekleri oluşturmaktadırlar. İ.Ö. 5. yüzyılda M. Lawall tarafından iki tip Thasos amphorası belirlenmiştir: halka kaideli tip ve uzun tutamaklı dip. Halka kaideli tipler İ.Ö. 5. yüzyılın ilk yarısına tarihlenmektedirler. İ.Ö. 5. yüzyılın ikinci yarısından itibaren iki tip uzun tutamaklı dipli amphora görülmektedir. İlk uzun tutamaklı dipli amphora Garlan'ın "Pithoid Tipi" ile eşleşmekte olup İ.Ö. 5. yüzyılın üçüncü çeyreğinde üretilmiş Mende amphoralarına benzemektedirler. İkinci uzun tutamaklı dipli amphora Zeest'in "Mühürsüz Tipi" ile eşleşmektedir. Bu amphoralar İ.Ö. geç 5. yüzyıl ile İ.Ö. 4. yüzyılda üretilmiş amphoraların prototiplerini oluşturmaktadır. "Mühürsüz Tip" ile eşleşen ikinci tipteki uzun tutamaklı dipli amphoralar İ.Ö. 5. yüzyıl sonu ile İ.Ö. 4. yüzyıl boyunca üretilmiş "Biconical Tipe" evirilmiştir ki bu tip A. Bon - A. M. Bon'un Tip 1'i ile eşleşmektedir. "Pithoid Tip" ile eşleşen ilk tipteki uzun tutamaklı dipli amphoralar "Top-shaped Tipe" evirilmiştir ki bu tip A. Bon - A. M. Bon'un Tip 2'si ile eşleşmektedir. Bu amphoralar İ.Ö. 4. yüzyılın ikinci yarısı ile İ.Ö. 3. yüzyılın başında üretilmişlerdir. A. Bon - A. M. Bon'un Tip 3'ü ile eşleşen ve tamamen değişik bir tip olan Thasos amphoraları İ.Ö. 3. yüzyıl boyunca üretilmişlerdir.

Lesbos adasında İ.Ö. 7. yüzyılda başlayan amphora üretimi İ.Ö. 4. yüzyılın ikinci yarısında aniden kesilmiştir. Adada aynı morfolojik özellikleri olan fakat farklı kil rengine sahip iki tip amphora eşzamanlı olarak üretilmiştir: Gri Lesbos amphoraları ve Kırmızı Lesbos amphoraları. Kırmızı Lesbos amphoraları İ.Ö. 5. yüzyıl ortasında üretimden kalkmış olup Gri Lesbos amphoraları İ.Ö. 3. yüzyıla kadar üretimde kalmıştır. Benzer tipolojik özellikleri olan bu amphoraları boyut itibarıyla birbirlerinden ayrılmaktadırlar: Gri Lesbos amphoraları Kırmızı Lesbos amphoraları köşeli ağız kenarları, ağız kenarının hemen altından çıkan yuvarlak kesitli, yay formunda sağlam kuplar, ağız kenarlarının altında ve boyun omuz geçişinde hafif dışarıya kabarık ince kordonlar ve kulp omuz bağlantı noktasından omuza inen *"fare kuyruğu*" olarak adlandırılan kabartma bir çizgi ile tipolojik açıdan benzer özellikler gösterirler.

