

# **The ARCEA Project. Production Centres and Trade Relations in the Early Empire. Analysis of the Amphorae Production from the Tarraconensis Central Coast<sup>1</sup>**

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## **Introduction**

The amphorae production of the Tarraconensis central coast during the Early Empire is mainly linked to the wine trading, becoming apparent a clear predominance of Dressel 2–4 type, while other wine amphorae (Gauloise 4 and Almadrava IV) are only produced in the *territorium* of *Dianium*, as well as the oil amphorae Oliva 3.<sup>2</sup>

Although over the last years, the scientific community has shown a great interest in the studies focused on the production and trade of Roman amphorae in the Iberian Peninsula, the advances in the knowledge of Hispanic amphorae productions have been uneven, being the Tarraconensis northern coast and Baetica the best-known areas. On the contrary, amphorae production of the Tarraconensis central coast is less known, despite the fact that these containers would be traded in the western empire, as shown by classic authors' references<sup>3</sup> and the amphorae findings. For this reason, a research programme has been started which intends to improve the knowledge of this production and its distribution: The ARCEA project. The project is mainly based on three complementary action areas.

## **Geophysical Survey, Excavation and Analysis of the Pottery Production Centre of La Rana (Gata de Gorgos, Alicante, Spain)**

Regarding the production landscape, despite the evidences of amphorae production centres in the areas of *Edeta*, *Valentia* and *Saetabis*, most part of the *figlinae* belonged to the *territorium* of *Saguntum*,<sup>4</sup> and mainly, *Dianium*,<sup>5</sup> where 16 kilns have been detected (fig. 1). However, the number of archaeological excavations has been very low and the most part of the data collected comes from surveys or scattered findings, whose results have been published in a limited and uneven way.

Thus, in order to characterize its structures, the ceramic production and the stratigraphic sequence, we consider necessary the integral analysis of the Roman site of La Rana (Gata de Gorgos, Alicante, Spain). The site was discovered thirty years ago<sup>6</sup> and the surface materials indicated the existence of a pottery production centre dated around the 2<sup>nd</sup> and 3<sup>rd</sup> century AD. and whose extension could reach 9000 m<sup>2</sup>.

