

**BABEȘ-BOLYAI UNIVERSITY, CLUJ-NAPOCA
FACULTY OF HISTORY AND PHILOSOPHY
DOCTORAL SCHOOL "HISTORY. CIVILIZATION. CULTURE"**

**Local production and trade through the lens of amphorae
from Roman Dacia
-Summary-**

**Scientific coordinator:
Prof. Dr. Sorin Nemeti**

**Candidate:
Potra Ioana Mihaela**

**Cluj-Napoca
2026**

Table of Contents

1. Introduction	
A. Objectives.....	6
B. Methodology.....	8
C. Methodological limitations.....	14
D. History of research.....	16
E. The sites studied	26
2. Historical and Economic Context.....	33
3. The production of olive oil, wine, and fish products in the Roman Empire	44
4. Archaeological evidence of local wine production in Dacia	
A. Table amphorae.....	62
B. Other categories of artifacts.....	80
5. The Trade of Olive Oil, Wine, and Fish Products in Dacia	
A. Olive oil amphorae.....	82
B. Wine amphora.....	104
C. Fish products amphorae.....	137
D. Amphorae with unknown/varied contents.....	141
E. Unknown amphorae.....	145
6. Economic considerations regarding local production and amphora imports	
A. Local production.....	158
B. Imported amphorae.....	167
C. Amphorae and Trade in the Roman Empire.....	188

D. Amphorae, Diet, and Cultural Implications.....	199
7. Conclusions	202
Bibliography.....	208
List of Figures.....	242
List of Plates.....	247
Appendice.....	250

This thesis began from the study of ceramics, in this case two categories represented by amphorae and table amphorae, an analysis that focuses on the commercial sector of Roman Dacia. Amphorae constitute a special category within the broad class of ceramics, as they are not the product itself that is traded, but rather the container that makes it possible to transport high-quality products (olive oil, wine and fish products). Table amphorae, although a category that is still little studied and understood, are locally produced containers whose distribution is mainly local and sometimes even interregional. These two categories were chosen not only because of the small number of in-depth studies in this area, but also to demonstrate the multiple aspects that this category of artifacts reveals about ancient society and how they complement each other at various levels of analysis. Furthermore, this choice comes in a context where more advanced studies of these ceramic categories in other provinces show us an increasingly complex picture of a commercial system capable of satisfying the demand for products in remote areas of the Empire.

The material studied comes from five important sites in Roman Dacia: Porolissum, Sutor, Napoca, Apulum, and Ulpia Traiana Sarmizegetusa, to which are added a few isolated discoveries from Buciumi, Potaissa, Gherla, Ilişua, and Apoldu de Sus. All these sites, each with their own particularities, revealed various patterns of consumption and also provided an opportunity to observe the diversity of imports and local production in Dacia.

The work is structured in seven chapters that illustrate both the situation at the provincial level and that at the level of the empire in terms of trade and diet. The case of this province is also interesting because Roman Dacia, unlike most Roman provinces, was under the Empire for a relatively short period of time (106-271 AD). Thus, these chronological boundaries also raise the question of the degree of integration of this province into the Roman commercial and cultural system.

The first chapter addressed issues related to the working methodology and its limitations, as well as aspects related to the history of research. The methods used to document the material focused on two essential aspects: shape and fabric. Each fragment studied was documented through technical drawings and photographs. The combination of the two criteria for documenting and analyzing amphorae (shape and fabric) is already known for the good results it provides in refining typologies. For the local production of table amphorae, which does not have a typology, the two study methods helped to observe both similarities and certain variations due

to their production in different workshops. Spatial distribution analysis was applied to observe the particularities of each type of amphora/table amphora, this being duplicated by a statistical analysis. These are applied to see consumption patterns (preferences for certain products/centers, the purchasing power of the population in Roman Dacia). The limitations of the research are, of course, also present in this case, as they are related to a certain influence that the different quantity of material studied from each site may have on the analysis. At the same time, other factors such as the lifespan and reuse of these containers may affect the interpretation of the material in certain cases.