Yapılan son araştırmalar ışığında Peparethos ve Ikos adalarında aynı morfolojik özelliklere sahip amphoraların üretildiği anlaşılmıştır. Peparethos İ.Ö. 5. yüzyılın ikinci yarısından Hellenistik döneme kadar önemli bir amphora üretim merkezi olmuştur. Bu iki adada yapılan yüzey araştırmalarında Peparethos'ta üç (Staphylos, Agnondas Koyu ve Panernos) ve İkos'da bir (Tsoukalia) amphora üretim atölyeleri tespit edilmiştir. Yapılan tipolojik çalışmalar sonucu Peparethos adasında iki tip amphora belirlenmiş olup küçük bir grup olarak ta Chios adası amphoralarına benzeyen amphoralar tespit edilmiştir. Ayrıca bu iki tip amphoradan tamamen farklı olan sarımsı bir kile sahip amphoralar da bulunmuştur. İkos adası amphoraları taşıdıkları IKION etniği ile uzun süredir tanınmış olmasına rağmen adada yapılan atölye kazısında sadece ağız ve dip parçalarının ele geçmiş olmasından dolayı Peparethos amphoralarından ayırılması zordur. Ukranya'da bir İskit mezarında bulunmuş olduğundan dolayı Solokha adını almış olan ve İ.Ö. 4. yüzyılın ilk çeyreğine tarihlenen iki tip amphora daha vardır. Bu amphoraların üretim merkezinin belirlenmesinde çeşitli görüşler mevcuttur. Killerindeki değişik özelliklerinden dolayı Ege havzasında birçok üretim merkezinde üretildikleri düşünülmektedir. Tipolojik olarak Solokha I ve Solokha II olarak ayrılmış olan bu amphoralar Peparethos amphoraları ile benzerlikler göstermektedir. Solokha I amphoraları Peparethos II ile Solokha II amphoraları Peparethos I ile benzemektedir.

E. Döğer ile P. Dupont'nun kil yataklarında, seramik çöplüklerinde ve kentin hem mezarlığında hem de kent kazılarında bulunan amphoralar üzerinde yaptığı çalışmalar sonucunda Klazomenai'nin İ.Ö. 7. yüzyıldan İonia Ayaklanmasına kadar olan süreçte İonia bölgesinin önemli amphora üretim merkezlerinden biri olduğu ortaya konmuştur. Gövdesi üzerinde yatay boya bantlar ve omuz üzerinde yatık "S" motifi bulunan amphoralar Chios üretimi olarak düşünülmüş olsa da Klazomenai amphora buluntuları ile bu özelliklere sahip amphoraların bölgede başka merkezlerde de kullanıldığını ortaya çıkmıştır. Klazomenai amphoralarının hem kentte hem de diğer tüketim merkezlerinde bulunan örnekleri ile P. Dupont ve E. Döğer tarafından tipolojisi kurulmuş olup kentin Yıldıztepe ve Akpınar nekropol alanlarında yapılan kazılar ışığında Y. Sezgin tarafından zenginleştirilmiştir. Yeni oluşturulan bu tipoloji ile Klazomenai'de İ.Ö. 7. yüzyıldan İonia Ayaklanmasına kadar yedi tip amphoranın üretildiği anlaşılmıştır. Antik kaynaklar Klazomenai'nin Arkaik dönem tarımsal üretimi hakkında fazla bilgi vermese de elde edilen veriler Klazomenai'de hem şarap hem de zeytinyağ üretiminin varlığını ortaya koymuş olup bu ürünlerin ihraç edildiğini düşündürmektedir.

Ephesos'un amphora üretimi henüz tam bilinmemektedir. Üzerlerindeki mühürde bulunan isimden dolayı V. Grace tarafından Nikandros Grubu olarak adlandırılan bir grup amphoranın üretim merkezi ilk önceleri belirsiz kalsa da Grace ve Savvationou-Petropoulakou aynı ismin Kos amphorası mühürlerinde de bulunmasından dolayı üretim merkezi olarak Kos adasını önermişlerdir. Ancak Ephesos ve çevresinde yapılan son araştırmalar Nikandros Grubu amphoralarına olan ilgiyi yeniden canlandırmış ve bu gruba ait ele geçen çok sayıda örnekten yola çıkarak üretim merkezinin Ephesos olduğu ileri sürülmüştür. Tetragonos Agora'sında yürütülen kazılarda ele geçen Nikandros Grubu amphoralarına ait birçok ağız ve dip parçası yardımıyla M. Lawall bu grubun tipolojini oluşturmuştur.

