Ephesus in the Julio-Claudian Period: New Evidence of Consumption, Cult and Exchange from Terrace House 2*

Hannah Liedl - Horacio González Cesteros

The antique city of Ephesus is located on the western coast of Asia Minor. This area has been settled since prehistoric times. Good connections to the Anatolian inland and the Mediterranean trade routes make this location very advantageous. During the Hellenistic period, Lysimachos re-established the settlement between the hills of Panayirdag and Bülbüldag (302–294 BC). The continuous silting of the area around the Artemision and the main settlement at the Ayasoluk by the Kaystros river and other smaller streams seems to have been reason for the relocation. The city existed in this location until medieval times. From the 2nd century BC onwards, the city developed as an important economic and cultural pole, which was converted to the capital of the new province of Asia during Augustan times. Extensive building activity dated in the early Imperial period has been documented throughout the city. This included the establishment of a political centre in the upper city, the so-called State Agora, and a trade centre, the so-called Tetragonos Agora close to the harbour in the early 1st century AD. In the course of the 1st century the city was expanding, which is for example visible in the enlargement of the great theatre or the establishment of public bath complexes. This shows the rapid growth of the city and an increase in population.² Not only was public building activity booming, but luxurious residential buildings, the so-called Terrace Houses, were erected during this period (fig. 1).

The Context

Terrace House 2, which consisted of seven housing units, is located in the centre of the city along the Curetes Street, which connected the upper and lower city. The first excavations were undertaken by Hermann Vetters between 1967 and 1984. Evaluation of finds such as coins or pottery allowed the identification of four main building phases.³ The earliest structures connected to housing in this area are from the 1st century BC; however, these early structures could not be identified over the entire area.⁴ After extensive destruction caused by an earthquake in the 3rd quarter of the 3rd century AD, the Terrace House 2 was abandoned as a high status residential housing unit.⁵

In 2004, excavations were conducted in several locations within the Terrace House 2. In the course of these excavations, the room 12a in Unit 5 was excavated completely with the aim of investigating the relationship between the Units 3 and 5. During this excavation, an offering was found in the southeast corner of room 12. The offering consisted of a carefully deposited, local common ware pot, which was completely preserved. It likely contained some kind of food. This offering has been dated in the



Fig. 1. Map of the Hellenistic and Roman Imperial period settlement of Ephesus.

Hadrianic period based on a coin on top of it. It is related to the second phase of Unit 5, dated around 120 AD.⁷ Furthermore, an extensive pit was uncovered under a mosaic floor and several levelling layers.⁸ The pit measures 1.3 × 2.2 m and is between 40 and 57 cm deep. It is partially carved into the bedrock. This closed context cannot be connected to the main building activities of Terrace House 2. The pit was filled completely with loose soil and in some areas ash and charred wood could be identified. The material in the pit filling is characterised by its quantity and diversity. A large number of well-preserved ceramics including amphorae was found as well as terracotta figurines, glass, bronze and iron nails, and one fragment of a bone needle. In addition, high quantities of animal bones and botanical remains were recovered. Based on the pottery material it was possible to date this context in the 3rd quarter of the 1st century AD.

The Pottery

The pottery found in the pit filling is diverse and partially very well-preserved. Pottery finds include Terra Sigillata, thin-walled pottery, common ware, kitchen ware, lamps and several single pieces such as lead-glazed pottery (fig. 2). In total 408 vessels could be identified based on rim and base fragments. While common ware constitutes the

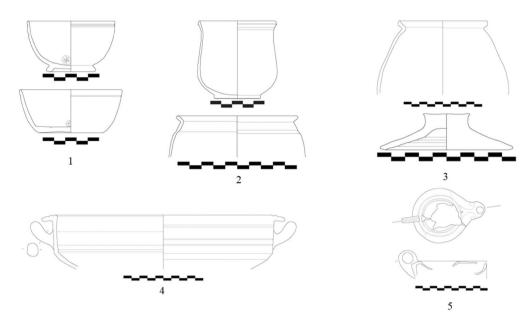


Fig. 2. Examples of the pottery findings.

highest proportion in the complex, fine ware and lamps are the most significant in terms of dating the context.

