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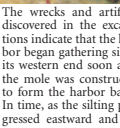
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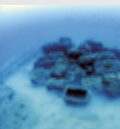
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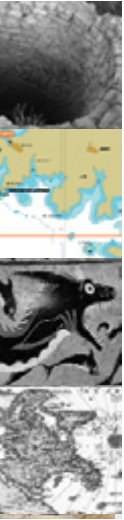


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### Titelmotiv

*Historische Darstellung des Systems von Befestigungswerken zwischen Usedom und der Südostküste Rügens, die der Sperrung der Zufahrt nach Stralsund dienen, 1715.*

*Aus: Th. Förster,  
Die strategische Lage der Insel Rügen in  
Verbindung mit Stralsund und dem  
Hinterland, Abb. 8.*

# Integrating an Empire

## Maritime Trade and Agricultural Supply in Roman Cyprus

Justin Leidwanger

**Abstract** – Archaeological surveys off Cyprus have brought to light evidence for complex seaborne exchange networks during the Roman era. A shipwreck explored off the island's southeast coast at Fig Tree Bay offers a profile of a commercial venture that may have been typical of one level of maritime economic integration: a small cargo of primarily Cilician and North Syrian amphoras, along with a handful of more exotic exports. The mixed assemblage hints at broader patterns in the background distribution of agricultural goods between major imperial centers, regional emporia, minor port towns, and outlying non-urban coastal areas. Viewed alongside local maritime activity at two small opportunistic ports, this material record provides a window into the dynamics of seaborne exchange and the intersection of small-scale and short-haul with larger-scale and longer-distance trade. The interplay of these models of exchange bears directly on the role of markets that brought local and international goods and information to a quiet Roman province, and in turn opened Cypriot agricultural produce for consumption across the Roman world. Together, these scattered remains help to fill out a picture of limited maritime economic integration and market development in the northeast Mediterranean and beyond.

**Inhalt** – Archäologische Surveys vor Zypern haben Beweise für komplexe Geflechte des Warenaustauschs zur Römerzeit ergeben. Ein vor der Südküste der Insel in der Fig Tree Bay erforschtes Wrack lässt die Umrisse eines Handelsunternehmens erkennen, das für ein bestimmtes Niveau wirtschaftlicher Verbindungen über See typisch gewesen sein dürfte. Es enthielt eine kleine Fracht meist kilikischer und nordsyrischer Amphoren und dazu eine Handvoll exotischerer Exporte. Diese Mischung lässt erkennen, dass dahinter ein breiteres Geflecht des Austauschs von Agrarprodukten zwischen größeren Reichszentren, regionalen Handelsplätzen, kleinen Hafenstädten und abgelegenen ländlichen Küstenstrichen steht. Betrachtet man dieses Material zusammen mit der örtlichen maritimen Tätigkeit in zwei kleinen „Gelegenheitshäfen“, dann öffnet sich ein Ausblick auf die Dynamik des Austauschs über See und darauf, wie sich Klein- und Kurzstreckenhandel mit Massen- und Fernhandel kreuzen. Das Zusammenspiel dieser beiden Arten des Austauschs prägt direkt die Rolle von Märkten, die örtliche und internationale Waren und Kenntnisse in eine stille römische Provinz brachten und umgekehrt zyprischen Agrarprodukten den Weg zum Konsum quer durch die römische Welt öffneten. Gemeinsam betrachtet ergeben diese zerstreuten Reste ein Bild begrenzter ökonomischer Anbindung über See und Marktentwicklung im nordöstlichen Mittelmeer und darüber hinaus.

### Scale in the Maritime Economy

Archaeologists investigating the maritime economy often take for granted the presence of a Gaulish fine ware plate fragment in the shallows off Cyprus or a Lusitanian amphora sherd off the Turkish coast. These far-flung imports may be noticeable, but they only amount to a few percent – sometimes even less – of ceramics consumed at a site, a tiny slice on charts of quantified pottery. The long shift in archaeology toward fuller and more meaningful quantification has encouraged scholars to emphasize the massive volumes of local products that bear witness to how people traded, ate and lived. Such studies aim to reconstruct an „average“ life in the an-

cient world, at least with regard to patterns of consumption. But from the perspective of distribution, do these local products belong to a separate maritime economy than the more famous long-distance goods? Did they share common exchange mechanisms, or did they depend on distinct systems with not only different consumers but contrasting models of trade?