Arkaik dönem boyunca lider bir seramik üretim merkezi olarak bilinen Miletos aynı zamanda önemli bir amphora üretim merkeziydi. 1980'lere kadar Samos ile birlikte bölgesel bir amphora üretim merkezi olarak kabul edilmekteydi. Hem kentte ve çevresinde -özellikle Didyma'da- hem de komşu bölgelerden Karia ile Karadeniz, Magna Garcia gibi bölgelerdeki koloni kentlerde yapılan kazılarda ele geçen buluntular ve son bilimsel analizler yardımıyla Miletos amphoralarının morfolojik özelliklerini belirlemek mümkün olmuştur. Kalabaktepe ve Zeytintepe'de yürütülen çalışmalar ışığında kentte amphora üretiminin İ.Ö. geç 8. yüzyıl – İ.Ö. 7. yüzyılın ilk yarısında başlamış olduğu anlaşılmıştır. Karadeniz, Güney Ege ve Magna Garcia gibi bölgelerde ele geçen buluntular yardımıyla P. Dupont İ.Ö. 7. yüzyıl sonu – İ.Ö. 6. yüzyıl Miletos amphoralarının tipolojisini oluşturmuştur. İ.Ö. 5. yüzyıl Miletos amphoraları tamamen farklı morfolojik özellikler göstermektedir. Kentin Pers tahribinden sonra eski gücüne kavuşamamış olmasına rağmen amphora üretiminin İ.Ö. 4. yüzyıl başına kadar sürdüğü anlaşılmıştır. Bölgede yoğun bir zeytin üretimi yapıldığı göz önüne alındığında Miletos amphoralarının zeytinyağ ticaretinde kullanıldığı varsayılmaktadır.

Antik kaynaklardan edilen bilgiler ışığında Chios, çok rağbet gören kaliteli şarap üreten en önemli merkezlerden biriydi. İ.Ö. 7. yüzyılın son çeyreğinden İ.S. 2. – 3. yüzyıllara kadar çok geniş bir coğrafyada –Kuzey Afrika kıyılarından Karadeniz kıyılarına- kolayca tanınan amphoralar üretmiştir. Chios amphoraları üzerine yapılan çalışmalar zaman içerisinde gelişen birçok tip ortaya koymuştur. İ.Ö. 7. yüzyılın üçüncü çeyreği ile İ.Ö. 6. yüzyılın üçüncü çeyreği arasında üretilen en erken Chios amphoraları P. Dupont tarafından "*beyaz astarlı*" amphoralar olarak adlandırılmıştır. Bu amphoralar dudak kenarında, omuz altında, gövdesinin en geniş kısmında ve

gövde altında yatay boya bantlar; kulplarda ağız kenarından başlayıp gövde altındaki yatay banda kadar inen dikey boya bantlar; kulp birleşme kısımlarında dairesel boya bantlar ve omuz üzerinde yatık "S" motifleri ile süslenmiştir. İ.Ö. 6. yüzyılın ilk yarısı ve üçüncü çeyreğinde "bobbin type" olarak adlandırılan daha ince görünüşlü amphoralar üretilmiştir. Bu amphoralar da beyaz astarlı olup bir önceki tipe göre daha ince boya bantlar ve omuz üzerinde daha yayılmış yatık "S" ile bezenmişlerdir. İ.Ö. 6. yüzyılın ikinci ve üçüncü çeyreğinde eşzamanlı olarak iki tip amphora üretilmiştir: Lambrino A1 ya da Zeet's funnel-necked ve Lambrino A2 amphoraları. Lambrino A amphoraları armudi görünümleri ile bir önceki tipten farklılaşma göstermektedirler. Beyaz astar pek mevcut olmamakla birlikte bu amphoralarda dudak kenarında, omuz üzerinde bir veya iki yatay boya bant ile kulplardan inen dikey boya bantlar ile daha basit bir bezeme sistemi kullanılmıştır. İ.Ö. 6. yüzyılın sonu – İ.Ö. 5. yüzyılın ilk üç çeyreğinde dört alt tipe ayrılan "şişkin boyunlu" amphoralar üretilmiştir. İ.Ö. 5. yüzyılın son çeyreğinden itibaren ise "straight-neck type" ortaya çıkmıştır. İ.Ö. 4. yüzyıl boyunca ise bu tip daha uzun bir boyun halini alarak devam etmiştir.