When considering Terra Sigillata, most of the fragments could be identified as Eastern Sigillata B (ESB) and a small percentage as Eastern Sigillata A (ESA); however, no other forms of sigillata were identified. ESB was the most common form of sigillata in the eastern Mediterranean during early Imperial times. A main production site is assumed in ancient Tralleis (modern Aydin) in the Meander Valley, 10 which is well-connected to Ephesus owing to one of the main Roman roads. Due to this connection, ESB was an important element of table ware in Ephesus until the mid-3rd century AD. 11 While a few forms found within the pit filling could be dated in Augustan times, most forms were in production during the mid-1st century AD. Interestingly, a few examples of black ESB, which seem to have been an Ephesian product, 12 were also identified. The forms cover a wide range from different types of bowls, plates and jars. Only few fragments of ESA, which was in production until the 2nd century AD, 13 could be identified within this context. Interestingly, no examples of Eastern Sigillata C (ESC), which can be found in Ephesus from Neronian times onwards, 14 were identified.

Thin-walled pottery is also present in the pit filling and mostly represented by cups. These forms can be found in several contexts of the 1st century AD in Ephesus. ¹⁵ Some Italian imports of thin-walled pottery can be found in Ephesus. A local production, however, for which a cup with a small lip is the most common form so far, was also identified. ¹⁶ This local cup form is the most commonly represented form in the pit filling.

Considering lamps, the examples in the complex are red-on-white, for which a production site in Ephesus or in the vicinity of the city has been proposed, 17 or with a

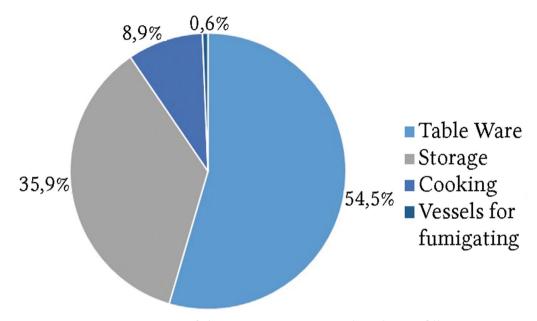


Fig. 3. Function of the pottery represented in the pit filling.

plain brownish red coat. The second technique can be found in imports from Italy as well as in copies from Asia Minor, which increased substantially from the early $1^{\rm st}$ century AD onwards. The two main forms in the context – Loeschcke V and VIII – were both produced around the mid- $1^{\rm st}$ century AD. $1^{\rm st}$

Based on these significant pottery forms, a date for the context in late Julio-Claudian to early Flavian times, probably during Nero's principate, can be proposed. The pottery showed a clear tendency towards local and regional production. With few exceptions, fine ware such as Terra Sigillata and thin-walled pottery as well as the lamps were produced within Ephesus or in other parts of western Asia Minor. While during the Augustan period fine ware was largely imported, from the middle decades of the 1st century AD the Ephesian market started to be satisfied with locally or regionally produced pottery.

In regards to function, more than half of the pottery in the pit filling can be considered as table ware, mainly cups and shallow bowls as well as plates (fig. 3). In comparison, the other functions are underrepresented. The high number of common ware lids, which are highly fragmented, is striking.

The Transport Amphorae

Concerning the amphora material, a minimum number of individuals of 35 was established, and the presence of at least 15 different forms and six different big regional groups was documented. Some individual jars are well-preserved, with

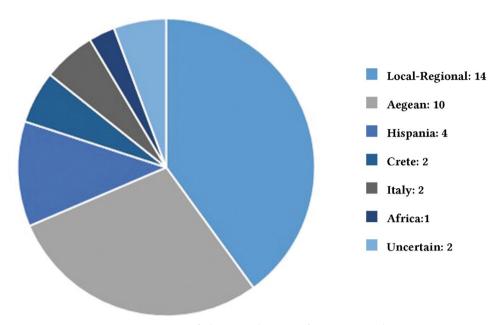


Fig. 4. Provenance of the amphorae after regional groups.

some still providing important epigraphic evidence. As commonly found in Ephesian contexts, the small, locally produced containers together with Aegean imports constitute the largest number of amphorae. Concerning the western Mediterranean amphorae, the productions of the Hispanic regions represent the most important quantitative group, followed by Italian and African products in this context (fig. 4; fig. 5).