This paper aims to embrace both ends of this distribution spectrum at once – the exotic and the mundane – arguing that the two must be understood as part of a single integrated socioeconomic system at the height of the Roman Empire's prosperity. Local and regional maritime exchange cannot be separated from longer-distance

currents of trade, and likewise long-distance exchange cannot be understood without the context of smaller-scale and short-haul ventures<sup>1</sup>. Analyzing supply in the Roman Empire must entail embracing multiple scales of economic geography even when focusing on one harbor, one ship, or even one amphora. From the perspective of maritime archaeology, shipwrecks and ports offer evidence for interlocking chains of distribution that delivered goods from near and far. The primary focus here is on a recently explored shipwreck and two minor ports along the south coast of Cyprus (Fig. 1). The small ship, while serving a more local role in short-haul exchange, nonetheless attests to wider economic networks and larger-scale currents





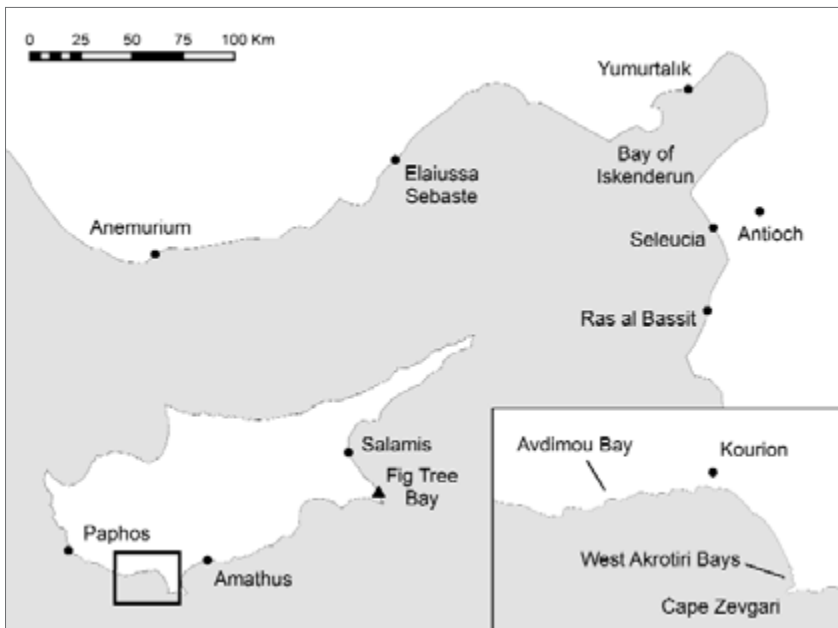


Fig. 1: Map of the northeast Mediterranean and Cyprus, with inset of the Episkopi Bay area, showing sites of interest and places mentioned in the text.



Fig. 2: Recording ceramics against the reef in one area of the Fig Tree Bay shipwreck site.

that linked Mediterranean exchange across the Roman world. Simple port facilities speak to local communities' engagement with the maritime landscape and their integration into broader seaborne trade.

### Case Study 1

#### Local & Long-Distance Trade in the Fig Tree Bay Shipwreck Cargo

Archaeological survey conducted off Cyprus in 2007 located the remains of a small shipwreck – best dated to the 2<sup>nd</sup> century AD – off the island's southeast coast not far north of Cape Greco at Fig Tree Bay (Figs. 1-2). Explored in more detail intermittently during 2008 and 2009, the site lies strewn among the rocks and reefs off a promontory marked by strong currents. Here it seems likely that the vessel struck the shallows and spilled its cargo, which the currents and wave action scattered across the seabed. Despite significant challenges presented by this dynamic environment, a preliminary map was undertaken, along with full counts and representative sampling of cargo amphoras, and documentation of additional ceramic and non-ceramic finds<sup>2</sup>.



Fig. 3: Small Rhodian-style amphora handle from the Fig Tree Bay shipwreck, probably serving as provisions for the crew (scale 1:5).

No traces of the ship itself can be expected on this inhospitable shallow seabed of reefs and rocks. Fragments of roof tiles were located in the northern part of the site, where they may hint at a ship's cabin or galley. The pottery assemblage revealed what were probably galley and dining wares, including notably the rim of a juglet and at least one mortarium fragment. A late Rhodian-style amphora handle – a lone find representing a small variant of the common transport jar – most likely points to crew provisions (Fig. 3).

Cargo amphoras comprise by far the greatest component of the Fig Tree Bay assemblage. Close inspection of these jars aimed not only to provide detailed counts for individual types, but to detect any

possibly intrusive material and evaluate the hypothesis that the site represents a shipwreck. The lack of significant intrusive material and coherence of the cargo, together with its isolation from other archaeological material in the area, suggests that the site should be approached as a shipwreck. In all, some 133 amphoras were counted, falling into four groups discussed here in turn.