The following subsections of this chapter have shown that this history of research on amphorae has undergone different stages of development in terms of both methods of analysis and interpretation. Although interest in this category of material began and developed at the end of the 19th century, especially for material discovered in the western provinces of the empire, the study of amphorae in Dacia began later and has undergone various stages of development since the last century, especially in the last decades of this century. From an interest focused primarily on epigraphic information, the amphora was later understood as an indicator of economic relations in a complex context that began with production and ended with the consumption of the products transported in them. The study of amphorae in Dacia, which is still far from complete, has shown through research conducted in recent decades¹ that this province was connected to this commercial system. However, the documentation methods sometimes used in the case of this material have not always provided all the necessary information. In the case of table amphorae, the history of research differs, as they have only come to the attention of researchers in the last decades of this century. In the case of Roman Dacia, they have only been mentioned occasionally in various studies,² but in the absence of typologies and discussions on the economic importance of these vessels for this province, the analysis is limited to simply noting fragments that lack analysis.

The last subsection of the first chapter briefly presented the research from which the material from the aforementioned sites originates. We consider this necessary in order to understand the broader context of their discovery. The importance of a site such as Porolissum on the *limes*, or the *vicus* researched at Sutor, as well as important cities of Dacia such as Napoca,

¹ Ardeț 2006; Benea 2000; Bondoc 2014; Bondoc 2016; Grumeza 2018; Nedelea 2020; Egri et alii 2021.

² Rusu-Bolindeț 2007; Antal&Pupeză 2012, pls. 5/7, 10, 7/4; Beu-Dachin et alii 2012, 76, pl. 6/3; Dumitrașcu et alii 2013, pl. 15/1; Nedelea et alii 2019, 243-244, nr. 21/12, 22/1; Nedelea 2020, 162, pl. 5

Apulum and Ulpia Traiana Sarmizegetusa, can be reflected in the material discovered and in the economic realities of each of them.

The second chapter aimed to present several aspects related to the history of this province, focusing on its resources and their integration into the provincial economy. The economy can be studied based on a variety of artifacts in order to understand it as a whole. At the same time, we considered it was important to present in this context some aspects of economic relations with centers from the Aegean, especially of the *davae* located south and southeast of the Carpathians,³ in order to illustrate these contacts before some of these territories came under the empire, even if not in what would become the future Roman province of Dacia. They are also relevant for the influences that can be observed in the imitations of imported vessels made by the local population.⁴

The third chapter focused on an analysis summarizing the variety of production methods in various Roman provinces for olive oil, wine, and fish products. Such an approach, which complements our understanding of the various products transported in amphorae, serves to highlight both the complexity of the production mechanisms and the products themselves. The knowledge of the ancients in this regard has been passed down to us through the detailed works of Cato, Varro, Columella and Pliny in particular.⁵ This knowledge is backed up by archaeological discoveries of such facilities, which show, on the one hand, the spread of facilities such as presses or *cetariae* throughout the empire, but also variations from one area to another, despite their widespread use.

The author's typology of table amphorae from Dacia is presented in the following chapter. The division into six distinct types was made based on their morphology. Type 1, divided into two subclasses, is both the most common type attested in Dacia and the most interesting. Its shape, adapted from the Gauloise 12 amphora, is all the more interesting as the various modules observed seem to refer back to these Gallic amphorae. In the case of this type, evidence of its production in Dacia is provided not only by the large quantities discovered at multiple sites, but also by the ceramic waste discovered at Apulum,⁶ Șibot,⁷ and possibly at

³ Popescu 2013.

⁴ Popescu 2013; Opaïț 2013b.

⁵ Cato, Agr.; Varro, Agr.; Columella, DRR; Plinius, NH.

⁶ Cîiașescu 2004, 322-324, fig. 11, nr. 39-44; Anghel et alii 2021.

⁷ Bâltâc et alii 2019, 107, pl. 7.

Porolissum-Sărata⁸ and Brâncovenești.⁹ The following types, although seemingly much rarer at present, raise questions about the evolution of their production and the various workshops where they were produced. The creation of the typology necessary to observe the characteristics of this category and its distribution in the province was also a necessity, due to the misclassification of these vessels in other ceramic categories over the time, leading to confusion in their identification and interpretation. At the same time, questions about the contents of these table amphorae, which was most likely wine, must also be investigated. Previous publications have indicated the practice of viticulture in Dacia through the discovery of sickles at various sites in the province, through the *cella vinaria* and traces of a *torcularium* discovered at Potaissa, but also through the discovery of grape seeds at Apulum and the well-known will from Sucidava, which mentions the existence of two jugera of vines.¹⁰ The integration of these containers into this framework is necessary precisely in order to understand aspects related to the production capacities of this province.