İlk olarak sikkeler üzerindeki amphora betimlerinden yola çıkarak V. Grace tarafından belirlenen Samos amphoraları üzerinde daha sonra P. Dupont ve M. Lawall önemli çalışmalar yapmışlardır. Bilinen en erken Samos amphoraları İ.Ö. geç 7. yüzyıl ile İ.Ö. 6. yüzyıl ortasına tarihlenmektedir. Erken dönem Samos amphoraları farklı kapasiteye sahip olup form açısından farklılık gösterirler. Büyük boyutlular yuvarlak ağızlı, kısa boyunlu, boynun ortasından başlayan ve omuzda biten yay şeklinde kulplu, yuvarlak omuzlu, yuvarlak ve kaideye doğru incelen gövdeli ve içi oyuk kaideli iken küçük boyutlu olanları ise daha belirgin omuzlu ve kaideye doğru daha incelen profillidir. İ.Ö. 6. yüzyıl örneklerinde boyun biraz daha uzamış olup kulplar dik bir form almıştır. İ.Ö. 5. yüzyılda ise daha geniş ve yuvarlak ağız kenarına sahiptirler. İ.Ö. 4. yüzyıl boyunca dönemin geleneğine göre Samos amphoraları da mantar ağızlı olarak üretilmeye başlanmıştır. Nümizmatik incelemeler ve papirüs çalışmaları ışığında V. Grace Samos amphoralarının zeytinyağ ticaretinde kullanıldığını ileri sürmüştür.
Ele geçen bazı buluntular üzerinde üretim yeri belirlemede görülen birtakım sorunlar yüzünden bir kısım Burgaz amphora buluntusu diğer İonia üretim amphoraları başlığı altında bu çalışmada yer almıştır. İ.Ö. 6. yüzyıl sonu ile İ.Ö. erken 5. yüzyılda üretilmiş ve henüz üretim merkezi net bir şekilde belirlenememiş yeni bir tip amphora "Íonia  $\alpha$ " adı altında sınıflandırılmıştır. Bu amphoralar bilezik veya badem ağız, ortasında bir adet kabartma yiv bulunan uzun boyun, ince uzun oval gövde ve yüksek ve plastik halka bir kaide ile tanımlanırlar. 1960 yılında Nymphaion buluntuları arasındaki bazı amphoralar Zeest tarafından kil benzerliğinden dolayı Samos amphorası olarak belirlenmiş ve daha sonra bu tip amphoralar "Zeest'in Samos Amphoraları" olarak anılmaya başlanmıştır. Ancak yapılan son çalışmalar ışığında bu amphoraların Samos'dan ziyade Kuzey İonia'nın değişik merkezlerinde üretildiği anlaşılmıştır. Bu amphoralar Y. Sezgin tarafından "İonia β" amphoraları olarak adlandırılmıştır. İlk olarak İ.Ö. 6. yüzyılın ortasında görülmeye başlanan bu amphoralar üç tipe ayrılmaktadır. Bunlardan başka, Samos ve Miletos amphoralarıyla morfolojik ve kil yapısının benzerliğinden dolayı Samos-Miletos tipi olarak adlandırılan başka bir grup amphora daha vardır.

Rhodos adasının karşısında ana karada yer alan ve Loryma yarımadasının merkez olduğu Rhodos etki alanı Rhodos Peraiası olarak adlandırılmaktadır. Rhodos amphoralarına form açısından benzeyen fakat farklı kil yapısı gösteren amphoraların yoğunluk kazanması ile araştırmacılar yeni üretim merkezleri arayışına girmişlerdir. Datça yarımadasında ve Rhodos Peraiası'nda yapılan yüzey araştırmaları bu amphoraların üretilmiş olduğu Hisarönü, Turgut, Gelibolu, Çamlı-Çınar ve Karaca-Naltaş atölyelerini ortaya çıkarmıştır. Hisarönü mevkiinde yürütülen kazılarda İ.Ö. 3. yüzyılın erken ikinci çeyreğinden İ.Ö. 230/225 yılları arasında faaliyet gösteren üretici Hieroteles'in atölyesi açığa çıkarılmıştır. Turgut yakınlarındaki atölyede İ.Ö. 4. yüzyılın sonundan itibaren mantar ağızlı amphoraların üretildiği anlaşılmıştır. Rhodos Peraiası'nda yapılan yüzey araştırmalarında burada İ.Ö. 4. yüzyılın sonundan İ.S. 1. yüzyıla kadar amphora üretiminin sürdüğü gözlemlenmiştir. Çamlı-Çınar atölyelerinde bant ve mantar ağızlı amphoraları

üretilirken Karaca-Naltaş atölyelerinde yuvarlatılmış simit ağızlı ve bant ağızlı amphoraların üretildiği açığa çıkarılmıştır.

