

The Black Gloss Pottery in the Region of Ostia: Archaeology and Archaeometry

G. Olcese and C. Capelli

1 Introduction, Material and Questions

Archaeometric data on black gloss pottery (BGP) from the area of Ostia, as well as from central Italy, are scarce (Morel and Picon 1994; Olcese and Picon 1998; Niro Giangiulio 1999; Gliozzo and Memmi Turbanti 2004). The production was probably distributed among several workshops, as suggested by preliminary analyses on other contexts of Latium (Olcese 1998).

Recent excavations carried out by the Soprintendenza Archeologica di Ostia in the *Ager Portuensis* brought to light several Republican sites dated to a period between the fourth and the second centuries BC (Morelli et al. 2004; Morelli et al. 2008) (Fig. 1).

The excavated contexts, mainly unpublished, contain BGP associated with Greco-Italic amphorae (Olcese and Thierrin-Michael 2007) and local common wares. Among the BGP documented in the *Ager Portuensis*, the forms most frequently attested are the bowls Morel 2783 and 2784, and in minor quantities Morel 2621 (third century BC), which have an impressed decoration on the inside of the base (palmettes or rosettes), of the *petites estampilles* type or of the “Etruria/Latium” workshops.

Due to the lack of any identified workshops or kilns involved in the production of BGP and to the difficulty in making clear distinctions among this type of pottery on the basis of macroscopic characteristics, archaeometric analyses on samples from the *Ager Portuensis* have been carried out in the framework of the FIRB Project “Reconstructing the trade in the Mediterranean sea in the Hellenistic and

G. Olcese (✉)

Facoltà di Lettere e Filosofia, Dipartimento di Scienze storiche, archeologiche e antropologiche dell'antichità, Università di Roma “La Sapienza”, Roma, Italy
e-mail: gloria.olcese@uniroma1.it

C. Capelli

Dipartimento per lo Studio del Territorio e delle sue Risorse, Università di Genova, Genova, Italy
e-mail: capelli@dipteris.unige.it

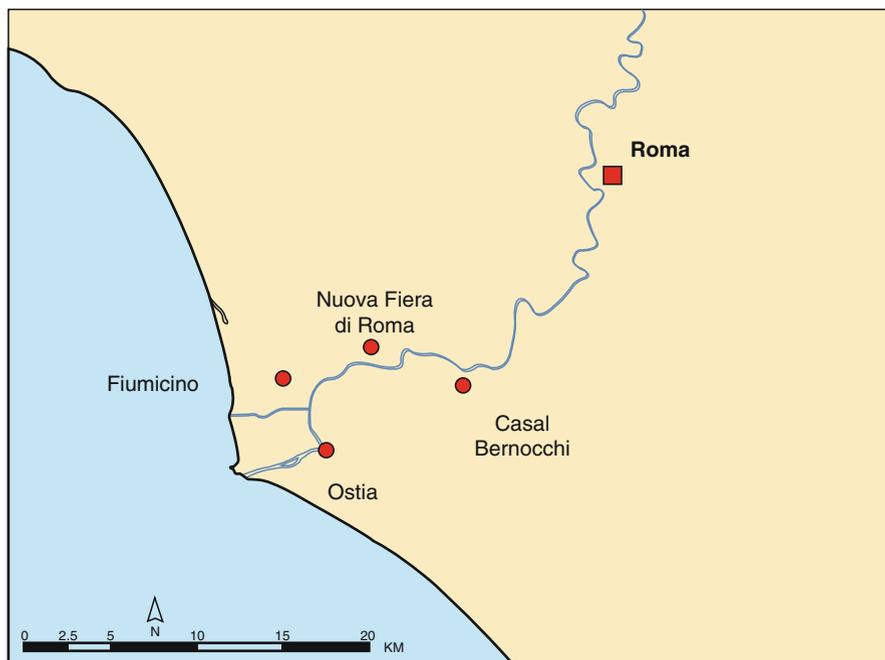


Fig. 1 Schematic map showing the location of Ostia and *Ager Portuensis*

Roman periods through new scientific and technological approaches” (<http://www.immensaequora.org>).

