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Fabrics of Western Greek amphorae produced at Panormos and/or Solus

Introduction

Previous archaeometric and archaeological research has allowed for the in-depth characterization of the Phoenician-Punic amphorae fabrics produced at Palermo and Solunto.¹ Within the frame of the present study, we discuss two more fabrics related to western Greek amphorae manufactured in the area of Panormos and/or Solus,² compatible with the local raw materials of “Argille di Ficarazzi”.³ The majority of the samples included in this study has undergone petrographic analysis, half of the selection has been submitted to additional chemical analysis.⁴ The amphorae material under focus has been found at Ghizène/Jerba (M 149), Himera (M 179), Selinunte (M 154), Pantelleria (M 119), Palermo (M 106), Pizzo Cannita (M 189) and Monte Porcara (M 193). The bulk of the samples has been attributed to fabric PAN-SOL-A-1, while fabric PAN-SOL-A-2 is currently represented by not more than two amphorae.

Fabric Descriptions

PAN-SOL-A-1

Ref. M 179/165 (M 106/59, M 106/95, M 106/129, M 106/322, M 119/178, M 119/179, M 149/53, M 149/60, M 149/66, M 154/31, M 179/39)

The colour of the matrix is mostly light red-red, light brown or reddish-brown, with some greyish or reddish-grey cases (Munsell 2.5 YR 5/6, 6/8, 5 YR 5/2 and 7.5 YR 5/1, 6/4, 6/6, 6/8, 7/4).

To the naked eye, the clay appears rather compact with a good amount of small-medium and big particles of white, yellowish, dark grey-black or reddish colour and visible voids.

Voids are quite infrequent, in form of vughies and channels, sized between 0.04-06/0.20-80 or 1.40-2.40 mm. The texture of freshly broken section is fine, irregular or granular, the matrix is rather carbonatic and the distribution of the temper is mostly unsorted, with some cases of poorly-sorted sand in well-sorted silt (bimodal).

In general, the size of the inclusions varies from 0.02-04 to 0.90 mm and sporadic agglomerate sized 1.19 mm circa. The calcium carbonate is very frequent/frequent and shows two variants: white or white-yellowish grains of very spherical-subspherical-elongate/well rounded-rounded-subrounded-angular shape and sized between 0.02-04/0.40-60 or 0.79-1.19 mm; whitish-yellowish micritic

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¹ Bechtold and Schmidt 2015a; Bechtold and Schmidt 2015b; at latest, Bechtold 2015.

² For the full discussion of the issue related to the production of western Greek amphorae series in the territory of the Punic colonies of Panormos and/or Solus, see Bechtold 2020.

³ Montana et al. 2011, 85-87, 105, 135-36, 163 and, at latest, Montana and Randazzo 2015, 121-30.

⁴ Thin-section petrography at the polarizing microscope and chemical analysis (ICP-MS and ICP/OES) have been conducted by G. Montana (DiSTem, University of Palermo) and L. Randazzo (DiBEST, Università della Calabria) to whom we are very grateful for the permission to anticipate some of their forthcoming results.

