Check for updates

DATA NOTE

Ceramic assemblages from late antique destruction deposits at Campanaio (Sicily)

[version 1; peer review: 1 approved, 1 approved with reservations]

Fabrizio Ducati[1], Roger J. A. Wilson[2]

[1]CNRS, Centre Camille Jullian, Aix-Marseille University, Aix-en-Provence, Provence-Alpes-Côte d'Azur, 13097, France
[2]Ancient Mediterranean and Near Eastern Studies, The University of British Columbia, Vancouver, British Columbia, V6T 1Z1, Canada

v1 **First published:** 26 Feb 2026, **6**:60
https://doi.org/10.12688/openreseurope.22676.1
Latest published: 26 Feb 2026, **6**:60
https://doi.org/10.12688/openreseurope.22676.1

Abstract

This data note presents a newly compiled dataset generated within the framework of a multidisciplinary study conducted as part of a Marie Skłodowska-Curie Global Fellowship funded by the European Commission. The dataset derives from a substantial assemblage of previously unpublished ceramic material recovered from well-preserved destruction deposits across four distinct areas of the rural settlement of Campanaio (Agrigento Province, Sicily, Italy).

The richness and diversity of the assemblage indicate a marked increase in African imports—particularly amphorae—during the fifth century CE. This detailed evidence raises renewed questions concerning the precise dating and character of the destruction event, while highlighting the pivotal role played by Campanaio within regional and Mediterranean-wide trade networks. The evidence broadly aligns with established models of Late Antique economic patterns in rural Sicily, yet also points to a gradual transition at the settlement from a production-focused agricultural economy (largely based on wine and oil) to one increasingly oriented towards consumption of imported goods during the course of the fifth century, when the site's wealth may have been generated by an increased emphasis on grain production.

The original data were collected by the late Roberta Tomber during the Campanaio Project (1994–2001) and subsequently shared with Fabrizio Ducati for further research, who has restudied the material and increased the information to be gleaned from it. The legacy archive has now been standardised and transformed into a structured dataset, facilitating future analyses, enabling broader archaeological interpretation, and ensuring full adherence to FAIR data principles.

Open Peer Review

Approval Status ? ✓

	1	2
version 1 26 Feb 2026	? view	✓ view

1. **Gijs Willem Tol**, University of Melbourne, Melbourne, Australia

2. **Alejandro Garés Molero**, Universidad Autónoma de Madrid, Madrid, Spain
Itziar Gutiérrez Soto, Institut Catala d'Arqueologia Classica (Ringgold ID: 504637), Tarragona, Spain

Any reports and responses or comments on the article can be found at the end of the article.

Plain Language summary
Many rural settlements from the Late Antique period are known in Sicily, especially along the central southern coast of the island. Archaeological evidence shows a clear peak in their prosperity during the fifth century CE, abruptly ended by widespread destruction, at least at some sites. Although this pattern appears repeatedly, the reasons behind the growth and its abrupt end, as well as the chronology of the destruction (not necessarily the same at all sites), are still debated by archaeologists and historians.

Campanaio provides an important case study within this broader landscape. Excavations revealed a flourishing rural settlement occupied from the second century BCE until the sixth century CE, but apparently with some breaks in occupation, at any rate in the part of the site sampled for excavation. In the second half of the fifth century, a sudden and extensive destruction event caused several structures to collapse, including a domestic dwelling and two buildings that may have functioned as warehouses. These deposits consisted of widespread falls of roof tiles sealing below them large quantities of amphorae—ceramic containers used in antiquity to transport oil, wine, and fish products—most of which were imported from north Africa.

This evidence raises key questions that also concern other sites in Sicily. What caused the dramatic destruction? Could it be linked to the Vandals, who established a kingdom in North Africa in 429 CE and raided Sicily periodically between 440 and 476 CE? If so, how do we explain the continued arrival of African amphorae at Campanaio—even though evidence suggests that the settlement had produced its own oil and wine in the later fourth century?

This dataset contains quantitative and qualitative information that helps shed light on the transformation of rural Sicilian communities and on the economic connections between Sicily and North Africa during Late Antiquity.

Keywords
Archaeology, Late Antiquity, Sicily, Agrigento, Rural Settlement, Pottery, Trade, Economy



This article is included in the Horizon Europe gateway.



This article is included in the Marie-Sklodowska-Curie Actions (MSCA) gateway.