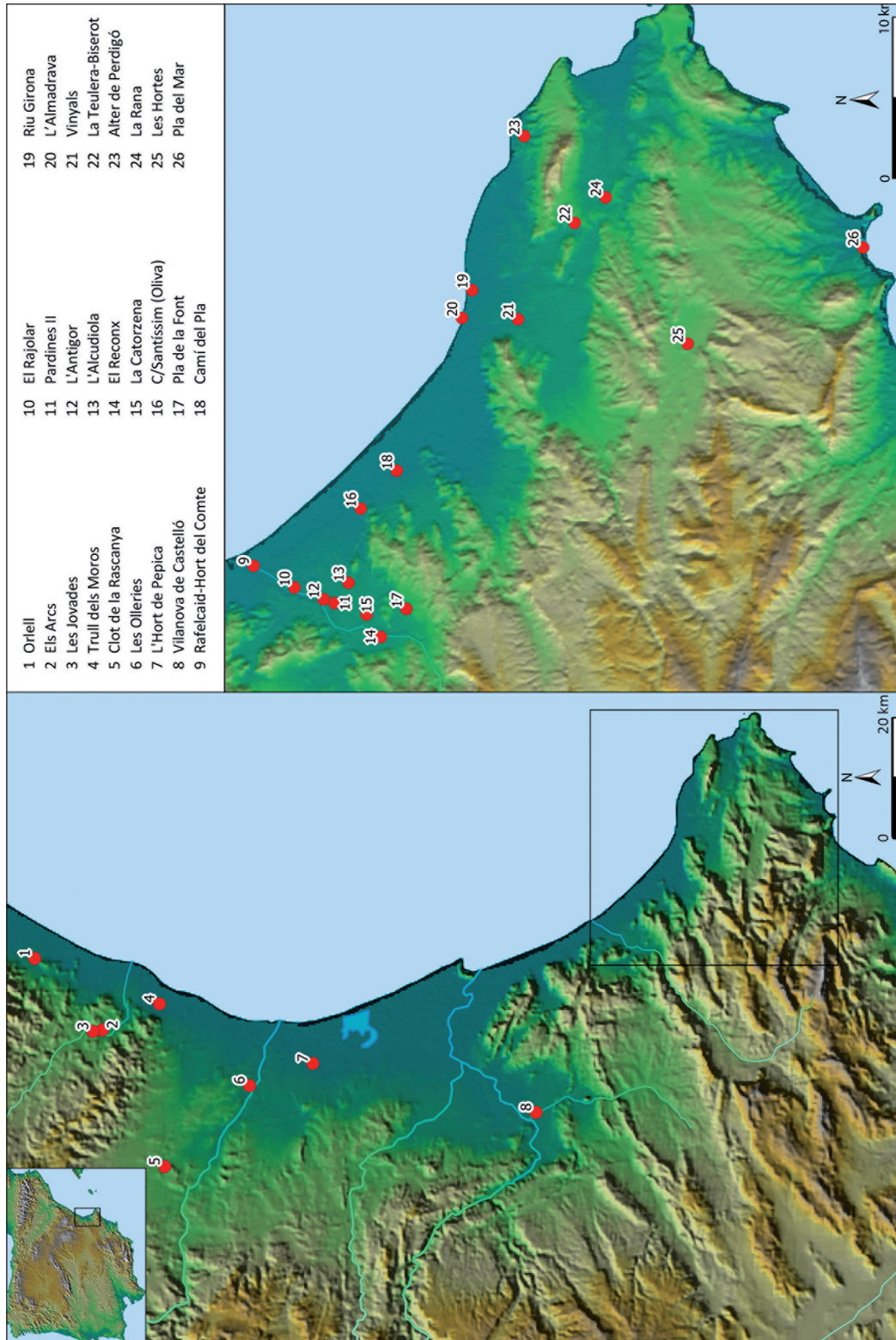


Fig. 1: Map location of the sites with evidence of amphorae production from the Tarraconensis central coast.



Fig. 2: Neck of Dressel 2–4 found during the excavation in La Rana.

One of the first actions of the project has been a geophysical survey with a StreamX georadar, in collaboration with a team led by L. Lagóstena Barrios (University of Cádiz). This action has allowed us to know the potential of the site and to improve the planning of the archaeological excavation tasks. In 2018, under the direction of J. Bolufer, J. Molina and D. Mateo, the first excavation campaign has been carried out.<sup>7</sup> Among other aspects, this intervention has made it possible to register oven discards that come to testify, not only the elaboration of the Roman amphorae types Gauloise 4, Almadrava IV and probably Dressel 2–4 (fig. 2), but also of construction materials and a wide range of common ware. The analysis of this campaign, still in process, and the realisation of new excavation campaigns in the coming years will allow us to enhance the knowledge of this Roman *figlina* and its productions.

### Analysis of the Mariposa E Shipwreck Cargo

The knowledge about the trade extension of the wine and oil amphorae from the Tarraconensis central coast is limited due to the fact that these amphorae present a similar morphology than other types produced in other best-known areas. Thus, the most part of the findings outside its regional area, have been made through sherds with epigraphy. In any case, besides its recurrent presence in the south and central Tarraconensis coasts, these amphorae have been detected in Galia and Rome.<sup>8</sup>

A key element to assess the real scope of the exports is the analysis of the Mariposa E wreck. This shipwreck, excavated in the 90s,<sup>9</sup> is located in Alghero, in the northwest of Sardinia (Italy). It presents a main cargo formed by Dressel 2–4 amphorae and an interesting epigraphic collection of graffiti, *tituli picti* and MPM stamps (fig. 3), which enabled us to hypothesize its *Saguntum* origin.<sup>10</sup> In collaboration with V. Gavini, we





Fig. 3: Amphorae from the Mariposa E shipwreck.

have proceeded to the analysis of the cargo placed in the Alghero Museum and Sassari, confirming its origin in the Tarraconensis central coast. It constitutes the main evidence of the commercialization in transit of the wine produced on the Tarraconensis central coast. The study includes the next points:

- Characterize the amphorae, morphologically and typologically, using also digital photogrammetry techniques.
- Specify the areas of origin of the amphorae through archaeometric analysis.
- Carry out a complete analysis of the amphorae epigraphy.
- Refine the time frame of the wreck reviewing the rest of the materials.
- Analyse the possible route of the shipwreck and its trade dynamics.

### **Typological Revision and Archaeometric Characterisation of the Central Tarraconensis Amphorae**

The third line of action of the project consists in the analysis of the amphorae material from different pottery kilns of the Tarraconensis central coast. The direct analysis of the material will consist of the morphological study, with a more adjusted typological characterisation that allows to know better its evolution, together with the characterization of the ceramic fabrics. The ceramic fabric analysis will be, first of all, macro-

scopic, obtaining samples for each of the groups of fabric identified. From each sample, a macroscopic photograph is obtained that facilitates its identification. Later, they will be subjected to a multidisciplinary study using X-ray diffraction (XRD), X-ray fluorescence (XRF) and thin section (fig. 4).

A catalogue of ceramic fabrics from the main amphorae production areas of the Tarraconensis central coast will be generated, a tool that will allow for the improvement of its identification in consumption contexts, helping to detect the real scope of their exports and to specify areas of origin.