The Ephesian containers are represented by fragments of at least 14 jars (MNI) belonging to the typical forms of the mid/late $1^{\rm st}$ century AD: the one-handle jar forms F 65/66 and the M 45 of the Athenian Agora. The production of the F 65/66 is placed in the Augustan and Tiberian period, the M 45 is a vessel type used in the $2^{\rm nd}$ half of the $1^{\rm st}$ century AD. Both are small containers with a capacity of six to seven litres. The content seems to have been precious wine produced in Ephesos and its hinterland.

Other Aegean regions such as Kos, Rhodes and Chios seem to have exported their wine to Ephesus, as well as the olive oil from the region of Erythrai. The presence of Koan and Rhodian amphorae of the Roman Imperial period clearly indicates the continuous trade systems involving Ephesos after their initial emergence in the Hellenistic period. These forms are linked to special wines, the so-called *tethalassomenoi*, characterised by a certain quantity of salted water. These wines were appreciated for their medical properties; however, they do not seem to have been of high quality. The presence of a Chian amphora can be related to the consumption of expensive high-quality wines produced in Chios.²³ This amphora is also relevant due to the presence of a stamp on the upper part of the handle. The stamp is well pressed and can be read easily as ΓΑΙΟΥ (fig. 6). This name is surprising as it refers to somebody associated in the workshop

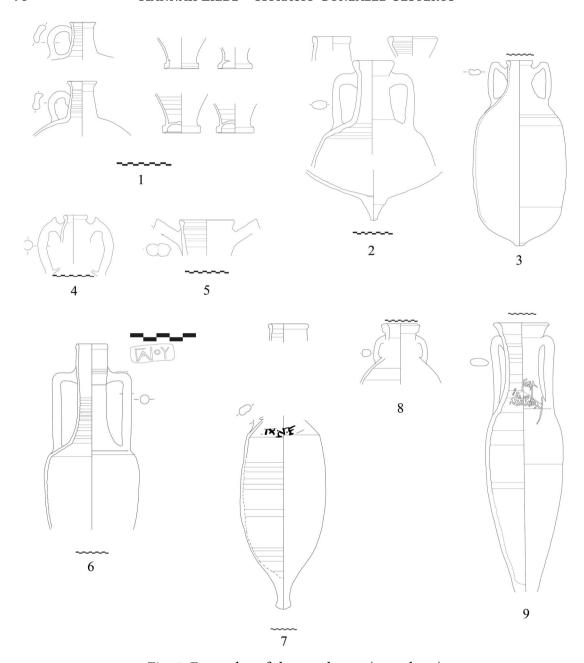


Fig. 5. Examples of the amphorae (© authors).

with a Latin name, written in Greek letters. The presence of Italians in Chios and their involvement in the wine production is known at least since the late 2^{nd} century BC.²⁴ For Chian wine amphorae a group of stamps referring to a Latin name, the famous Publius Vedius Pollio, is known; however, these stamps are written in Latin letters and they refer to the owner of the vineyards. In this case, Γ AIOY may have been a slave or freedman in charge of the control of the workshop.

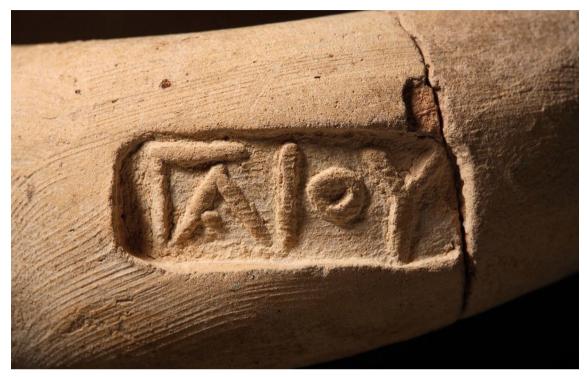


Fig. 6. Stamp on the upper part of the handle of the Chian amphora reading: ΓΑΙΟΥ (© N. Gail, ÖΑΙ).