Corresponding author: Fabrizio Ducati (fabrizio.DUCATI@univ-amu.fr)

Author roles: Ducati F: Conceptualization, Data Curation, Formal Analysis, Funding Acquisition, Investigation, Methodology, Project Administration, Resources, Software, Visualization, Writing – Original Draft Preparation; **Wilson RJA**: Project Administration, Supervision, Validation, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

Grant information: This project has received funding from the European Union's Horizon Europe research and innovation programme under the Marie Skłodowska-Curie grant agreement No 101106142. Further information is available via CORDIS: https://cordis.europa.eu/project/id/101106142
The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Copyright: © 2026 Ducati F and Wilson RJA. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

How to cite this article: Ducati F and Wilson RJA. **Ceramic assemblages from late antique destruction deposits at Campanaio (Sicily) [version 1; peer review: 1 approved, 1 approved with reservations]** Open Research Europe 2026, **6**:60 https://doi.org/10.12688/openreseurope.22676.1

First published: 26 Feb 2026, **6**:60 https://doi.org/10.12688/openreseurope.22676.1

1. Introduction

This data note presents a structured dataset of ceramic material recovered from Late Antique destruction deposits at the rural site of Campanaio in southern Sicily.[1–14] The primary aim of the study was to analyse the material from these destruction contexts in order to refine the site's chronology and assess possible links with major historical events that affected Sicily during Late Antiquity.

The creation of this dataset addresses the need to convert legacy documentation into structured, FAIR-compliant data. By systematically transforming a digital archive originally compiled between 1994 and 2001, it now enables analytical approaches that were previously not feasible. Its structured format facilitates quantitative assessment, typological analysis, and network-based modelling,[15] thereby supporting integration with comparative studies and enhancing our understanding of exchange networks and trade connections between southern Sicily and the Mediterranean.

2. Data collection and methodology

The original ceramic data were collected by the Roman pottery specialist Roberta Tomber using established archaeological methodologies. For each context, all functional categories of ceramic artefacts were recorded, including amphorae, cooking wares, plain wares, fine wares, lamps, and unidentified categories. The same procedure was applied to the classification of ceramic classes and types, with unspecified forms also documented. Information on fabric and provenance was also provided. Quantification followed conventional archaeological protocols, with diagnostic and undiagnostic sherds counted separately in order to estimate vessel quantities for each stratigraphic context. Each diagnostic entry retains its original object number and excavation context, ensuring full traceability and enabling re-examination.

Between 2024 and 2025, the legacy data underwent a comprehensive phase of revision and analytical treatment conducted by Fabrizio Ducati to align with current disciplinary standards in Roman ceramic studies, particularly those articulated by Barclay et al.[16] and Sghaïer et al.[17] This process included the rationalisation of terminology, the clarification of typological attributions, and the verification of quantitative records. More information about the terminology employed can be found in the online Thesaurus PACTOLS,[18] the *Roman Amphorae: a digital resource* developed by the University of Southampton,[19] the *Ancient Lamps* catalogue of the J. Paul Getty Museum,[20] and the online reference collection from Thapsus (COLREF-Thapsus).[21]

3. Data source

The ceramic assemblage derives from three excavation areas within the rural site of Campanaio (Province of Agrigento, southern Sicily), located at EPSG:32633 – 37.406879, 13.332257. Excavations were conducted between 1994 and 1998, and the present dataset specifically includes material from securely sealed destruction deposits associated with the following stratigraphic contexts:

- Area B – Room 1, Context 4
- Area C – Room 9, Contexts 209 and 211
- Area C – Room 13, Context 275
- Area E – Room 1, Context 69

These contexts represent well-preserved destruction events and were selected due to their stratigraphic integrity and high density of diagnostic ceramic material. All material is presently curated in two archaeological storerooms within the archaeological area of Eraclea Minoa (Sicily), located at EPSG:347683.31, 4140200.73.

4. Data selection

No selection criteria were applied. Residual and intrusive fragments were retained in order to preserve the integrity and representativeness of the archaeological record.

5. Data format and structure

The raw data are provided in CSV format, using the semicolon (;) as the field delimiter. The CSV file (FIRS_RT_FD_Campanaio_raw_data_20250801_001.csv) contains 209 observations across 14 variables. No abbreviations or specialised coding systems were used, ensuring full transparency and interpretability. Tables 1 and 2 summarise the data structure and describe the variables included in the dataset.

Table 1. Overview of the CSV file.

Property	Value
Rows	209
Variables	14
Format	CSV
Missing values	Restricted to non-essential descriptive fields (e.g., Comments, Picture, Drawing)

Table 2. Description of variables in the CSV file.

Variable	Type	Description	Missing (N)	Unique values
Context	character	Stratigraphic unit/excavation context	0 (0%)	4
CeramicCategory	character	Functional category (e.g. transporting, cooking, plain ware)	0 (0%)	8
CeramicClass	character	Established ceramic class (e.g. African amphora, Sicilian Plain ware)	0 (0%)	31
CeramicType	character	Type-series or vessel form (e.g. Keay 57, Hayes 61, Jug)	0 (0%)	71
RimNumber	numeric	Count of rim sherds	0 (0%)	14
BaseNumber	numeric	Count of base sherds	0 (0%)	11
HandleNumber	numeric	Count of handles	0 (0%)	8
WallNumber	numeric	Count of wall sherds	0 (0%)	54
Total	numeric	Total fragment count (diagnostic & non-diagnostic)	0 (0%)	54
Comments	character	Qualitative observations on fabric/preservation	80 (38.3%)	69
ObjectNumber	character	Unique identifier assigned during inventory	0 (0%)	107
CatalogueNumber	character	Corresponding entry in Ducati & Wilson (in preparation)	0 (0%)	75
Picture	character	Indicates presence of a photograph	133 (63.6%)	3
Drawing	character	Indicates presence of a drawing	133 (63.6%)	3

6. Quality control

The data were generated and revised by two experts in Roman pottery studies. The publications cited above provided the conceptual and methodological framework required to reassess the legacy spreadsheet and align it with current research practices.