Nearly two-thirds (86 examples, 64.7%) are Agora M54 jars, a type long identified as a Cilician variant of the popular bifid-handle amphoras derived originally from Hellenistic Koan prototypes and manufactured throughout the Mediterranean during the early Roman era (Fig. 4)<sup>3</sup>. These jars were produced just across from Cyprus in coastal eastern Cilicia, where a variety of production centers have been suggested<sup>4</sup>. No pitch was recorded lining any of the jars, and Cilicia was known not only for wine but oil and other products. Even so, the contents remain unknown and the various jars may in fact have contained several different products: fruit, fish, and other goods are all possibilities<sup>5</sup>. Whatever their contents, they were evidently popular throughout the eastern Mediterranean, Aegean, and beyond from the latter half of the 1<sup>st</sup> century into the mid-2<sup>nd</sup> century. Late variants are also known, but this form is best dated in the 2<sup>nd</sup> century<sup>6</sup>.

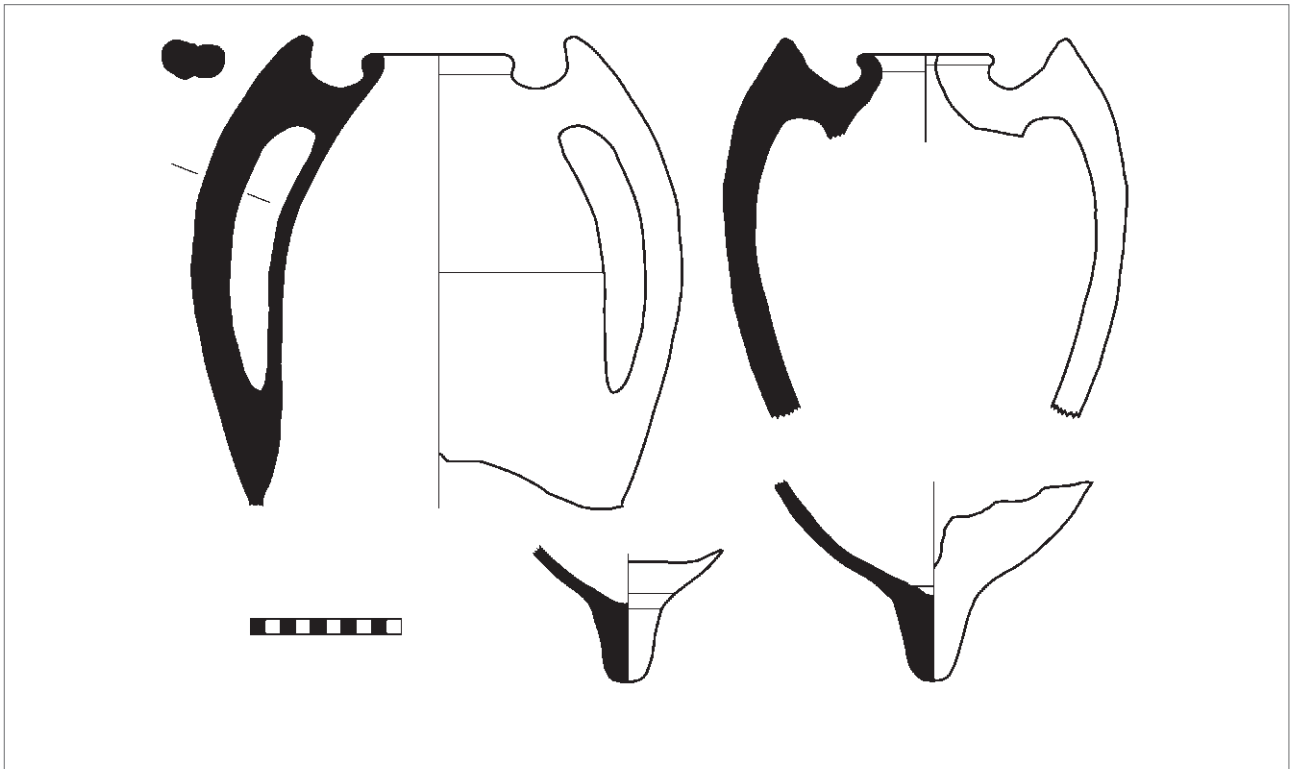


Fig. 4: Agora M54 amphoras from the cargo of the Fig Tree Bay shipwreck (scale 1:5).