From Crete two jars were identified. One is an almost complete AC 2 (Amphore Crétoise 2) and the other is the upper part of a small AC 4. The fabric of both specimen is quite different, indicating two diverse production areas and quite possibly two different contents. Although both types of amphorae seem to have been used for the transport of wine, they may have contained different types and/or qualities. Due to their formal characteristics, amphorae of the type AC 2 have been linked to the Koan amphorae. Equally, the AC 4 are assumed to be related to the Rhodian vessels. These connections may indicate the kind of wine they contained. The most famous wine of the island, which appears regularly in ink inscriptions on Cretan amphorae, is the *passum*, a kind of sweet wine made out of raisins.²⁵

The African regions also exported some products to Ephesos during the mid and late 1st century AD. One olive oil container of the form Tripolitana I produced in a workshop in the Tripolitanian coastal area was identified. The presence of African products in Ephesos is known at least since the early Hellenistic period.²⁶ However, more amphorae could be found from the 3rd and 4th centuries AD, when higher quantities of African products were exported to the eastern Mediterranean.²⁷

In our context, two vessels produced in the Italian Peninsula have been found. They arrived from the two main Italian areas producing amphora commodities during the Roman period: a Dressel 6A from the central Adriatic and a Dressel 2–4 from the



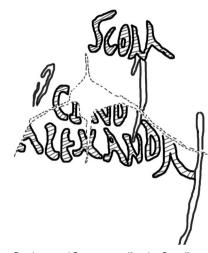


Fig. 7: Dressel 12 with inscription on the neck reading: [G(arum)] SCOM(bri)/ [TI(berii)] CLAVDI/ALEXANDRI (© N. Gail and authors).

Vesuvian region. Amphorae of both types and provenances have already been found in high quantities in Ephesus. Nevertheless, there are some features giving a special significance to these vessels. The first is the presence of an ink inscription on the lower part of the neck of the Campanian Dressel 2–4. This inscription has been tentatively read as (-)X N \cdot F. Unfortunately, there is no successful interpretation of these letters: based on the position and the presence of dots dividing them, they may be indicating the name of a free person, perhaps the merchant of the product.

The second and most important feature is the chronology of the deposit itself. Even though amphorae from the Italian territories were exported to Ephesos at least until the 5th or 6th centuries AD,²⁹ their largest imports occurred during the 2nd, and primarily the 1st century BC.³⁰ From the Augustan period onwards, the productive and commercial activities of ancient Hispania and other western provinces shifted the production of amphora commodities to those regions, placing the Italian Peninsula in a secondary position regarding agrarian productivity and export hierarchy.³¹

The Hispanic regions of the western Mediterranean, in this case the province Hispania Ulterior Baetica, seem to have exported more commodities into the east from this time onwards.³² In our context two amphorae produced in the Bay of Cadiz, a Dressel 12 and a Beltrán 2A, used for the transport of fish products, have been found together with one handle fragment of a Dressel 20, the typical olive oil container of the Guadalquivir Valley produced from the Julio-Claudian period onwards. The Dressel 12 amphora has already been published due to the good preservation and significance of an ink inscription on the neck.³³ This inscription (fig. 7), which can be read as: [G(arum)] SCOM(bri)/ [TI(berii)] CLAVDI/ALEXANDRI, is one of the few inscriptions found on Hispanic amphorae in Ephesus.³⁴ The mention of a high standard product as the *garum*

scomber and the interpretation of the second and third lines as the name of a freedman of the imperial family, seem to indicate that this amphora transported a precious commodity to Ephesus.³⁵

Lastly, it must be mentioned that four amphorae represented among the sherds could not be identified. In most cases they seem to have belonged to Aegean types, perhaps including different versions of Imperial Koan or pseudo Koan amphorae. One base could have also belonged to a Dressel 24 or a similar amphora.

It is pertinent to refer briefly to the importance of the context on the basis of the amphora assemblage. The number of identified vessels is only 35. While this may seem little, it has to be considered that we are dealing with a context of less than 2 m³ and in some cases with complete or almost complete amphorae. Among them are amphorae of six big production areas that have sent at least three big groups of products to Ephesus. In addition to the diversity of products and territories, some amphorae transported high quality products. The transported goods would only be consumed on important occasions and/or by the upper class, e.g. the products of the Dressel 12 with the ink inscription and the Chian amphora. These amphorae can tentatively be linked to a banquet or ritual activity. However, a problem arises when considering the large capacities of over 25 litre of some of these amphorae (e.g. Aegean or Italian wine amphorae and Hispanic fish vessels).