7. Software used

The data were initially structured using Excel spreadsheets, which formed the basis for the formatting and organisation of the revised dataset. Data processing and analysis were conducted using R version 4.4.1[22] within RStudio.[23]

8. Data and software availability

The CSV raw data can be opened using Microsoft Excel or other free and open-access software for tabular data. For data analysis and reproduction of the results, R and RStudio were used (see Section 7). Table 3 provides an overview of the underlying and extended data available online (see Section 13).

Tables 4 and 5 provide an overview of further extended data also available online. More specifically:

1. Ninety photographs of diagnostic finds, discussed in.[14]
   - *Format:* JPG — Exchangeable Image File Format (Compressed) (fmt/645).
   - *Equipment used:* Nikon D3500 with AF-S NIKKOR 18–140 mm (f/3.5–5.6) zoom lens.
   - *Lighting:* Controlled lightbox to ensure consistency and colour accuracy.
2. Nineteen microphotographs of representative ceramic fabrics captured using a Jiusion USB digital microscope.

Table 3. Data available online.

File name	Description
FIRS_RT_FD_Campanaio_raw_data_20250801.csv	Raw data as produced by R. Tomber and revised by F. Ducati
FIRS_FD_Campanaio_destruction_depositis_20251031.R	Full R script enabling reproducibility of all analyses
FIRS_FD_Campanaio_destruction_deposits_20251103.Rhistory	R history file supporting workflow transparency
FIRS_FD_Campanaio_destruction_deposit_20251103.RData	Processed dataset including tables and plots (RData format)

Table 4. Photographs of representative finds. Keay abbreviations: CeramicCat = Ceramic Category; ObjN = Object Number; CatN = Catalogue Number.

Context	CeramicCat	CeramicClass	CeramicType	ObjN	CatN
B4	Plain ware	African or Sicilian plain wares	Jug	266	1.26
B4	Plain ware	Sicilian plain ware	Bowl or mortarium	128	1.28
B4	Plain ware	Sicilian plain ware	Jug	120	1.27
B4	Plain ware	Sicilian plain ware?	Bowl or mortarium	129	1.29
B4	Cooking ware	Pantellerian ware	Casserole Scauri 5.1?	197	1.25
B4	Cooking ware	Pantellerian ware	Casserole Scauri 2.2	312	1.24
B4	Cooking ware	Pantellerian ware	Lid Scauri 1.1-1.2	337	1.22
B4	Cooking ware	Pantellerian ware	Lid Scauri 1.4	243/125	1.23
B4	Transporting	African amphora	Keay 27	260	1.1
B4	Transporting	African amphora	Keay 3-5	137/336	1.6
B4	Transporting	African amphora	Keay 3-5	323	1.5
B4	Transporting	African amphora	Keay 3-5	336/137	1.5
B4	Transporting	African amphora	Keay 35B	206	1.3
B4	Transporting	African amphora	Keay 39	325/342	1.4
B4	Transporting	African amphora	Keay 57A	362/366	1.8
B4	Transporting	African amphora	Keay 57A	361	1.9
B4	Transporting	African amphora	Unspecified type	328	1.17
B4	Transporting	African amphora	Keay 35A?	330	1.12
B4	Transporting	African amphora	Keay 35A?	333	1.13
B4	Transporting	African amphora	Keay 35A?	334	1.11
B4	Transporting	African amphora	Keay 57?	341	1.14
B4	Transporting	African amphora	Unspecified type	365	1.15
B4	Transporting	African amphora or big jug	Unspecified ceramic type	261	1.19
B4	Transporting	African amphora?	Keay 35A	319	1.2
B4	Transporting	Eastern amphora	Late Roman Amphora 1a or transitional	324	1.20
B4	Transporting	Unspecified amphora	Unspecified type	322	1.21
B4	Transporting	African amphora	Unspecified type	329	1.18
B4	Transporting	African amphora?	Stopper	315	1.30
B4	Transporting	African amphora	Keay 35B?	409	1.16