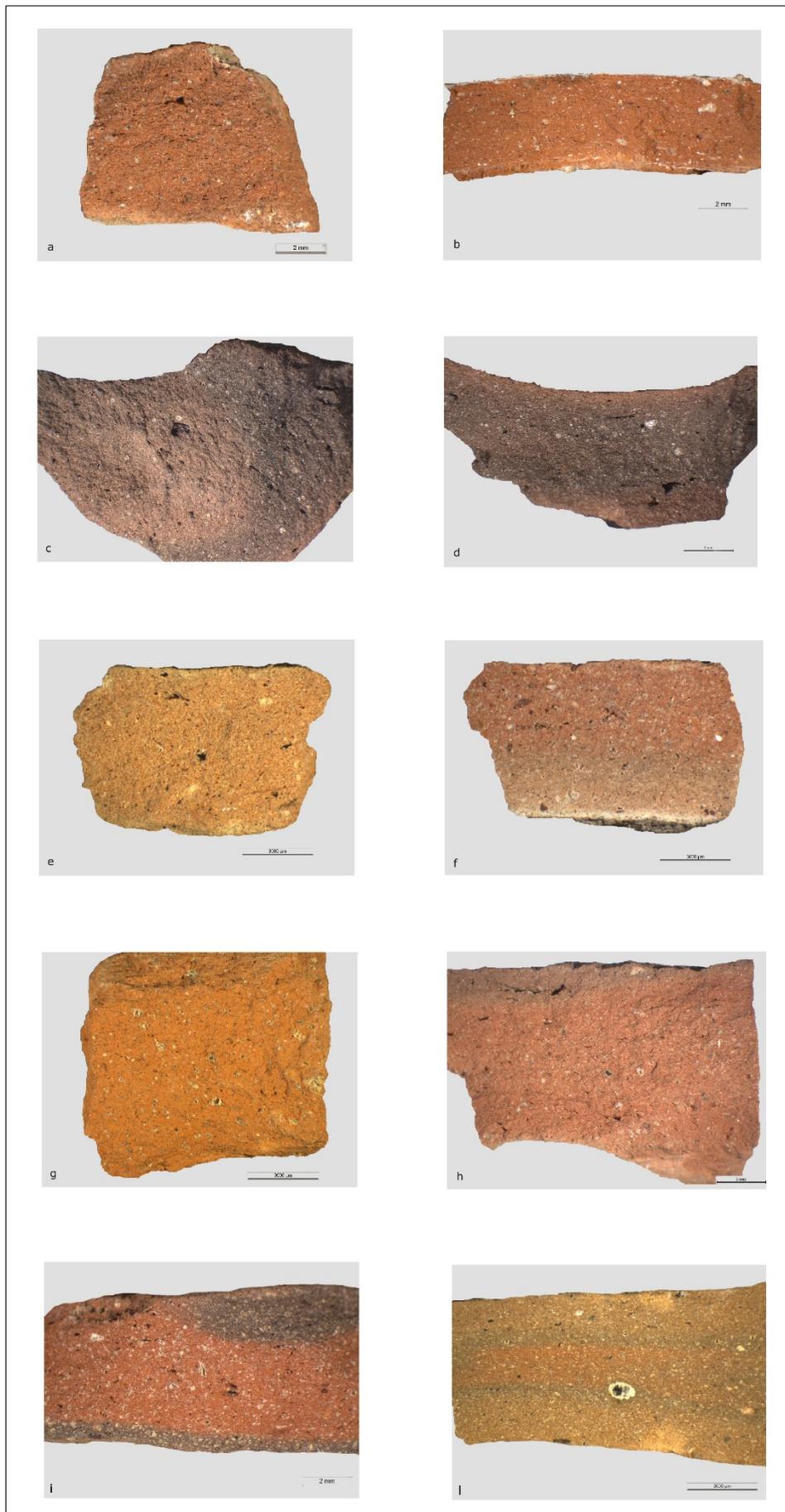


Fig. 1. Microphotos 8x: a. M 106/59; b. M 106/129; c. M 119/178; d. M 119/179; e. M 149/160; f. M 154/31
g. M 179/39; h. M 179/165; i. M 106/95; l. M 149/66.

clots⁵ of very spherical-sub-spherical-subelongate-very elongate/rounded-subrounded shape and sized between 0.02-04/0.32-80 mm. Quartz is very frequent/frequent and in one case it is invisible (M 149/60, fig. 1.e). It appears in the form of greyish-whitish-transparent inclusions, of very spherical-sub-spherical-subelongate-elongate/well rounded-rounded-subrounded shape, sized between 0.03-04/0.20-40 mm or 0.79 mm (rarely, M 106/129, fig. 1.b). Mica can be frequent or infrequent, with the typical shiny aspect, small sized (0.02-04/0.06-12 mm) and of spherical-elongate/angular shape. Further characteristics of fabric PAN-SOL-A-1 are: a very frequent/frequent/infrequent quantity of reddish, reddish-brown or light red inclusions of very spherical-sub-spherical-elongate-very elongate/well rounded-rounded-subrounded-subangular shape, small-medium sized (0.03-04/0.16-90 mm); a frequent/infrequent or rare concentration of blackish inclusions of spherical-sub-spherical-subelongate-elongate/well rounded-rounded-subrounded shape, generally small sized (0.04(0.08-40 mm) with some cases of 1.20 mm. Occasionally, two different kinds of iron inclusions are visible: sporadic, reddish oxide concretions of very spherical/subangular shape and small sized (0.08/0.20 mm) (M 149/60, fig 1.e) and sporadic, black oxide concretions of subspherical-subelongate/rounded-subrounded shape and small sized (0.06/0.32 mm).

PAN-SOL-A-2

Ref. M 193/12 (M 189/36)

In comparison to the above-mentioned fabric PAN-SOL-A-1, PAN-SOL-A-2 appears to be a coarser version with a higher concentration of calcium carbonate. The colour of the matrix is brown or reddish-brown (Munsell 2.5 YR 5/4 and 7.5 YR 6/3). To the naked eye the clay appears rather compact and granular with a large amount of visible white-yellowish or reddish-orangish inclusions, small-medium-big sized, and visible voids.

Voids are not so frequent, mostly in form of vughies and sporadic chambers, sized between 0.04-08/0.56-75-1.00 mm. The fabric has the same characteristics- texture and matrix- of PAN-SOL-A-1 and the distribution of the temper is mainly well-sorted silt. The general size of the inclusions varies from a minimum of 0.04-08 mm to a maximum of 0.71-1.40 mm. Calcium carbonate, part of the matrix and/or added, appears in two versions: white or whitish-yellowish, grains of very spherical-sub-spherical-elongate/well rounded-rounded-subrounded-subangular-angular shape, sized between 0.04-08/0.71-1.40 mm; white-yellowish or white-brownish-orangish micritic clots of very spherical-spherical-sub-spherical-very elongate/well rounded-rounded-subangular-angular shape, sized between 0.03-04/0.40-1.10 mm. The other typologies of inclusions are quite similar to the previous fabric in terms of quantity, shape and size. Quartz is not visible in all of the samples and appears to be infrequent or rare.

⁵ See Cau Ontiveros et al. 2002, 11-12: formations of secondary calcite, caused by high firing temperatures. This new term indicates the "dissolved carbonate grains" used for the descriptions in FACEM.



Fig. 2. Microfotos 8x: a. M 189/36; b. M 193/12

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