Chemical analyses by X-ray Fluorescence (WDS) of ten major and 13 trace elements have been performed by a Philips PW 1480/10 spectrometer on 40 samples (in glass tablets) at the laboratories of CNR/IGG, Rome. Moreover, petrographic analyses (thin section observation under polarising microscope) have been carried out on 38 samples.

This study was aimed at contributing to answer the following questions: (a) was there one or many production centres of BGP? (b) what are the characteristics of the BGP from the *Ager Portuensis*? (c) was there a local production of BGP?

2 Analytical Results

The integration of chemical and petrographic analyses has allowed the identification of a relatively homogeneous group ($n = 29$), consisting mainly of samples recovered in Ostia. The group includes large bowls – Morel 2538, 2621, 2775, 2783, 2784 (beginning of the third century BC) and the bowls Morel 1312, 2534, and 2788 (second century BC) (Fig. 2).

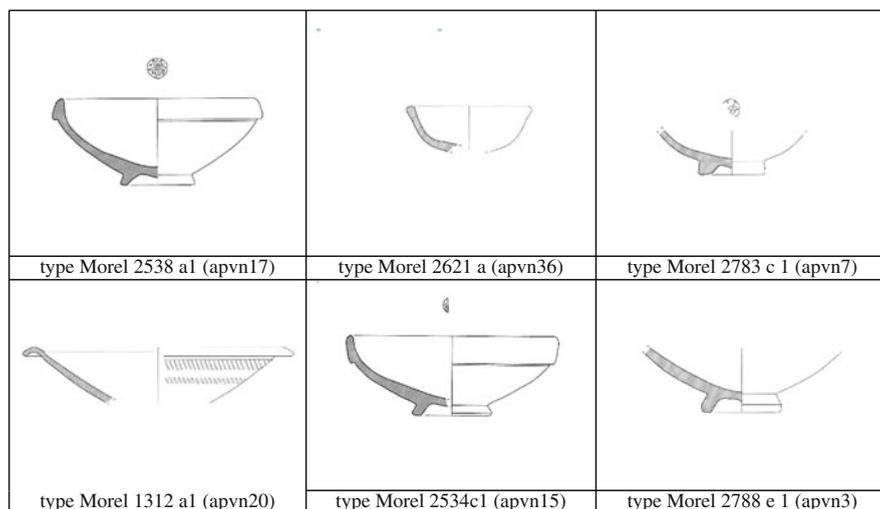


Fig. 2 Main types of black gloss pottery from *Ager Portuensis*

The objects in this group are slightly different in morphological features and macroscopic characteristics of the black gloss from BGP samples of the same types found in other distant or neighbouring areas.

The mean values of the chemical data of the “Ostia-*Ager Portuensis*” group are listed below.

		Oxide wt%												
		SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅			
m		55.64	0.81	18.30	7.21	0.16	2.73	10.91	1.03	2.42	0.27			
σ		2.21	0.03	0.69	0.38	0.03	0.19	2.01	0.16	0.20	0.03			
		ppm												
		Rb	Sr	Y	Zr	Zn	Th	Pb	Cr	Ni	V	Ce	Ba	La
m		121	401	27	208	98	20	35	111	62	124	108	613	65
σ		26	56	2	21	9	3	6	9	6	21	10	40	14

Under the microscope, the “Ostia-*Ager Portuensis*” group fabrics are characterised by a generally oxidised Fe-rich clay matrix and numerous fine-grained aplastic inclusions (<0.1–0.2 mm in size), mainly consisting of quartz, mica and feldspar grains (Fig. 3a).

Microfossils ± limestone fragments (partially or totally dissociated by firing) are often present, sometimes abundant. Titanite, amphibole, clinopyroxene and chert, claystone, and volcanic rock fragments are accessory components. Several subgroups are recognisable due to variability in grain size of inclusions, relative ratio of the various components, firing temperature, oxidation degree, and, in most cases, coating features (for the black gloss technology, see Maggetti et al. 1981;