Interpretation of the Context

Our context represents a very good example of consumption practices in Ephesos during the 3rd quarter of the 1st century AD. The high quality and value of the imported commodities as well as the nature of the faunal remains (e.g. fish bones)³⁷ suggest that these products were consumed by the wealthiest Ephesians. The amphorae document an extensive trade systems for some products.

The holistic approach and synthesis of different analyses are significant for the interpretation of this closed and well-preserved context. This paper aimed to present the pottery findings and amphorae. A discrepancy between the pottery findings, for which a number of comparisons in other Ephesian contexts can be found, and the amphorae became apparent. In contrast to the fine and common ware, the amphora assemblage is unique in Ephesos so far. The pottery is mainly locally and regionally produced with only few exceptions and it seems that there was no demand for imported fine ware in the late Julio-Claudian period.

Some findings such as the high number of complete or almost complete vessels and the large proportion of table ware as well as the nature of the animal remains, support an interpretation as ritual or sacrificial pit.³⁸ The large number of common ware lids might also indicate ritual activity. One possible interpretation is, that these lids were used as cups in libations and destroyed afterwards. As already noted, there are other examples of ritual pits in the Terrace House, even in the same

habitational unit, which are dated later; however, these examples are less extensive than the pit filling presented here. While many factors in this context point towards an interpretation as a ritual pit, the evidence is not conclusive enough to exclude other interpretations for certain. However, it presented a valuable opportunity to gain insight into the consumption behaviour of the Ephesian upper class in the 1st century AD.

Notes

- * This article is part of a bigger research of the Austrian Archaeological Institute that includes the complete analysis of the material finds and excavation context of this important Unit within the Terrace House 2. For a deeper analysis of the context see Ladstätter 2020. We would like to thank Sabine Ladstätter, director of the Austrian Archaeological Institute for her help and the posibility of work on this interesting pottery material.
- ¹ Ladstätter 2016; 2017; 2019.
- ² Kirbihler 2009.
- ³For a more extensive chronology see Krinzinger 2002; the four building phases in Unit 5: Adenstedt 2005, 12−13.
- ⁴Ladstätter 2002; Adenstedt 2005, 12.
- ⁵Ladstätter 2002, 14-23.
- ⁶Excavation report: Ladstätter et al. 2005, 256–257.
- ⁷ Ladstätter et al. 2005, 256–257. A similar offering has been identified in Unit 5 between Court 16 and room 17, which dates to the early Antonine period. In Unit 4 Court 21 another offering of the Tiberian-Claudian period was identified which is related to the construction phase after an earthquake (Ladstätter 2005, 182–183). For offerings in Ephesos in general see: Waldner 2020.
- ⁸Ladstätter et al. 2005, 256-257; Ladstätter 2020.
- ⁹Liedl 2017. This research was funded by the University of Vienna.
- 10 Lund 2003, 127-128; Hayes 2008, 31-40.
- ¹¹Ladstätter Waldner 2013, 141.
- 12 Rogl 2004, 207.
- ¹³ Outschar 1996, 44; Hayes 1991, 32-35.
- ¹⁴ Meriç 2002, 65-66.
- 15 Examples see: Meriç 2002, pl. 36 K424, pl.36 K429; Struber-Ilhan 2012, fig. 40; Waldner Ladstätter 2014, pl. 192 K821; Waldner 2016, pl. 186 K204, 206.
- ¹⁶ Meriç 2002, 69–70; Ladstätter Waldner 2013, 147.
- ¹⁷ Gassner 1997, 198; Meric 2002, 125; Perlzweig 1961, 6.
- ¹⁸ Meriç 2002, 120; 123. A similar decrease of Italian imports is for example also visible in the material from Athens: Perlzweig 1961, 3.
- ¹⁹Loeschcke 1919, 40-44. 49-50.
- ²⁰ Robinson 1959.
- ²¹ Bezeczky 2013, 26-31.