Kos adası ticari amphora üreten önemli bir merkezdir. Konumundan dolayı verimli topraklara sahip adanın ekonomisi bağcılığa dayanmakta olup en önemli gelir kaynağı şarap ticaretidir. Adadaki amphora üretiminin İ.Ö. erken 3. yüzyılda başlayıp Roma dönemi boyunca sürdüğü düşünülmesine rağmen 1991 yılında Kos-Meropis yakınlarında İ.Ö. 4. yüzyılın ilk yarısına tarihlenen bir amphora atölyesinin kazılması ile amphora üretiminin adada İ.Ö. 5. yüzyıldan itibaren yapıldığı ortaya çıkarılmıştır. Bu atölye buluntuları ile Kos amphoraları üç tipe ayrılmıştır. Tip 1'in en karakteristik özelliği ikiz kulplu olmasıdır. Tip 2 ise *monofide* kulplu olup kulp alt birleşme noktasında parmak baskı mevcuttur. Tip 3 üçgen kesitli ağız kenarına sahip olup kulp alt birleşme noktasında parmak baskı yer almaktadır. İkiz kulplu Kos amphoraları – Sub-Kos amphoraları- İ.Ö. 2. yüzyıl sonundan İ.S. 2. yüzyıl ortasına kadar üretilmeye devam etmiş olup popüler bir form halini almıştır. Bu tür amphoralar Akdeniz havzasının doğu ve batı yarısında rağbet görmeye başlayarak Knidos, Rhodos, Karia'nın bazı merkezleri, Mısır, Kıbrıs ile Dressel 2-4 ya da Peacock-Williams class 10 adı altında İtalya, İspanya, Güney Fransa ve İngiltere'de erken Roma dönemine kadar üretilmişlerdir.

Arkaik dönemden itibaren Akdeniz ticaretinde yer alan Rhodos, İ.Ö. 4. yüzyıldaki *synoikismos* hareketinden sonra pazar ekonomisindeki yerini kuvvetlendirmiştir. Adada amphora üretimi İ.Ö. 4. yüzyılda başlayıp İ.S. 2. yüzyılın ikinci yarısına kadar sürmüştür. En erken örneklerinin İ.Ö. 4. yüzyılın son çeyreğinde görülen Rhodos amphoralarının İ.Ö. 1. yüzyıl boyunca en tipik karakteristik özelliği oldukça sivrilmiş ve keskin dönüş yapan kulplarıdır. Rhodos amphoralarında taşınan en önemli ürün şarap olmasına rağmen zeytinyağ, badem, kuru incir, keçiboynuzu, bal, lahana ve arpa da bu amphoralarda taşınan diğer ürünler olarak sayılmaktadır.

J.-Y. Empereur ve M. Picon tarafından yapılan araştırmalar ile Paros adasında adanın kuzey kısmına konuşlanmış altı amphora atölyesi tespit edilmiştir. Adadaki amphora

üretimi İ.Ö. 4. yüzyıl sonunda başlamış ve Roma İmparatorluk dönemine kadar sürmüştür. Yapılan araştırmalar sonucunda üç tanesinin Hellenistik dönemde iki tanesinin de Roma İmparatorluk döneminde üretildiği saptanan beş tip amphora ortaya çıkarılmıştır.