Table 4. *Continued*

Context	CeramicCat	CeramicClass	CeramicType	ObjN	CatN
C209	Transporting	African amphora	Spatheion	407	3.2
C211	Cooking ware	Pantellerian ware	Baking dish Scauri 4.1	297	3.7
C211	Cooking ware	Pantellerian ware	Casserole Scauri 2.2	293	3.10
C211	Cooking ware	Pantellerian ware	Baking dish unspecified	295	3.8
C211	Cooking ware	Pantellerian ware	Casserole Scauri 2.2-2.3	294	3.11
E69	Cooking ware	Pantellerian ware	Baking dish Scauri 3.1	354	4.19
E69	Cooking ware	Pantellerian ware	Baking dish Scauri 3.1	400	4.20
E69	Cooking ware	Pantellerian ware	Casserole Scauri 2.2	385	4.18
E69	Cooking ware	Pantellerian ware	Casserole Scauri 2.1	384	4.17
E69	Cooking ware	Pantellerian ware	Lid Scauri 1.3	383	4.15
E69	Cooking ware	Pantellerian ware	Lid Scauri 1.1-1.2	382	4.14
E69	Fine ware	African Red Slip ware D1 ?	Hayes 80B	300	4.13
E69	Plain ware	Sicilian Plain ware	Jar	364	4.29
E69	Plain ware	African or Sicilian plain wares	Jug	309	4.24
E69	Plain ware	African or Sicilian plain wares	Jug	307	4.21
E69	Plain ware	African or Sicilian plain wares	Jug	359	4.23
E69	Transporting	African amphora	Spatheion	431	4.1
E69	Transporting	African amphora	Spatheion	418	4.2
E69	Transporting	African amphora	Spatheion	408	4.3
E69	Transporting	African amphora	Keay 35A?	410	4.9
E69	Transporting	African amphora	Unspecified ceramic type	439	4.7
E69	Transporting	African amphora	Keay 3-5 or 64	375	4.4
E69	Transporting	Eastern amphora	Late Roman amphora 1 transitional	405/406	4.10
E69	Transporting	Eastern amphora	Late Roman amphora 1 transitional	406/405	4.10
E69	Transporting	Eastern amphora	Stopper	426	4.11
E69	Transporting	Eastern amphora	Stopper	427	4.12
E69	Plain ware	African or Sicilian plain ware	Stopper	428	4.26

Table 5. List of fabric microphotographs.

Context	CeramicCat	CeramicClass	CeramicType	ObjN	CatN
B4	Plain ware	Sicilian plain ware?	Bowl or mortarium	129	1.29
B4	Transporting	African amphora	Keay 27	260	1.1
B4	Transporting	African amphora	Keay 3-5	323	1.5
B4	Transporting	African amphora?	Keay 35A	319	1.2
B4	Transporting	Unspecified amphora	Unspecified type	322	1.21
B4	Transporting	Eastern amphora	Late Roman 1 transitional	324	1.20
C275	Transporting	African amphora	Unspecified type	526	2.10
C275	Transporting	African amphora	Unspecified type	529	2.9

Table 5. *Continued*

Context	CeramicCat	CeramicClass	CeramicType	ObjN	CatN
C275	Transporting	African amphora	Keay 3-5	530	2.4
C275	Transporting	African amphora	Keay 64	532	2.5
C275	Transporting	African amphora	Unspecified type	559	2.11
C275	Transporting	African amphora	Keay 25.2/Africana IIIC	561	2.1
E69	Plain ware	Sicilian Plain ware	Basin or chamber pot	319	4.27
E69	Plain ware	Sicilian Plain ware	Jar	364	4.29
E69	Plain ware	African or Sicilian plain wares	Jug	359	4.23
E69	Transporting	Eastern amphora	Late Roman amphora 1 transitional	405/406	4.10
E69	Transporting	Eastern amphora	Stopper	426	4.11
E69	Transporting	Eastern amphora	Stopper	427	4.12
E69	Plain ware	African or Sicilian plain wares	Stopper	428	4.26

Ethics and consent

Ethical approval and consent were not required.

Compliance with F1000 AI Policy

ChatGPT (version 5.2) was used for preliminary linguistic editing and the correction of typographical errors. All data, structure, and content were generated by the authors. The manuscript was reviewed by a native English speaker (R.W.). Any remaining errors or biases remain the authors authors' responsibility.

Data availability

This data note is published under the Creative Commons Attribution 4.0 International (CC-BY-4.0) licence. The underlying and extended data are released under the same licence and are freely available from the trusted online repository Nakala (DOI: 10.34847/NKL.E9DA2OP3).[24]

Acknowledgments

We gratefully acknowledge the European Commission for the financial support provided through the FIRS project. We also extend our thanks to Domenica Gullì (Archaeological Superintendency of Agrigento) and Maria Serena Rizzo (Parco Archeologico della Valle dei Templi) for authorising and facilitating the research.

Special thanks are owed to Tomoo Mukai, Michel Bonifay, and Claudio Capelli for their assistance with data curation and specialist consultation. Finally, we express our sincere appreciation to Clement De Belsunce for his valuable guidance and feedback on the R script and analytical workflow.