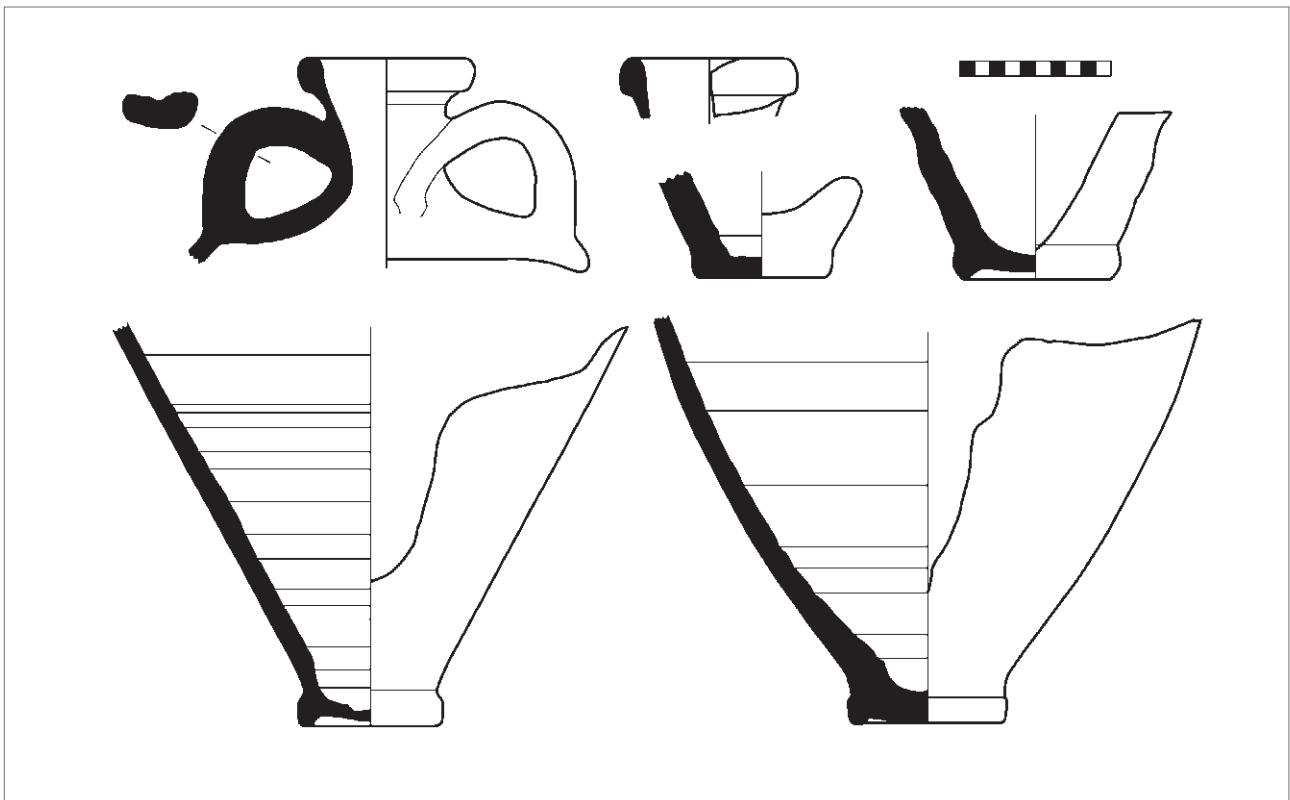


Fig. 5: Gauloise 4 amphoras from the cargo of the Fig Tree Bay shipwreck (scale 1:5).

The second largest group of amphoras (38 examples, 28.6%) includes two types that were recorded together due to their morphological similarity. Closer in-

spection of forms and fabrics revealed two rather different origins. The larger proportion belongs to a family of amphoras – Gauloise 4 – manufactured along the Mediter-

anean coast of France from the 1<sup>st</sup> century into at least the 3<sup>rd</sup> (Fig. 5)<sup>7</sup>. This region was known for its wine production in antiquity, and the bases of Gaulish jars from the ship-



Fig. 6: Cilician Dressel 30 amphora top from the cargo of the Fig Tree Bay shipwreck (scale 1:5).