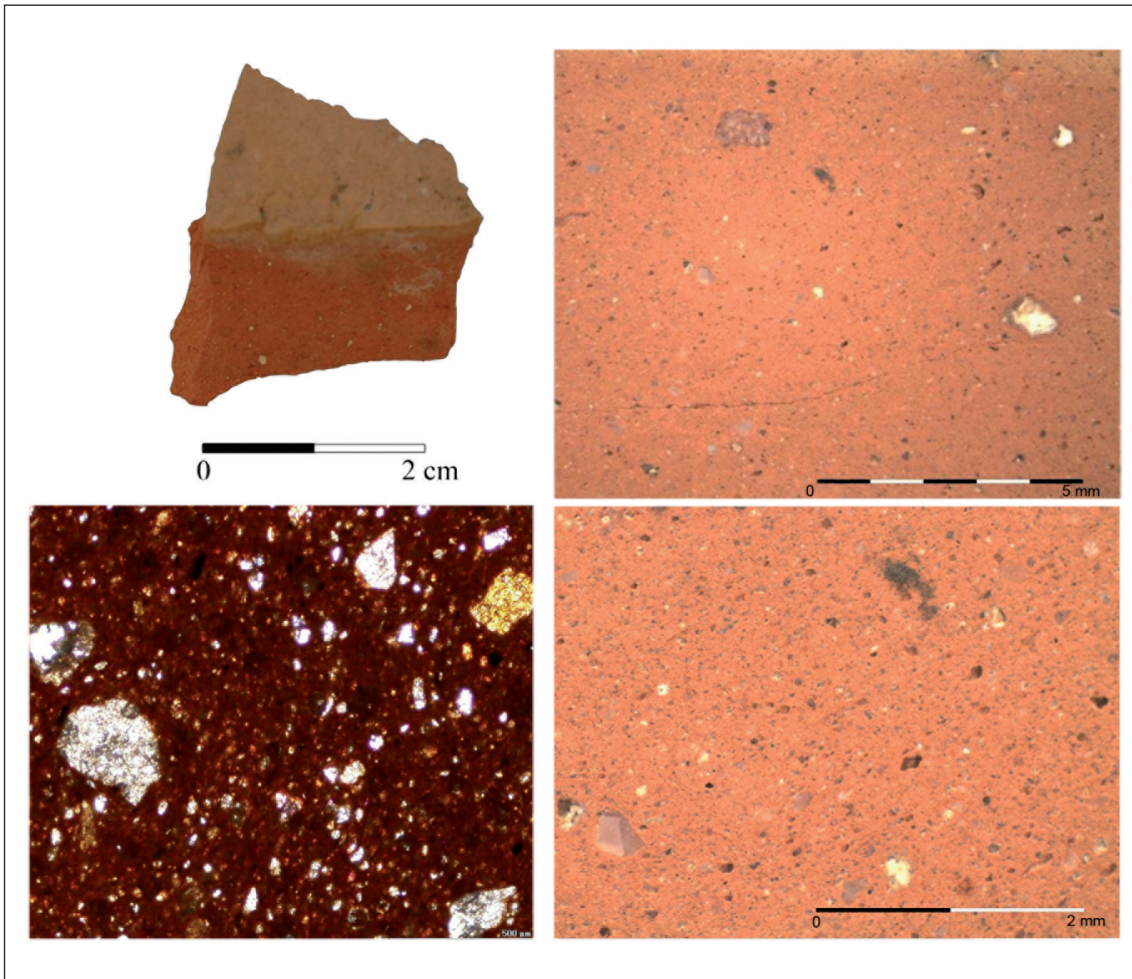


Fig. 4: Macrophotographs of a representative sample (8× and 20×) and thin section.

### Notes

- <sup>1</sup> This research has been developed in the context of the projects GRE-03, PGC2018-099843-B-I00 (MCIU/AEI/FEDER, UE), PID2019-107264GB-I00 and GV/2020/060.
- <sup>2</sup> An updated synthesis of each of these types in Mateo Corredor – Molina Vidal 2016a; 2016b; 2016c; 2016d.
- <sup>3</sup> Juvenal (SAT., V, 26–30) and Fronto (Epistulae I, 4, 8–13).
- <sup>4</sup> Aranegui Gascó 2008.
- <sup>5</sup> Gisbert Santonja 1999; 2009.
- <sup>6</sup> Bolufer Marqués – Banyos 1995.
- <sup>7</sup> Mateo Corredor et al. 2018. With the support of the University of Alicante, Soler Blasco Archaeological and Ethnographic Museum and the Gata City Council.
- <sup>8</sup> *Vid.* Mateo Corredor 2018.
- <sup>9</sup> Gavini 2013.
- <sup>10</sup> MPM stamp was found in the kiln of Els Arcs (Estivella, Valencia) (Aranegui Gascó – Mantilla Collantes 1987, 101).

### Image Credits

Fig. 1–3: By the authors. – Fig. 4: D. Mateo Corredor 2015, 118–120.

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