References

1. Wilson RJA, Leonard Jr: **Field survey at Heraclea Minoa (Agrigento), Sicily.** *J. Field Archaeol.* 1980; **7**: 219–239.
2. Wilson RJA: **The hinterland of Heraclea Minoa (Sicily) in classical antiquity.** Barker G, Hodges R, editors. *Archaeology and Italian society: prehistoric, Roman and medieval studies. British Archaeological Reports International Series 102.* Oxford: British Archaeological Reports; 1981; pp. 249–260.
3. Wilson RJA: **Una villa romana a Montallegro (Agrigento).** *Sicilia Archeologica.* 1982; **48**: 7–20.
4. Wilson RJA: **Eraclea Minoa. Gli scavi eseguiti nel territorio negli anni 1980–1983.** *Kokalos.* 1984–1985; **30–31**: 489–500.
5. Wilson RJA: *Sicily under the Roman Empire: the archaeology of a Roman province, 36 BC – AD 535.* Warminster: Aris & Phillips; 1990.
6. Wilson RJA: **The Castagna and Campanaio Roman agricultural settlements project, central southern Sicily.** *Papers of the British School at Rome.* 1995; **63**: 259–260.
7. Wilson RJA: **Archaeology in Sicily 1988–1995.** *Archaeological Reports.* 1995–1996; **42**: pp. 59–123. (pp. 94–96).
Publisher Full Text
8. Wilson RJA: **Rural life in Roman Sicily: excavations at Castagna and Campanaio.** Wilson RJA, editor. *From River Trent to Raqqa: Nottingham University archaeological fieldwork in Britain, Europe and the Middle East 1991–1995.* Nottingham: Department of Archaeology, University of Nottingham; 1996; pp. 24–41.
9. Wilson RJA: **The Campanaio Roman agricultural project.** *Papers of the British School at Rome.* 1999; **67**: 421–423.

10. Wilson RJA: **Rural settlement in Hellenistic and Roman Sicily: excavations at Campanaio (AG).** *Papers of the British School at Rome.* 2000a; **68**: 337–369.
Publisher Full Text | **Reference Source**

11. Wilson RJA: **Campanaio – an agricultural settlement in Roman Sicily.** *Antiquity.* 2000b; **74**: 289–290.

12. Wilson RJA: **Vita rurale nella Sicilia ellenistico-romana: l'insediamento di Campanaio.** *Kalos.* 2001; **13**(4): 24–31.

13. Ducati F: **Simon Keay Award in Mediterranean Archaeology: Pottery in rural Roman Sicily – imported and locally produced wares at Campanaio (AG).** *Papers of the British School at Rome.* 2024; **92**: 362–363.
Publisher Full Text

14. Ducati F, Wilson RJA: **Fifth-century destruction deposits of predominantly African material at Campanaio, Agrigento province, Sicily.** in preparation.

15. Brughmans T, Peeples M: *Network science in archaeology. Cambridge Manuals in Archaeology.* Cambridge: Cambridge University Press; 2023.

16. Barclay A, Knight D, Booth P, *et al.*: *A standard for pottery studies in archaeology.* London: 2016.

17. Sghaïer Y, Bonifay M, Touihri C, *et al.*, editors. *La collection de référence des céramiques puniques, romaines et médiévales de Thapsus/Ras Dimass.* Tunis: 2023.

18. Nouvel B: **Le thésaurus PACTOLS, système de vocabulaire contrôlé et partagé pour l'archéologie.** *Archéologies numériques.* 2019; **3**(1). Proceedings of Session III-3 (CA) of the 18th UISPP Congress, Paris, June 2018: Construire des référentiels partagés: Webmapping et archéologie.
Publisher Full Text

19. University of Southampton: *Roman amphorae: a digital resource* [dataset]. York: Archaeology Data Service; 2014.
Publisher Full Text

20. Bussière J, Wohl BL: **Cover.** Bussière J, Wohl BL, editors. *Ancient lamps in the J. Paul Getty Museum.* Los Angeles: J. Paul Getty Museum; 2017.
Reference Source

21. COLREF-Thapsus: **Collection de référence des céramiques puniques, romaines et médiévales du site de Thapsus (Tunisie).** n.d. (Accessed: 21 January 2026).
Reference Source

22. R Core Team: *R: A language and environment for statistical computing (Version 4.4.1).* Vienna, Austria: R Foundation for Statistical Computing; 2024.
Reference Source

23. Posit Software, PBC: ***RStudio: Integrated Development Environment for R* (Version 2025.09.1+401, "Cucumberleaf Sunflower") [Computer software].** 2025.
Reference Source

24. Ducati F, Wilson RJA: Campanaio destruction deposits (Version 1). [Data set]. *NAKALA (Huma-Num – CNRS).* 2025.
Publisher Full Text | **Reference Source**

Open Peer Review

Current Peer Review Status: ? ✓

Version 1

Reviewer Report 17 March 2026

https://doi.org/10.21956/openreseurope.24521.r70436

© **2026 Garés Molero A et al.** This is an open access peer review report distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

✓ **Alejandro Garés Molero**
Universidad Autónoma de Madrid, Madrid, Spain
Itziar Gutiérrez Soto
Institut Catala d'Arqueologia Classica (Ringgold ID: 504637), Tarragona, Catalonia, Spain

A dataset derived from a ceramic study of the site of Campanaio (Agrigento, Sicily) is presented, in which African amphorae from the 5th century CE are particularly prominent. The authors indicate that, even though the settlement itself produced oil and wine, numerous African imports have been identified, especially during the second half of the century, a period when the Vandal Kingdom —established in North Africa from *ca*. 425 CE— carried out several raids on the island of Sicily. Through this analysis, the study aims to better understand the transformations affecting rural Sicilian communities and the connections between the island and North Africa during Late Antiquity.