- ²² None of the 14 pieces present a non-Ephesian fabric.
- ²³ Some remarks about the Chian wines in Antiquity: Tchernia 1986; Salviat Tchernia 2012. For the first cent. AD, Plinius (Nh. XIV, 73 ff.) mentions the wines from Chios, Thasos and Lesbos as the most expensive from the Aegean.
- ²⁴ Finkielsztejn 2006, 134.
- ²⁵ Marangou 1995. The *passum* seems to have been also produced in minor quantities in Rhodes: Tchernia 1986, 244.
- ²⁶ Lawall 2006; Recently, new excavations carried out by the University of Regensburg in the Upper Agora of Ephesos have brought some fragments of Punic amphorae to light in an early Hellenistic context. See also Springer-Ferazin 2018. For Ephesos a first approach about the trade relations with North Africa in: González Cesteros 2021.
- ²⁷ Bonifay 2005.
- ²⁸ Bezeczky 2006; 2013.
- ²⁹ González Cesteros Yılmaz forthcoming.
- 30 Lawall 2006; Bezeczky 2006; 2013.
- ³¹ Among others: Tchernia 1986, 125–195.
- ³² The study of the Hispanic commodities in the Aegean from Hellenism until Late Antiquity is part of a project developed by one of us.
- ³³ González Cesteros 2012.
- ³⁴ A small number of stamps and ink inscriptions were already published by T. Bezczky (2013). For other ink inscriptions on Spanish amphorae in Ephesos see González Cesteros et al. 2020.
- ³⁵ See: González Cesteros 2012.
- ³⁶ The different finds, architecture, excavation report as well as a context interpretation are subject of a multidisciplinary work of the Austrian Archaeological Institute. Currently the authors with other colleagues (S. Ladstätter, L. Rathmayer, A. Heiss, A. Galik and A. Waldner) are working on the final publication.
- ³⁷ See Galik et al. 2020; for a general study of fish production and consume in Ephesus during the Roman and Byzantine periods: González Cesteros et al. 2020.
- ³⁸ For the interpretation of the context see Galik et al. 2020.

Image Credits

Fig. 1-2, 5-7: ÖAI / ÖAW. - Fig. 3-4: by authors.

References

Adenstedt 2005

I. Adenstedt, Wohnen in der antiken Großstadt. Eine bauforscherische Analyse zweier Wohneinheiten des Hanghauses 2 von Ephesos (Ph.D. diss. Technische Universität Wien, Vienna 2005).

Beyll 1993

D. Beyll, Terra Sigillata aus der Marienkirche in Ephesos. Erste Zwischenbilanz, Berichte und Materialien des Österreichischen Archäologischen Instituts 5, 1993, 5–45.

Bezeczky 2006

T. Bezeczky, Consumer Behaviour in Ephesus in the First Century BC, in: D. Malfitana – J. Poblome – J. Lund (eds.), Old Pottery in a New Century. Innovating Perspectives on Roman Pottery Studies. Atti del convegno internazionale di studi. Catania, 22–24 aprile 2004, Monografie dell'Istituto per i Beni Archeologici e Monumentali 1 (Catania 2006) 287–308.

Bezeczky 2013

T. Bezeczky, The Amphorae of Roman Ephesus, FiE 15/1 (Vienna 2013).

Bonifay 2005

M. Bonifay, Observations sur la diffusion des céramiques africaines en Méditerranée oriental durant l'Antiquité tardive, in: J-P. Sodini – F. Baratte (eds.), Mélanges Jean-Pierre Sodini, TravMem 15 (Paris 2005) 565–581.

Finkielsztejn 2006

G. Finkielsztejn, P. Vedius Pollio, producteur de vin à Chios et Cos et fournisseur d'Hérode le Grand, Grecs, Juifs et Polonais. À la recherche des racines de la civilisation européenne, Actes du Colloque international dédié à Joseph Mélèze Modrzejewski (Paris, 14 novembre 2003) (Warsaw 2006) 123–139.

Galik et al. 2020

A. Galik – H. Gonzalez Cesteros – A. Heiss – S. Ladstatter – A. Waldner, Der Rest vom Fest. Die Grubenverfüllung in Raum 12a der Wohneinheit 5 im Hanghaus 2. Archaologische Evidenz einer Cena Publica in Ephesos?, in: S. Ladstatter (ed.), Eine frühkaiserzeitliche Grubenverfüllung aus dem Hanghaus 2 in Ephesos, ErghÖJh 18 (Vienna 2020) 257–264.