Kıbrıs adası ticaret için uğrak transit limanları ile ada da üretilen ürünleri Akdeniz pazarına satmak için Doğu Akdeniz'in merkezinde eşsiz bir konuma sahiptir. Arkaik dönmeden itibaren amphora üretimi yapılan adada Kourion, Kition, Paphos ve Salamis amphora üretim merkezleri olarak belirlenmiştir. Kıbrıs amphoralarının ilk örnekleri İ.Ö. geç 8. yüzyıldan İ.Ö. 4. yüzyıla kadar üretilmiş olan sepet kulplu amphoralardır. Doğu Akdeniz'de yaygın bir form olan bu amphoraların Levant bölgesinde de üretildiği bilinmektedir. Sepet kulplu amphoralar adanın zeytinyağ ihracatında kullanılmaktaydı. İ.Ö. 4. yüzyıldan itibaren adada Yunan geleneğinde amphoralar üretilmeye başlanmıştır. İ.Ö. 4. yüzyıl sonundan İ.Ö. 3. yüzyıl boyunca adada üretilen amphoralar şarap ticaretinde kullanılmıştır.

Heraclea Pontica, Megara ve Tanagra tarafından İ.Ö. 6. yüzyılın ortasında kurulmuş ve kuzeybatı Anadolu kıyısında amphora üreten nadir merkezlerden biridir. Amphora üretimi İ.Ö. 5. yüzyılın sonu - İ.Ö. 4. yüzyılın başında başlamış ve İ.Ö. 3. yüzyılın ortasına kadar devam etmiştir. İ.Ö. 4. yüzyılın ilk çeyreğinden İ.Ö. 3. yüzyıla kadar başlıca üç tipe ayrılmıştır. Heraclea amphoralarında taşınan başlıca ürün şaraptır.

Burgaz amphora buluntuları arasında 267 adet ağız kenarı ile 171 adet dip parçasının menşeleri tespit edilememiş olmasına rağmen hem amphora buluntuların çeşitliğini hem de ticaretin yoğunluğunu göstermek açısından bu çalışmaya dahil edilmişlerdir.

1993-2009 yılları arasında Burgaz'da ele geçen amphora buluntuları Eski Knidos'un ticari ilişkileri hakkında önemli bilgiler ortaya koymuştur. Yapılan çalışma sonucunda; Kıta Yunanistan'dan Atina, Korinth, Kuzey Ege Bölgesi'nden Akanthos-Amphipolis, Mende, Thasos, Aeolia Bölgesi'nden Lesbos, Sporades Adaları'ndan Peparethos-Ikos, İonia Bölgesi'nden Klazomenai, Ephesos, Miletos, Chios, Samos, Güney Ege Bölgesi'nden Rhodian Peraea, Kos, Rhodos, Kyklades Adaları'ndan Paros, Doğu Akdeniz'den Kıbrıs-Fenike, Karadeniz Bölgesi'nden Heraclea Pontica Burgaz'ın ticari ilişkisi olan merkezler olarak tespit edilmiştir. Ele geçen ithal amphoraların yanı sıra yerel üretim amphoraların değerlendirilmesi bu çalışmanın önemli bir sonucu olmuştur.

Knidos yarımadasının Ege Denizi'ndeki konumu ile sınırlı doğal kaynakların dayattığı ihtiyaçlar Knidosluların düzenli bir deniz ticaretine bağlı ekonomik ilişkiler geliştirmesini sağlamıştır. Ancak, Arkaik ve Klasik dönemler boyunca Knidosluların özelleşmiş tarım ürünü –şarap ve zeytinyağ- ihracatına dayalı ticarette bulunmadıkları, bu dönemlerde daha çok kereste ticareti ve deniz taşımacılığı ile gelir sağladıkları bilinmektedir. İ.Ö. 4. yüzyıl ortasından sonra, artan nüfusu beslemek için yeni kaynak yaratma ihtiyacı ile Akdeniz pazarında değişen deniz ticareti yollarında yer alabilmek için Knidoslular şehirlerini yeterli su kaynakları bulunmayan ancak iki limanı bulunan Tekir Burnu'na taşımışlardır. Yarımada üzerinde elverişli tüm alanları teraslandırarak bağcılığı geliştirmişlerdir. Özellikle ucuzluğu nedeniyle, Knidos şarabı antik dünyada düşük fiyatlı şarap ticaret sektöründe önemli bir yer edinmiştir. Amphoraların şarap ticaretinde gerekli bir unsur olmasından dolayı Knidos önemli bir amphora üretim merkezine dönüşmüştür.