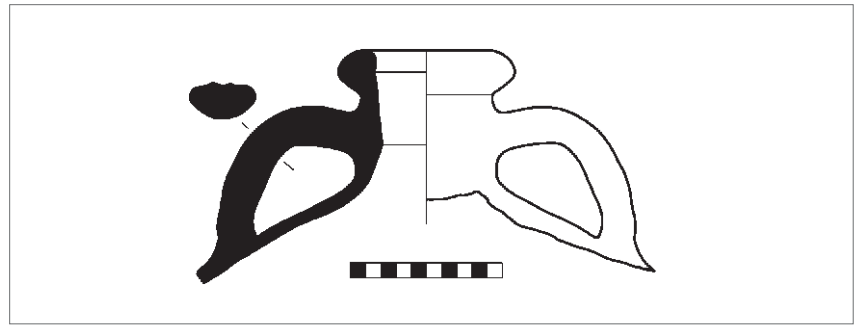
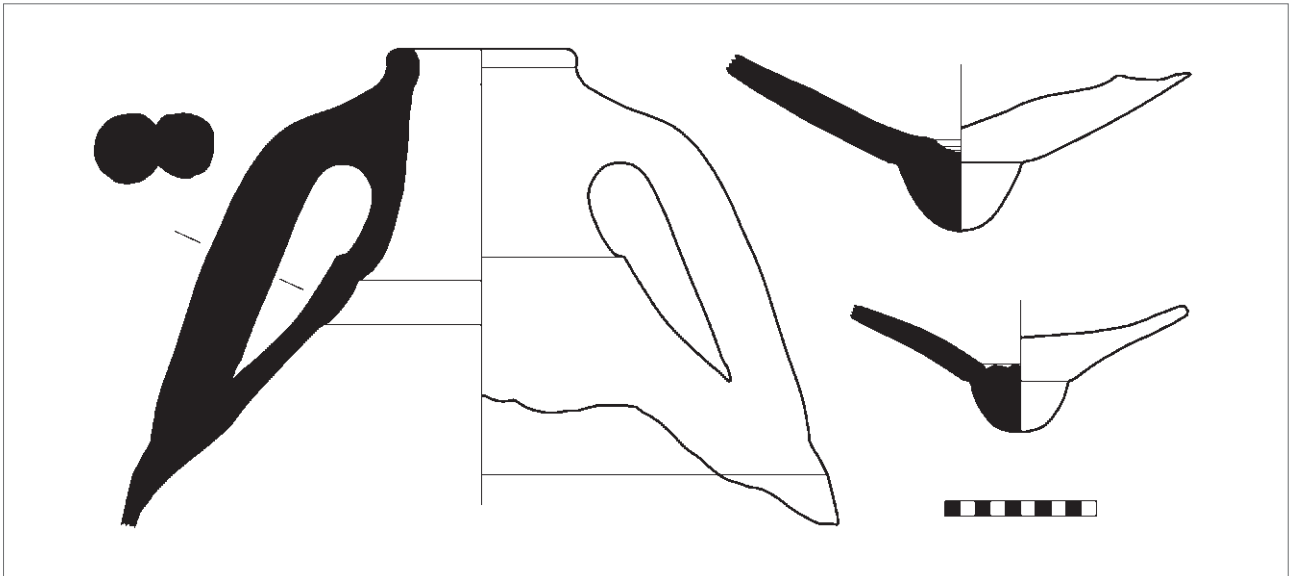


Fig. 7: Ras al Bassit amphoras from the cargo of the Fig Tree Bay shipwreck (scale 1:5).



wreck assemblage are often lined with pitch. While they rarely register in large numbers in the eastern Mediterranean, Gaulish amphoras appear in small quantities at sites throughout the region and beyond, suggesting not only a widespread availability, but some significant appreciation for the region's wine<sup>8</sup>.

The popularity of Gaulish wine might help to explain the presence of a few amphoras that could not always be distinguished in fragmentary form in situ, and so were recorded together with the Gaulish jars: a variant of Dressel 30, itself originally imitating aspects of Gaulish production, but produced in Cilicia (Fig. 6)<sup>9</sup>. They share certain morphological similarities, but exhibit a more cylindrical neck, thicker triangular rim, and multiple grooves on the handle section. Their fabrics are readily distinguished by eye, with the Dressel 30's appearing quite close to other Cilician jars (Agora M54 above, later LR1, etc.). The extent of Ci-

lician Dressel 30 production and circulation is unclear, as are the jar's contents. Various Dressel 30 and other related types, like their Gauloise 4 relative, have often been associated with wine. Generally similar jars have been recorded at several sites, particularly in this corner of the Mediterranean, but other examples may have escaped notice since the type is not well known<sup>10</sup>. The few contexts identified thus far suggest a date for the form in the 2<sup>nd</sup> or even the early 3<sup>rd</sup> century<sup>11</sup>.

The third group of amphoras, the smallest by number (9 examples, 6.8%), is best associated with northwest Syria, in particular the area of Ras al Bassit (Fig. 7)<sup>12</sup>. The form has only recently been identified, and is thus far known almost exclusively along this narrow eastern Mediterranean corridor from Syria and Cyprus through the southern Levant. At perhaps around 100 liters in volume, its immense size points to a more spe-

cialized transport function – potentially something closer to the dolia that briefly filled the holds of certain dedicated western Mediterranean ships<sup>13</sup>. Although most contexts in which the Ras al Bassit jars appear are undated, the bifid handles would seem appropriate for the 1<sup>st</sup> to 3<sup>rd</sup> centuries. If these characteristic handles are meant to recall Koan jars, then wine in the Koan style again seems likely.