Gassner 1997

V. Gassner, Tetragonos Agora. Keramik und Kleinfunde (Vienna 1997).

González Cesteros 2012

H. González Cesteros, Scomber gaditano en Éfeso. Una Dressel 12 con titulus encontrada en la "Casa Aterrazada 2" de Éfeso, DialHistAnc 38/1, 2012, 9–22.

González Cesteros 2021

H. González Cesteros, "Doing Business among Friends". Ephesian Trade with Other Ancient Capitals, in: M. Raycheva – M. Steskal (eds.), Roman Provincial Capitals under Transition. Proceedings of the International Conference Held in Plovdiv 04.–07. November 2019, Österreichisches Archäologisches Institut Sonderschriften 61 (Vienna 2021) 333–352.

González Cesteros - Yılmaz forthcoming

H. González Cesteros – Z. Yılmaz, Amphorenfunde aus der Hafennekropole, in: M. Steskal (ed.), Forschungen in der Hafennekropole von Ephesos. Die Grabungen seit 2005 im Bereich des Hafenkanals, Sonderschriften des Österreichischen Archäologischen Instituts (forthcoming).

González Cesteros et al. 2020

H. González Cesteros – V. Scheibelreiter-Gail – A. Galik, From Atlantic to the Cayster. The Consumption of Fish and Sea Products in Ephesos, Herom 9, 2020, 135–232.

Hayes 1991

J. W. Hayes, Paphos III. The Hellenistic and Roman Pottery (Nicosia 1991).

Haves 2008

J. W. Hayes, Roman Pottery. Fine-Ware Imports, Agora 32 (Princeton 2008).

Kirbihler 2009

F. Kirbihler, Territoire civique et population d'Éphèse (Ve siècle av. J.-C.-IIIe siècle apr. J.-C.), in: H. Bru – F. Kirbihler – S. Lebreton (eds.), L'Asie Mineure dans l'Antiquité. Échanges, populations et territoires. Regards actuels sur une péninsule (Rennes 2009) 301–333.

Krinzinger 2010

F. Krinzinger, Das Hanghaus 2 in Ephesos. Die Wohneinheiten 1 und 2. Baubefund, Ausstattung und Funde, FiE 8/8 (Vienna 2010).

Ladstätter 2002

S. Ladstätter, Die Chronologie des Hanghauses 2, in: F. Krinziger (Hrsg.), Das Hanghaus 2 von Ephesos. Studien zu Baugeschichte und Chronologie, DenkschrWien 302 = AF 7 (Vienna 2002) 9–40.

Ladstätter 2005

S. Ladstätter, Keramik, in: H. Thür (ed.), Das Hanghaus 2 in Ephesos. Die Wohneinheit 4. Baubefund, Ausstattung, Funde, FiE 8/6 (Vienna 2005) 230–358.

Ladstätter 2016

S. Ladstätter, Ephesus, in: F. Daim (ed.), Historisch-kulturwissenschaftliches Handbuch, DNP Suppl. 11 (Stuttgart 2016) 678–686.

Ladstätter 2017

S. Ladstätter, Ephesus, in: P. Niewöhner (ed.), The Archeology of Byzantine Anatolia. From the End of Late Antiquity until the Coming of Turks (Oxford 2017) 238–248.

Ladstätter 2020

S. Ladstätter, Der archäologische Befund, in: S. Ladstätter (ed.), Eine frühkaiserzeitliche Grubenverfüllung aus dem Hanghaus 2 in Ephesos, ErgÖJh 18 (Vienna) 17–20.

Ladstätter et al. 2005

S. Ladstätter – A. Galik – D. Iro – M. Pfisterer – E. Rathmayr – V. Scheibelreiter – H. Schwaiger – M. Teichmann, Die Grabungen des Jahres 2004 im Hanghaus 2 in Ephesos, ÖJh 74, 2005, 247–276.

Ladstätter - Waldner 2013

S. Ladstätter – A. Waldner, Auswertung der Funde, in: St. Groh (ed.), Neue Ergebnisse zur Urbanistik in der Oberstadt von Ephesos. Intensive und extensive Surveys 2002–2006, ÖJh 82, 2013, 93–194.