Burgaz amphora buluntuları kentin ithalatı hakkında önemli bilgiler sunmaktadır. Elde edilen veriler ışığında İ.Ö. 7. yüzyılın sonundan itibaren İonia Bölgesinin önemli üretici merkezlerinden olan Chios, Samos ve Miletos ile ilişkilerin kurulduğu anlaşılmıştır. Samos ve Miletos ürünlerinin ithalatının Burgaz'da bulunan ticari amphoralar ile İ.Ö. 7. yüzyıl ile İ.Ö. 4. yüzyıllar arasında gerçekleştiği izlenmektedir. İ.Ö. 6. yüzyıl ile İ.Ö. 4. yüzyıl boyunca Chios şarabının ithal edildiği anlaşılmıştır. Bu merkezler dışında, Knidos'un Klazomenai ile İ.Ö. 6. yüzyılda ve Ephesos ile İ.Ö. 3. yüzyılda sınırlı ticari ilişkiler kurduğu gözlemlenmiştir.

Burgaz'da bulunan yoğun Thasos amphorası buluntuları Kuzey Ege ile olan ticari ilişkiler açısından önemli bilgiler vermektedir. İ.Ö. 6. yüzyılda sınırlı bir şekilde başlayan ticaret İ.Ö. 5. yüzyılda yoğunlaşmış olup İ.Ö. 4. yüzyılda azalarak devam

etmiştir. Diğer bir Kuzey Ege üretici merkezi olan Mende ile İ.Ö. 5. yüzyılda başlayan ticari ilişkiler İ.Ö. 4. yüzyılda azalarak sürmüştür. Akanthos-Amphipolis ile İ.Ö. 5. yüzyıl sonu- İ.Ö. 4. yüzyıl başında sınırlı bir ticari ilişki kurulduğu ele geçen bu merkezlere ait az sayıdaki amphoralar ile anlaşılmıştır.

Burgaz amphora buluntuları içerisinde tanımlanan Lesbos amphoraları ile İ.Ö. 6. yüzyılda güçlü bir ticari ilişkinin kurulduğu ve İ.Ö. 5. yüzyılda ise neredeyse yok denecek kadar azaldığı anlaşılmıştır. Ele geçen amphoralar yardımıyla Burgaz'ın Kıta Yunanistan'da Atina ve Korinth ile ticari ilişkiler kurduğu görülmüştür. İ.Ö. 7. ve 6. yüzyılda Atina ile sınırlı bir ticari ilişki gözlenirken Korinth ile İ.Ö. 7. yüzyılda başlayıp İ.Ö. 3. yüzyıla kadar değişen oranlarda bir ilişkinin varlığı gözlemlenmiştir. Ayrıca, Burgaz'ın İ.Ö. 7. yüzyıldan İ.Ö. 4. yüzyıla kadar Kıbrıs ile sürekli ticari ilişkileri olduğu anlaşılmıştır.

1.Ö. 4. yüzyılın ilk yarısına kadar süren bu ticari ilişkiler, Akdeniz pazarında Güney Ege üretimi ucuz şarap talebinin artması ve yerel amphora üretiminin yoğunlaşması ile bir düşüşe geçmiştir. Ele geçen amphora buluntuları yardımı ile İ.Ö. 4. yüzyıl ortasından itibaren Güney Ege üretici merkezleri ile olan ilişkinin geliştiği anlaşılmıştır. İ.Ö. 4. yüzyılda Korinth, Akanthos-Amphipolis, Mende, Thasos, Chios, Samos ve Kıbrıs ile azalarak devam eden ticari ilişkiler yanı sıra Peparethos-İkos, Rhodos Peraiası, Kos, Rhodos, ve Paros ile yeni ilişkiler kurulmuştur.