The original data were collected approximately thirty years ago. Between 2024 and 2025, a new study and revision of the material was undertaken with the aim of updating the dataset in accordance with current approaches in ceramic research and open science publication. The authors state that the dataset has been structured following the FAIR principles, meaning that the data are Findable, Accessible, Interoperable and Reusable (**Wilkinson *et al.*, 2016**). The data are easily locatable since they are included in the data note and freely available in the online repository Nakala, with a clearly indicated DOI. The format used (.csv) is appropriate, as it is standard, universal, and easily convertible, making the dataset interoperable and reusable across different types of software (e.g., Microsoft Excel, FileMaker, SQL, etc.).

This approach is also consistent with the type of license used, Creative Commons Attribution 4.0 International (CC-BY-4.0), which is recommended in the context of open science within European research institutions. This license allows the free use of the data provided that the authorship is properly acknowledged. In summary, the data note presented here meets the current requirements for the creation, Indexing and dissemination of open science within the framework of European research projects.

From a ceramological perspective, the dataset includes drawings, photographs of the artefacts, and macro-photographs of the fabrics, while also specifying the different software and hardware used for their documentation. Consequently, the authors have provided the information necessary for the revision and consultation of the material by interested researchers. In this way, the dataset contributes to the democratization of archaeological information, as the same data can be freely consulted by ceramic specialists worldwide.

It is also noteworthy that the database includes ceramics identified as residual within the contexts. This is particularly valuable, as it allows statistical analyses and comparisons with other sites regarding the proportion of residual and contemporary ceramics (or possible intrusions). The dataset also includes a "Comments" field indicating whether a piece has been restored, particularities of the fabric, whether it is residual, and other relevant observations, thus providing additional specific information about the different ceramic categories analysed.

The quantification includes counts of rims, bases, handles, walls, and the total number of fragments. However, it would be advisable to add an additional element, namely a quantification of vessels, for instance through the calculation of the Minimum Number of Individuals (MNI), which is probably the most widely used approach according to established protocols for ceramic quantification (**Arcelin and Tuffreau-Libre, 1998**). Furthermore, while the photographs of the artefacts include a scale that allows their real size to be determined, the macro-photographs of the fabrics do not. It would therefore be advisable to include scales in these images as well in order to determine the size of the inclusions within the fabrics.

In recent years, the publication of datasets associated with ceramic studies has increased significantly. This format of presenting data openly in accordance with FAIR principles has traditionally been associated with the formal and natural sciences, such as physics, chemistry, mathematics or biology. The adoption of these methodologies within the social sciences and humanities therefore represents a relatively recent development. Studies such as the one presented here, together with others published for the Late Antique period in regions such as the Iberian Peninsula (**Gutiérrez *et al*., 2024**) or Anatolia (**Polla and Weihe, 2026**), can therefore be considered pioneering contributions in this respect. In conclusion, analyses published in this format within the field of ceramic studies are particularly valuable, as they allow the re-examination of materials through online access, facilitate interoperable statistical comparisons, and contribute to the promotion of open, accessible and freely available scientific research for specialists working on ceramic material culture.

The use of R and RStudio for data processing is also worth highlighting. Over the last decade, these tools have become increasingly common in archaeological research, particularly in studies that rely on quantitative approaches and aim to ensure reproducible transparent research workflows (**Marwick, 2017**). In contrast to more traditional software environments often used in archaeology —i.e., spreadsheet-based workflows or proprietary statistical packages— R makes it possible to document the entire analytical process through scripts that can be shared together with the dataset. This greatly improves transparency and fits well with the principles of open science, since it allows other researchers to replicate, verify and, even, further develop the analyses. At the same time, the adoption of these tools is still uneven across the discipline, especially in fields such as ceramic studies, where data processing has often relied on more conventional methods. For this reason, the explicit integration of R-based analytical workflows alongside open datasets represents an important methodological step.

The authors also note that the revision process involved the rationalisation of terminology, the clarification of typological attributions, and the verification of quantitative records through consultation of established digital resources such as the PACTOLS thesaurus, the Roman Amphorae database (University of Southampton), the Ancient Lamps catalogue (J. Paul Getty Museum) and the COLREF-Thapsus reference collection. We consider this approach particularly valuable. Initiatives aimed at standardising terminology, ceramic typologies, and data presentation are essential for the future development of the discipline, as they facilitate comparison between datasets and improve the overall coherence of archaeological research.