The complexity of the imported amphorae discussed in chapter five shows the diversity of the diet and the centers from which these vessels originate. They were divided into amphorae that transported olive oil, wine, fish products, but also amphorae with varied/unknown contents and unknown amphorae. Each type of amphora was presented taking into account all the necessary information, including morphological characteristics, fabric, area of production and distribution, content and capacity, chronology, *tituli picti*/stamps, as well as a discussion of the material discovered in Dacia.¹¹ This choice was made in order to better understand this type of artifact based on the knowledge we have so far and to understand that the interpretation is directly influenced by the information on which we build our argument. In the case of the amphorae that transported olive oil, analysis showed that the Dressel 24 similis type was predominant, with the other amphora types present in small numbers but varying in terms of origin (from the Aegean region and the northern Adriatic). As regards wine imports, there is much greater variety in terms of the types discovered and their areas of origin, with 19 types of amphorae identified at the sites studied. The centres in the Pontic area are particularly notable for

⁸ Pripon 2003; Nedelea et alii 2019, 243-244, nr. 21/12, 22/1.

⁹ Sidó 2018, 63, fig. 7/4.

¹⁰ Milea&Luca 1978; Cătinaș&Bărbulescu 1979; Regep&Tutilă 2010, 28-44; Ciută 2010; El Susi&Ciută 2020, 153, fig. 14.6; IDR II, 187.

¹¹ The format used to describe each type follows the model used in Bezeckzy 2013, due to its clarity and excellent structuring of information.

their Sinope amphorae, while the various products from the Aegean area, through imports of amphorae from Rhodes, Crete or western Asia Minor, show the close commercial links with this area. However, imports from Cilicia, although few in number, add new products to the Dacian market. These are complemented by imports of amphorae from northern Italy and one from Gallia Lugdunensis. In the case of amphorae that transported fish products, although only three types have been identified as coming from the Pontic and Aegean regions, their presence in Dacia adds to the evidence of consumption of these products. In addition, there are four types of amphorae whose contents are either unknown or different from those normally attributed to amphorae. There are two types produced in Lebanon, which again shows that these products were traded over long distances. We also considered it necessary to include in the analysis fragments of unknown amphorae, including 18 new types. Although this is fragmentary material whose typologies will only be completed by better-preserved specimens, their inclusion in the analysis is more than necessary in order to observe the variety of the material. At the same time, we consider that the documentation of such unknown types is a necessary condition for advancing our knowledge, which is far from complete, about the amphorae produced in these centuries.

All this basic information and analysis of each type of table and import amphora presented in the previous chapters was analyzed in greater detail in chapter six. Thus, in a broader observation of both the production of table amphorae in Dacia and the varied productions in other Roman provinces, the existence of a more widespread phenomenon was highlighted, but one that has its own particularities in each province. Beyond these aspects, in the case of Dacia, the predominance of table amphorae classified by the author as type 1, those table amphorae whose shape is adapted from Gauloise amphorae 12, has been demonstrated. The distribution observed in various sites of these containers highlights their importance for the local economy and the diet of the population of this province. In the case of imported amphorae, the analysis was carried out both within each category according to the content transported, in particular, and at the same time showing the analysis of the discoveries from each site studied. In the case of oil amphorae, as we have shown, although there is a diversity of products, their quantity and presence on the provincial market differ chronologically. Dressel 24 similis amphorae occupy the first position in this case, as they were present on the provincial market throughout its existence. In the case of wine amphorae, although the diversity of centers and