The Fig Tree Bay shipwreck has only been preliminarily surveyed, but initial results point to a modest cargo, perhaps only 4-5 tons<sup>14</sup>. Given the prevalence of Cilician and northwest Syrian materials, the shipment must have originated somewhere in this coastal zone, perhaps one of the more international ports like Seleucia Pieria – the port of Antioch – where a few comparatively exotic Gaulish amphoras would have been more readily available. Whatever the ship's precise origin, the predominant local winds and currents suggest



Fig. 8:  
View of the beach and cove  
at Avdimou Bay from the east.

that it was almost certainly bound for south or southwest Cyprus. Whether it represents a direct shipment or one of cabotage, the vessel certainly sank within just a few days of its departure, and even a round trip for such a short-haul mariner could have been accomplished in anywhere between a few days and a week to 10 days. The economic geography is one of small ships and short hauls between the larger harbors and smaller outlying ports and anchorages dotting the coastlines of the eastern Mediterranean.

## Case Study 2

### Small Ports and Anchorages as Economic Agents

If the Fig Tree Bay merchant intended one or more stops along the south coast of Cyprus, what type of market might have been its destination? There are ample reasons to look beyond Paphos, Amathus and the island's other largest cities and biggest harbors. A small vessel would have had a minimal draught and required only the most basic infrastructure to load and unload: no more than calm weather for anchoring, or a simple beach on which to land. Even if these small ports have left few archaeological traces that can be unequivocally attributed to exchange – that is, weights, coins, etc. – scattered pottery onshore and in the shallows

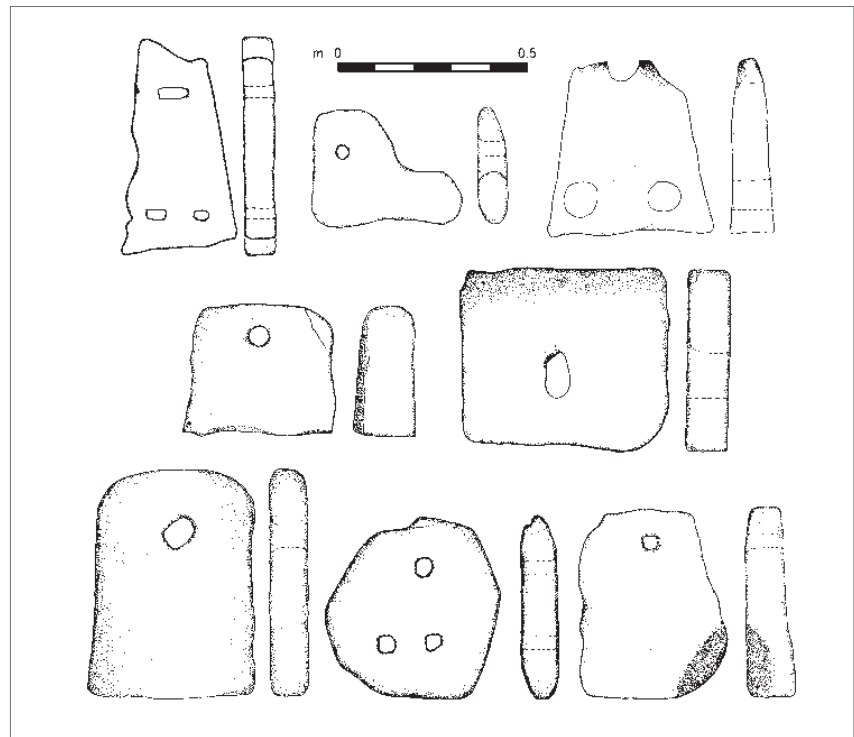


Fig. 9:  
Selection of stone anchors  
attesting to maritime activity  
in the shallows of Avdimou Bay.

may point to opportunistic activity outside the major urban centers.