If such practices become more widespread in the coming years, especially when combined with the publication of open datasets such as the one presented here, they could enable large-scale meta-analyses capable of significantly advancing research in ceramic studies. Comparable developments can already be observed in other fields, such as in the study of Greek pottery of the first millennium BCE, where the systematic compilation of ceramic materials into open databases has facilitated comparative research (**Garés *et al*., 2025: 10**). Examples include the Beazley Archive Pottery Database (University of Oxford), the Iberia Graeca Database (Generalitat de Catalunya) and the AtticPOT Project (Athena Research Centre).

In terms of the manuscript's style, the language is generally clear and easy to follow, and the authors manage to explain the technical aspects of the dataset in an accessible way while maintaining academic rigour. The inclusion of a plain language summary is particularly welcome, as it broadens the accessibility of the work for readers beyond the immediate specialist community. Nevertheless, some minor stylistic improvements could be considered. In certain sections —particularly in the methodological description— the prose occasionally becomes somewhat dense due to long sentences and complex constructions. Dividing these into shorter sentences would likely improve the overall readability of the text.

Overall, the dataset constitutes a valuable contribution both to the study of Late Antique ceramics and to the ongoing development of more transparent and reproducible research practices in archaeology. The combination of well-structured data, open accessibility, and clear methodological documentation greatly increases the potential for future comparative and quantitative analyses. In this sense, the work presented here offers a useful reference for similar initiatives in ceramic studies and in the broader field of archaeological data publication.

References

1. Arcelin, P., Tuffreau-Libre, M.: La quantification des céramiques: Conditions et protocole. *Actes de la table ronde du Centre archéologique européen du Mont Beuvray (Glux-en-Glenne, 7–9 avril 1998), Collection Bibracte 2, Glux-en-Glenne: Centre archéologique européen du Mont Beuvray*. 1998.
2. Gutiérrez Soto, I., Macias Solé, J. M., Rodríguez Martorell, F.: Ceramics from the cloister of Tarragona Cathedral (Version 2) [Dataset]. *CORA. Repositori de Dades de Recerca, https://doi.org/10.34810/data1335*. 2024.
3. Garés Molero, A., Rodríguez Pérez, D., Diez Castillo, A.: Over Land and Sea. The long-distance trade, distribution and consumption of ancient Greek pottery. *Oxford: BAR Publishing*. 2025.
4. Marwick, B.: Computational reproducibility in archaeological research: Basic principles and a case study of their implementation. *Journal of Archaeological Method and Theory, 24, 424–450, https://doi.org/10.1007/s10816-015-9272-9*. 2017.
5. Polla, S., Springer, A., Weihe, S.: GC-MS analysis of amphorae and cooking ware from Miletus

(Western Asia Minor) [Dataset]. *Freie Universität Berlin, https://refubium.fu-berlin.de/handle/fub188/51275*. 2026.
6. Wilkinson, M. D., Dumontier, M., Aalbersberg, I. J., Appleton, G., et al.: The FAIR guiding principles for scientific data management and stewardship. *Scientific Data, 3, Article 160018, https://doi.org/10.1038/sdata.2016.18*. 2016.
7. University of Oxford: Beazley Archive Pottery Database. *Available at: https://www.beazley.ox.ac.uk*. –.
8. Generalitat de Catalunya: Iberia Graeca Database. *Available at: https://www.iberiagraeca.net*. –.
9. Athena Research Centre: AtticPOT Project. *Available at: https://atticpot.athenarc.gr*. –.

Is the rationale for creating the dataset(s) clearly described?
Yes

Are the protocols appropriate and is the work technically sound?
Yes

Are sufficient details of methods and materials provided to allow replication by others?
Yes

Are the datasets clearly presented in a useable and accessible format?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Western Mediterranean Archaeology; Ceramology; Trade Studies; Digital Softwares Applied to Archaeology; Late Antique Pottery; Greek Pottery;

We confirm that we have read this submission and believe that we have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 30 Apr 2026

Fabrizio DUCATI

Dear Alejandro and Itziar, Thank you for your valuable feedback and for the time you have devoted to reviewing our manuscript. We greatly appreciate your thoughtful assessment of the dataset, as well as your discussion of its relevance within the framework of open science and FAIR principles. We are also grateful for the up-to-date and highly relevant bibliography you have suggested. We fully endorse the points you raise and aim to continue developing this line of research in order to promote more transparent, reproducible, and interoperable practices in ceramic studies and archaeology more broadly. We also appreciate your positive evaluation of the structure, accessibility, and methodological transparency of the dataset, including the use of open formats, standardised terminology, and reproducible workflows. We will reply to the points you have highlighted above:

1. Microphotographs and methodological clarity.
Thank you for highlighting the absence of scale in the microphotographs of the fabrics, as

well as the density of certain sections of the methodological description. We will revise these aspects accordingly by adding scale bars (or, where not possible, by indicating magnification) to all relevant images. In addition, we will restructure the methodological section, breaking down longer sentences and simplifying complex passages in order to improve clarity and readability.