Yukarıda da değinildiği gibi Knidos'un İ.Ö. 6. yüzyıldan İ.S. 7. yüzyıla kadar amphaora üretiminde bulunduğu yapılan yüzey araştırmaları ve kazılar ile açığa çıkarılmıştır. Ancak Knidos amphora tipolojisi antik dünyanın çeşitli merkezlerinde ele geçen geç Klasik ve Hellenistik buluntular ve batıklardan ele geçen buluntular ile yapılmış olup erken dönem Knidos amphora tipleri ile ilgili fazla bir bilgi bulunmamaktadır. Bu açık Burgaz'da ele geçen amphora buluntuları ile doldurulmaya çalışılmıştır. Yapılan bu çalışma sırasında, yüksek ve ince ağız kenarlı, ağız-boyun geçişinde bir veya birkaç setli ve boyun-omuz geçişinde plastik çıkıntılı "Miletos tipi Knidos amphoraları" ile Samos ve Miletos'un yuvarlak veya *ekinoid*  ağız kenarlı ve halka dipli amphoraları Knidos amphoralarının erken tipleri olarak belirlenmiştir. Bu iki erken Knidos amphora tiplerine bakılırsa, Knidos'un ticari amphora üretiminde bölgesel bir üretimin parçası olduğu sonucuna varıla bilinir. İ.Ö. 4. yüzyılda değişen ekonomik koşullar sonucunda amphora üretimini arttıran Knidos'un gene bölgesel bir stilde mantar ağızlı amphora ürettiği anlaşılmaktadır. Bu çalışmada yerel mantar ağızlı amphoralar İ.Ö. 4. yüzyıl başından İ.Ö. geç 3. yüzyıla kadar 8 tipe ayrılmıştır.

Arkaik dönemden itibaren şarap üreten bir merkez olduğu bilenen Knidos, erken dönemlerde kendi ihtiyacını karşılayacak kadar şarap üretmekteydi. Ele geçen ticari amphoralardan Knidos'un şarap/zeytinyağ ithal ettiği anlaşılmaktadır. Konut mekanlarında ele geçen ithal amphoraların yoğunluğu sadece ithal şarap/zeytinyağ tüketimine işaret etmemektedir. Knidos'un şarap üreten bir merkez olduğu düşünüldüğünde, İ.Ö. 6. ve 5. yüzyıllarda Chios, Thasos vd. gibi merkezlerden gelen amphoraların yoğunluğu dikkat çekicidir. Arkaik ve Klasik dönemlerde Knidosluların tüccar olduğu göz önüne alındığında, bu dönemlerde Knidosluların aracı olarak hizmet ettikleri varsayıla bilinir. Diğer bir değişle, Burgaz, Chios, Thasos vd. gibi merkezlerden gelen ürünlerin Akdeniz pazarına dağıtılmasında kullanılan ara bir liman olmuş olabilir.

Burgaz'ın ticari ilişkilerini anlamak için yapılan bu çalışma ile Arkaik ve Klasik dönemlerde Burgaz'ın antik dünyanın önemli üretici merkezlerinin mallarını tüketmesinin yanı sıra bu malların Akdeniz pazarına dağıtılmasında da önemli bir rol aldığı ortaya çıkarılmıştır. Ayrıca, bu çalışma ile Knidos'un erken amphora tiplerinin tanıtılmasının temeli atılmış olup bilinen tiplerine de yeni tipiler eklenmiştir. Ancak yapılacak olan kil analizleri ile Knidos erken tiplerinin doğrulanması germektedir. Ayrıca, yukarıda da belirtildiği gibi bu çalışmada ele alınmayan amphora mühürlerinin çalışılması, eski Knidos'un ticari ilişkileri ile Knidos amphora üretimi ve tiplerinin daha iyi anlaşılacağı sonucuna varılmıştır.

## E. TEZ FOTOKOPÍSÍ ÍZÍN FORMU

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## YAZARIN

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<u>**TEZİN ADI**</u> (İngilizce) : Trade Relations of Ancient Burgaz From Archaic to Mid of 4<sup>th</sup> Centuries: The Amphorae Evidence Within The Domestic Contexts

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1.	Tezimin tamamından kaynak gösterilmek şartıyla fotokopi alınabilir.		
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