Avdimou Bay may be one such site. Located just 10 km west of the larger harbor city of Kourion, this small natural south-facing bay is sheltered from predominant westerly winds and provides one of the first accessible sandy beaches after Kourion where ships traveling this coast could have sought shelter (Figs. 1 and 8). No port structures are preserved in the area, but mariners may have simply anchored in

the shallows or pulled their vessels directly onto the beach for loading or unloading. Underwater survey in 2004 brought to light a variety of stone anchors appropriate for use by small boats (Fig. 9). Pottery on the headland to the west included worn sherds pointing to local economic activity from at least the Hellenistic era into late antiquity. Significant quantities of late Roman pottery have been noted on shore, and a ship of this date seems to have sunk here or at least dumped a cargo that included primarily





LR4 jars from the southern Levant along with a handful of LR1 jars from Cyprus or the neighboring mainland<sup>15</sup>. Farther to the east are warehouses that stored carobs for export via small boats perhaps around the early 20<sup>th</sup> century<sup>16</sup>. A simple rubble breakwater, now fully submerged, may likewise point to later economic activity in this more open part of the bay. Altogether, the anchors, ceramic finds, and local topography suggest that Avdimou Bay functioned as a simple port for agricultural communities and farmsteads scattered throughout the adjacent river valleys.

Not all opportunistic ports were so well sheltered. A second candidate lies in the small open bays along the southwest shore of the Akrotiri Peninsula, only 10 km southeast of Kourion (Figs. 1 and 10). The shoreline here is open to the westerly winds, and a high coastal scarp separates the narrow beach from inland, implying that transportation to the interior of the peninsula must have been routed through the low-lying beach immediately to the north. Investigations in these West Akrotiri bays in 2003-2004 brought to light a dense scatter of ceramic material indicative of economic activity from the Hellenistic period through the Roman era and into late antiquity<sup>17</sup>. The widespread scatter of finds here would seem to point to occasional disposal of ceramics and other materials broken at sea or during the loading and unloading of ships. The late Roman period is the busiest recorded in the underwater assemblage, when a variety of LR1 amphoras attest to maritime connections primarily centered on the island and the adjacent mainland. While nearby sites throughout the southern part of the Akrotiri Peninsula were occupied from the pre-Roman era, it is clear that the Roman and especially the late Roman eras saw the densest settlement and economic exploitation, closely mirroring the underwater material record<sup>18</sup>. Along with the port of Dreamer's Bay farther east along the south



Fig. 10: View of the West Akrotiri bays looking south toward Cape Zevgari.

coast of the peninsula, these West Akrotiri bays may have served as an expedient port for vessels loading and unloading agricultural produce for small nearby sites.

These two examples are representative of many such opportunistic ports utilized around the island and identified through maritime survey<sup>19</sup>. Collectively, they depict a bustling – if simple – maritime landscape during the Roman era and into late antiquity.

#### Identifying Economic Integration in the Roman Empire

The Roman Empire produced on a massive scale, consumed on an equally massive scale, and shipped goods on a massive scale. Where in this massive scale of economic activity can we situate a small regional shipwreck or the opportunistic facilities used by minor villages and rural populations? One wreck and a few beach sites can provide only a limited view from one corner of the Mediterranean, but together they hint at the integration of several concurrent mechanisms of exchange. These mechanisms operated on contrasting geographical scales and likely also involved different actors. Their interplay bears directly on the role of complex market networks that brought local and international goods and information to a quiet Roman province, and in turn opened

Cypriot agricultural produce for consumption across the Roman world.

The vessel that sank at Fig Tree Bay speaks to routine short-haul supply of primarily regional products around the northeast Mediterranean. Such journeys were easily accomplished in a matter of a few days, and ships of this size and economic geography may have been a common feature of Roman trade, at least in this corner of the empire. Lionel Casson, A.J. Parker, and others have long emphasized the small size of the typical ancient merchant vessel<sup>20</sup>, but recent scholarship by Andrei Tchernia and others has reminded scholars of precisely how small these „small“ vessels could be<sup>21</sup>. Carrying just 60 amphoras for a total of 2.5 tons, the Culip VIII assemblage is more than an order of magnitude smaller than many vessels deemed small by Casson and Parker at 70-80 tons<sup>22</sup>. At perhaps 4-5 tons of goods, the Fig Tree Bay cargo fits well within this truly „small“ category. An important distinction must also be made between the maximum tonnage of a vessel and its cargo burden on a given journey. For evaluating the structure and scale of Roman supply networks, average cargos may be more meaningful than vessel sizes.

Even with such a limited size and restricted zone of operation, the Fig Tree Bay cargo assemblage



reflects the involvement of a number of producers around Cilicia and northwest Syria. The presence of comparatively exotic Gaulish wine suggests that this merchant had stopped previously at a larger local entrepôt like Seleukia. The assemblage thus reflects not only its own local network, but the intersection of regional exchange with larger-scale, longer-distance mechanisms that brought Gaulish wine from west to east. Situated within this context, the presence of locally made Dressel 30 jars – probably containing „imitation“ Gaulish wine or at least wine produced in a Gaulish style – may point to the stability and routine nature of this regional commercial market. So long as a merchant knew Gaulish wine was popular in Cyprus, he was well served to offer his customers not only true Gaulish wine, but a Cilician alternative that was almost certainly cheaper.