2. Quantification and MNI.
We are grateful for your suggestion to include a quantification of vessels through the calculation of the Minimum Number of Individuals (MNI), in line with established protocols (e.g. Arcelin and Tuffreau-Libre, 1998). Although we have employed MNI in other contexts, in this case the quantification derives from the legacy work of the late Roberta Tomber. We have therefore chosen to follow her original approach, based on total sherd counts, which has been demonstrated to be methodologically consistent and comparable across different quantification systems. As noted by Michel Bonifay (2004, p. 446): "R. Tomber (1993) a testé la compatibilité des différentes méthodes et préconise la plus simple de toutes, le comptage du total des tessons (A). Une comparaison entre les données de Marseille calculées en TT, BFA et NMI suggère la même conclusion (Bonifay 1986, 97 et 303)." To address your suggestion, however, we will clarify this methodological choice more explicitly in the manuscript and discuss the implications of not including MNI, particularly in relation to comparability with other datasets.

- Tomber, R. (1993) 'Quantitative approaches to the investigation of long-distance exchange', *Journal of Roman Archaeology*, 6, pp. 142–166.
- Bonifay, M. (1986) 'Observations sur les amphores tardives de Marseille d'après les fouilles de la Bourse (1980–1984)', *Revue Archéologique de Narbonnaise*, 19, pp. 269–305.
- Bonifay, M. (2004) *Études sur la céramique romaine tardive d'Afrique*. Oxford: BAR Publishing (BAR International Series 1301).

Competing Interests: No competing interests were disclosed.

Reviewer Report 14 March 2026

https://doi.org/10.21956/openreseurope.24521.r70431

© 2026 Tol G. This is an open access peer review report distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

?

Gijs Willem Tol
University of Melbourne, Melbourne, Australia

This data note presents a database of 5th century pottery from four destruction deposits at the site of Campanaio in southern Sicily - this dataset was initially worked on in the late 1990s and early 2000s, with work now being finalised (and partly re-assessed) by the first author.

As a ceramic expert, I very much appreciate this effort to make full and quantified assemblages available for the wider scientific community. Doing this will create a permanent record for the relevant archaeological project and allow others to use the published data for other purposes. I do have two minor qualms: ideally, lists of types as the one provided here are accompanied by published line drawings of artefacts, so that others can not only use the quantified data, but are also able to re-evaluate it (for example, in light of further developments in ceramic typologies). Also, it would have been good if active links to the mentioned photographs and microphotographs were included.
Although I anticipate that this might not be the specific purpose of the here presented 'data note', it would also have been good to elaborate a little bit further on the interpretation and importance of the assemblage. Some if this is done in the plain language statement, noting that the studied assemblages raise questions about the destruction event at the site, and the continued arrival of imported (mainly African) ceramic in a clear period of upheaval. The preliminary ideas of the researchers on these specific points would have further enriched this note.

That being said, the authors are to be applauded for making their data available in this way, according to FAIR principles, as such providing a useful and valuable building block in reconstructing the social and economic history of late antique Sicily.

Is the rationale for creating the dataset(s) clearly described?
Yes

Are the protocols appropriate and is the work technically sound?
Yes

Are sufficient details of methods and materials provided to allow replication by others?
Partly

Are the datasets clearly presented in a useable and accessible format?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Roman archaeology; Roman and Late Antique material culture; Roman Italy; landscape archaeology

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 30 Apr 2026

Fabrizio DUCATI

Dear Gijs, Thank you for your kind feedback. We greatly appreciate the time you have taken to review the manuscript and to provide your comments on the data note. We are also

grateful for your positive assessment of the value of making full and quantified ceramic assemblages available according to FAIR principles. We respond to your points below:

1. Concerning the drawings.
We fully agree on the importance of making all data verifiable through drawings, especially in order to allow future re-evaluation in light of developments in ceramic studies. This has in fact already been done for each of the finds included here, although only photographs are currently available in this data note. All the drawings will be published in our forthcoming paper (Ducati and Wilson, *Fifth-century destruction deposits of predominantly African material at Campanaio, Agrigento province, Sicily*), accepted for publication in the open-access, double-blind peer-reviewed journal *Antiquités Africaines* and referenced in the data note (note 14). We will make this connection more explicit in the data note. Thank you also for suggesting the creation of active links between the images, microphotographs, and the corresponding records in the table. We will revise the table accordingly by adding URLs for each image.

2. Interpretation.
The interpretative aspects are discussed in detail in the forthcoming paper mentioned above. Nevertheless, we agree that the data note would benefit from a clearer statement on the interpretation and importance of the assemblage. We will therefore add a brief discussion of our preliminary interpretation, particularly concerning the destruction event at the site and the continued arrival of imported, mainly African, ceramics during a period of political and economic upheaval.

Competing Interests: No competing interests were disclosed.