products transported is much greater, the predominance of imports from various centers in the Aegean has been demonstrated. An analysis was carried out from a chronological point of view, but also in terms of the capacity of the amphorae, to show the differences observed, precisely in order to highlight these nuances that arise when the various factors that give a different form to the trade and consumption of these products are understood. Such an analysis was also carried out for amphorae that transported fish products and those with unknown/varied contents. In addition to all this, there were also several types of amphorae which, although not discovered by the author in the material studied, have been attested in various publications to date. In this way, we wanted to complete the analysis by including these types as well, in order to show the diversity of the material presented. Similarly, two important topics were addressed in two subchapters, namely the organization of trade and diet and its cultural implications. As we emphasized the need to understand the entire production-distribution-consumption chain, an analysis of how trade is organized is absolutely necessary for the integration of amphorae and the interpretation of discoveries at the level of the Empire. Thus, evidence was found of a trade in which the various merchants involved were specialized both in the products they traded and in the area in which they operated.¹² In this regard, an analysis of the merchants attested in Dacia and outside it,¹³ as well as the observation of aspects related to the functioning of the customs offices of Dacia, part of the *Publicum Portoricum Illyrici*,¹⁴ are necessary. To the same extent, we consider observations on the cultural implications of diet to be equally important, as anthropological studies often demonstrate.¹⁵ By bringing back into focus the product transported in these amphorae, which are the subject of this study, we have attempted to emphasize their treatment as elements of cohesion, but also of social stratification. This is all the more important to emphasize, as the analysis we have carried out in this thesis has focused on two categories of material that present different mechanisms of distribution and consumption. At the same time, the adoption of a new diet in the newly created province implicitly raises the question of an analysis of the broader impact of the new products consumed.

The conclusions of this research highlighted several important aspects. First, local production and the large quantity of material indicate quite reliably the existence of widespread

¹² Rice 2016.

¹³ Matei-Popescu 2012.

¹⁴ De Laet 1949, 211-218.

¹⁵ Dietler 2018.

consumption in several segments of society, given that these table amphorae are present in both urban and rural areas, as well as in military and civilian contexts. In the case of imported amphorae, the predominance of imports from the Aegean in particular shows the accessibility of the population of this province, as well as its purchasing power for high-quality products. At the same time, observing the supply lines, but also the integration of the province into the broader context of imports and neighbouring provinces, leads us to understand the patterns observed. Thus, the situation observed in Dacia does not differ substantially from that observed in provinces such as the two Moesia, Pannonia, and Thrace, with the addition of the chronological criterion of the trade flow of these products. Overall, both the existence of this local production and the various amphora imports from Dacia demonstrated the province's rapid integration into the empire, a fact that can be observed until its end. We consider that the objectives set at the beginning of this research have been achieved, highlighting both aspects related to the various products imported into Dacia and local production, whose characterization and typological classification has been carried out.

Bibliography

- Anghel, D., Ciuvalu, F., & Bounegru, G. (2021).** Noi date privind activitatea atelierelor de olari de la Apulum. *Apulum*, 58, 121–163.
- Antal, A., & Pupeză, L. P. (2012).** Roman finds in the Art Museum Courtyard from Cluj-Napoca. *AMN*, 49(1), 83–108.
- Ardeț, A. (2006).** *Amforele din Dacia romană*. Mirton.
- Băltăc, A., Streinu, A., & Dolea, A. (2019).** The pottery at Șibot-În Obrej (Alba county). *AMP*, 41, 93–111.
- Benea, D. (2000).** Les amphores de Tibiscum. Les relations commerciales entre la Dacie et les territoires de la Méditerranée orientale. *Acta RCRF*, 435–438.
- Beu-Dachin, E., Pupeză, L. P., & Bindea, D. (2012).** Roman remains in the south-eastern area of Napoca. *AMN*, 49(1), 59–82.
- Bezeczky, T. (2013).** *The Amphorae of Roman Ephesus*. Verlag der Österreichischen Akademie der Wissenschaften.
- Bondoc, D. (2014).** Roman amphorae from Cioroiu Nou (Romania). *Acta RCRF*, 45, 105–112.
- Bondoc, D. (2016).** Roman amphorae from Slăveni, Olt county, Romania, *Arheologia Moldovei* 39, 215–229.
- Cătinaș, A., & Bărbulescu, M. (1979).** Cella vinaria de la Potaissa. *AMN*, 16, 101–126.
- Ciașescu, M. (2004).** Early pottery production in Apulum (Partoș) – an overview of recent research. În *ACTA RCRF*, 319–327.
- Ciută, B. (2010).** Vitis vinifera specie used in libations and in daily life. Apulum-Liber Pater sanctuary. *Acta Terrae Septemcastrensis*, 185–194.
- de Laet, S. J. (1949).** *Portorium. Étude sur l'organisation douanière chez les Romains, surtout à l'époque du Haut-Empire*. De tempel.
- Dietler, M. (2019).** Alcohol as Embodied Material Culture. Anthropological Reflections on the Deep Entanglement of Humans and Alcohol. In K. Hockings & R. Dunbar (Eds.), *Alcohol and Humans* (pp. 115–129). Oxford University Press/Oxford.
- Dumitrașcu, E., Rațiu, A., & Dolea, A. (2013).** Cercetări arheologice preventive la Balomiru de Câmp (jud. Alba). *Cercetări Arheologice*, 20(1), 103–140.