To some extent, the growth of simple ports reflects a natural outcome of expanding rural settlement and increasing agricultural productivity and consumption throughout Cyprus' Roman and late Roman countryside<sup>23</sup>. More villages, farmsteads, and other sites of economic activity increased the potential importance of maritime facilities outside major harbors. But aside from offering a cheaper way of moving bulk commodities to the nearest city markets, these opportunistic ports would have also provided occasion for new and direct maritime connections beyond the limited core-periphery relations that had dominated earlier models of city-country exchange. Rural populations could now engage with a broader maritime landscape, opening up to them the immense agricultural production from around the shores of the Roman Mediterranean and in turn allowing their own goods to travel throughout their immediate region and beyond.

The ceramic record of consumption at a number of smaller sites across Cyprus bears witness to these expanding economic hori-

zons and indicates active participation in larger-scale networks by a considerable segment of the Roman population, far larger than the few urban percent who dwelled in the largest cities. Considerable scholarly attention has been devoted to the *annona*, and certainly this well-known mechanism was an important backbone and occasional economic driver for maritime trade in certain parts of the Roman Empire<sup>24</sup>. But in a quiet backwater like Cyprus, the stability and security of Rome yielded more substantial economic benefits than any piggybacking on state-subsidized trade. The *annona* supported a few sea routes, but for interregional trade in this corner of the Mediterranean, it was the safety of navigation, the dependable currency, and the legal enforcement of contracts that the distant Roman state offered to the merchants<sup>25</sup>.

On the other hand, for small-scale entrepreneurs who were probably the most frequent visitors at these minor ports and outlying communities, staying away from the watchful eye, the shipping bottlenecks, and the prying tax collectors in the larger harbors would have made good economic sense. Epigraphic evidence from Seleukia suggests that regional merchants with vessels under about 7-8 tons were largely beyond the reach of the late Roman state<sup>26</sup>. The second- and third-tier sites and rural farmsteads throughout the hinterlands of these simple ports were not only producers, but consumers too. Even if the actual number of exotic finds at such sites – or in the Fig Tree Bay cargo – remains small compared to the regional Cilician or local Cypriot produce, these ceramics reveal how broader rhythms of exchange were felt on a local level, and in turn how local communities supplied a larger Roman economy.

#### Acknowledgements

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#### Notes

- <sup>1</sup> See particularly Horden – Purcell 2000.
- <sup>2</sup> Leidwanger 2013.
- <sup>3</sup> Robinson 1959, 89, pl. 19.
- <sup>4</sup> Empereur – Picon 1989, 231-232; Autret 2012, 256-257.
- <sup>5</sup> Reynolds 2003, 127; Opaïț 2007, 104.
- <sup>6</sup> Thanks to Paul Reynolds for helpful discussion of these finds.
- <sup>7</sup> Laubenheimer 1985, 261-293.
- <sup>8</sup> Laubenheimer 2001, 57-60.
- <sup>9</sup> On Dressel 30, see generally Bonifay 2004, 148-151.
- <sup>10</sup> E.g. Reynolds 2008, 71 fig. 3p-q and 72; Tomber 2009, 154 fig. 2.6; Opaïț 2010, 1016 and 1018 fig. 4a-b.
- <sup>11</sup> Thanks to Andrei Opaïț, Nicholas Rauh and Paul Reynolds for comments and suggestions regarding this type.
- <sup>12</sup> Mills – Reynolds Forthcoming.
- <sup>13</sup> Heslin 2011.
- <sup>14</sup> See calculations in Leidwanger 2013.
- <sup>15</sup> Leidwanger 2007, 311-313.
- <sup>16</sup> On this more recent carob trade, see Leonard 2005, 635ff.
- <sup>17</sup> Leidwanger 2009, 25-27.
- <sup>18</sup> Heywood 1982.
- <sup>19</sup> See generally Leonard 2005.
- <sup>20</sup> Parker 1992, 26; Casson 1995, 171-172.
- <sup>21</sup> Tchernia 2011, 201-205.
- <sup>22</sup> Carreras et al. 2004, 154-156.
- <sup>23</sup> E.g. Rautman 2000.
- <sup>24</sup> See generally Rickman 1980; Stecher, W. 2009: *Annona. A maritime logistic system of the Roman principate. The sea – the ships – the men* (Doctoral thesis, Greifswald).
- <sup>25</sup> Scheidel 2011.
- <sup>26</sup> Dagron 1985.





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