Lawall 2006

M. L. Lawall, Consuming the West in the East. Amphoras of the Western Mediterranean in the Aegean before 86 BC, in: D. Malfitana – J. Poblom – J. Lund (eds.), Old Pottery in a New Century. Innovating Perspectives on Roman Pottery Studies, Atti del convegno internazionale di studi. Catania, 22–24 aprile 2004, Monografie dell'Istituto per i Beni Archeologici e Monumentali 1 (Catania 2006) 265–286.

Liedl 2017

H. Liedl, Eine frühkaiserzeitliche Grubenverfüllung aus dem Hanghaus 2 (MA thesis, Universität Wien, Vienna 2017).

Loeschcke 1919

S. Loeschcke, Lampen aus Vindonissa. Ein Beitrag zur Geschichte von Vindonissa und des antiken Beleuchtungswesens (Zürich 1919).

Lund 2003

J. Lund, Eastern Sigillata B. A Ceramic Fine Ware Industry in the Political and Commercial Landscape of the Eastern Mediterranean, in: C. Abadie-Reynal (ed.), Les céramiques en Anatolie aux époques hellénistique et romaine. Actes de la Table Ronde d'Istanbul, 22–24 mai 1996 (Paris 2003) 125–136.

Marangou-Lerat 1995

A. Marangou-Lerat, Le vin et les amphores de Crète. De l'époque classique à l'époque impériale, EtCret 30 (Paris 1995).

Meriç 2002

R. Meriç, Späthellenistisch-römische Keramik und Kleinfunde aus einem Schachtbrunnen am Staatsmarkt in Ephesos, FiE 9/3 (Vienna 2002).

Outschar 1996

U. Outschar, Aspekte zur Chronologie. Dokumentation exemplarisch ausgewählter keramischer Fundkomplexe, in: C. Lang-Auinger (ed.), Hanghaus 1 in Ephesos. Der Baubefund (Vienna 1996) 26–85.

Perlzweig 1961

J. Perlzweig, Lamps of the Roman Period. First to Seventh Century A.D., Agora 7 (Princeton 1961).

Robinson 1959

H. S. Robinson, Pottery of the Roman Period, Chronology, Agora 5. (Princeton 1959).

Rogl 2004

C. Rogl, Zu dem Produktionsbeginn schwarzer Sigillata in Ephesos. Die Evidenz der Tetragonos Agora, Ölh 73, 2004, 207–219.

Salviat - Tchernia 2013

F. Salviat – A. Tchernia, Vins vignerons et buveurs de l'Antiquité (Rome 2013).

Springer-Ferazin, 2018

B. Springer-Ferazin, Keramik aus bauzeitlichen Horizonten der Südhalle an der oberen Agora von Ephesos (Grabungen 2015) (MA thesis, Universität Regensburg, 2018).

Struber-Ilhan 2012

J. Struber-Ilhan, Feinware (Dünnwandige Keramik) im Ostmediterranen Raum. Ein Vergleich des Formenspektrums von Ephesos mit Fundplätzen in Griechenland und Kleinasien, in: C. Reinholdt (ed.), Österreichischer Archäologentag 13, 2010, Salzburg (Vienna 2012) 175–182.

Tchernia 1986

A. Tchernia, Le vin de l'Italie romaine. Essai d'histoire économique d'après les amphores, BEFAR 261 (Rome 1986).

Waldner - Ladstätter 2014

A. Waldner – S Ladstätter, Keramik, in: H. Thür – E. Rathmayr (eds.), Das Hanghaus 2 in Ephesos. Die Wohneinheit 6. Baubefund, Ausstattung, Funde, FiE 8/9 (Vienna 2014) 435–588.

Waldner 2016

A. Waldner, Keramik, in: E. Rathmayr (ed.), Hanghaus 2 in Ephesos. Die Wohneinheit 7. Baubefund, Ausstattung, Funde, FiE 8/10 (Vienna 2016) 311–423.

Waldner 2020

A. Waldner, Bauopfer und Deponierungen von Banketten in Ephesos, in: S. Ladstätter (ed.), Eine frühkaiserzeitliche Grubenverfüllung aus dem Hanghaus 2 in Ephesos, ErgÖJh 18 (Vienna) 239–255.