- Egri, M., Timofan, A., & Bounegru, G. (2021).** Legionary tituli picti from Apulum (Alba Iulia, Romania). În C. Leger & S. Raux (Eds.), *Des objets et des hommes. Mélanges offerts à Michel Feugère* (pp. 186–194). Editions Mergoïl.
- el Susi, G., & Ciută, B. (2020).** Reconstructing diet and practice in a ritual context The case of Apulum Mithraeum III. În M. M. McCarty & M. Egri (Eds.), *The Archaeology of Mithraism: New Finds and Approaches to Mithras-Worship* (pp. 147–156). Peeters.
- Grumeza, L. (2018).** Stamped Hispanic Amphorae from Roman Dacia. *Acta RCRF*, 45, 559–565.
- Inscriptiones Daciae Romanae. II. Dacia Superior. Pars Meridionalis* (1977). Ed. G. Florescu, C. C. Petolescu. Editura Academiei Socialiste România.
- Matei-Popescu, F. (2012).** The origin of the tradesmen in Dacia. În D. Boteva-Boyanova, L. Mihailescu-Bîrliiba, O. Bounegru (Eds.), *Pax Romana: Kulturaustausch und Wirtschaftsbeziehungen in den Donauprovinzen des römischen Kaiserreichs Akten der Tagung in Varna und Tulcea 1.-7. September 2008* (pp. 85–98).
- Milea, Z., & Luca, C. (1978).** Un teasc roman descoperit la Potaissa. *Pontica*, 11, 235–240.
- Nedelea, L., Cociș, H., & Băcuet-Crișan, D. (2019).** The Pottery Kilns from Porolissum-Sărata and the Problem of the Settlement's Inner Defensive Line. *AMP*, 41, 185–252.
- Nedelea, L. (2020).** Ceramica. In M. Bărbulescu (Ed.), *Principia din castrul legionar de la Potaissa* (pp. 97–156).
- Opaiț, A. (2013b).** Producția și consumul de vin în ținuturile dintre Carpați și Marea Neagră (secolele II a.Chr.-III p. Chr.): unele considerații. *SCIIVA S.N.*, 64, 21–65.
- Popescu, M. C. (2013).** *Hellenistic and Roman Pottery in pre-Roman Dacia (2nd c. BC - 1st c AD)*. Editura A.R.A – Arhitectură. Restaurare. Arheologie.
- Pripon, E. (2003).** Problematika restaurării unor vase ceramice rebutate în antichitate (studiu de caz I). *AMP*, 25, 709–714.
- Regep, S., & Tutilă, O. C. (2010).** Aspecte ale cultivării viței de vie în Dacia romană. *BHAUT*, XII, 27–43.
- Rice, C. (2016).** Mercantile Specialization and Trading Communities: Economic Strategies in Roman Maritime Trade. În A. Flohr, M., Wilson (Ed.), *Urban Craftsmen and Traders in the Roman World* (pp. 97–114). Oxford Studies on the Roman Economy.

Rusu-Bolindeț, V. (2007). *Ceramica romană de la Napoca. Contribuții la studiul ceramicii din Dacia romană.* Editura Mega.

Sidó, K. (2018). The pottery workshop at Brancovenesti (Mures county). În V. Rusu-Bolindeț, C. A. Roman, M. Gui, I. A. Iliescu, F. O. Botiș, S. Mustață, & D. Petruț (Eds.), *Atlas of Roman Pottery Workshops from the Provinces Dacia and Lower Moesia/Scythia Minor (1st-7th centuries AD)* (pp. 55–68). Editura Mega.