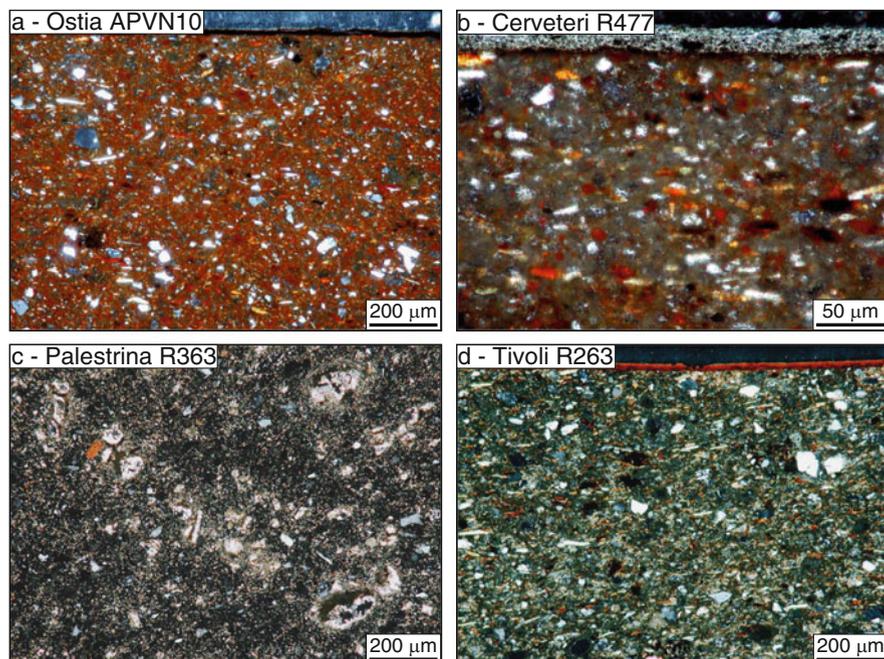


Fig. 3 (a–d) Microphotographs (crossed polars) of representative samples of the groups discussed in the text

Gliozzo et al. 2004). This variability is possibly related to different productions/workshops in one geological/production area.

In terms of chemical composition, the “Ostia-Ager *Portuensis*” group differs from the BGP analysed samples recovered in other sites of Latium (Rome, Cerveteri, Segni, Tivoli, and Palestrina; for the reference groups, see Olcese 1998).

Preliminary thin section analyses on a few representative samples from Cerveteri, Palestrina and Tivoli confirm the textural and mineralogical differences from the “Ostia-Ager *Portuensis*” group. The main petrographic features of these samples are listed below.

Cerveteri (two samples): very fine-grained inclusions (<0.1 mm) formed by mica (dominant), quartz, feldspar and accessory titanite; no volcanic elements have been found (Fig. 3b).

Palestrina (one sample): Ca-rich poorly oxidised matrix; abundant fine-grained inclusions (<0.1 mm) formed by calcareous microfossils (dominant), quartz, feldspar, subordinate mica, accessory clinopyroxene, amphibole, titanite, and chert fragments (Fig. 3c).

Tivoli (one sample): Ca-rich clay matrix; very abundant fine-grained inclusions (<0.1 mm), formed by calcareous microfossils, sponge spiculae, quartz, micas, feldspars, and accessory amphibole, epidote, tourmaline, melanitic garnet, and volcanite fragments (Fig. 3d).

3 Conclusive Remarks

New data about the BGP from the area of Ostia were obtained through an integrated archaeological, chemical and petrographic approach. A possibly “local” group has been identified. The fabrics of the “Ostia-*Ager Portuensis*” group contain inclusions related to the alkali-potassic volcanites outcropping in southern Tuscany, Latium and Campania, which on one hand excludes a provenance from Northern Etruria, and, on the other hand, does not exclude a local/regional production.

The “Ostia” group differs in both chemical and petrographic features from characteristic samples of neighbouring sites of Latium. In addition to this, the majority of BGP samples from Ostia and *Ager Portuensis* show a chemical composition different from samples from other production centres in Campania (Morel and Picon 1994; Olcese et al. 1996), as well as in northern Etruria (Gliozzo and Memmi Turbanti 2004).

References

- Gliozzo E, Memmi TI (2004) Black gloss pottery: production sites and technology in northern Etruria, Part I: provenance studies. *Archaeometry* 26(2):201–225
- Gliozzo E, Kirkman IW, Pantos E, Memmi TI (2004) Black gloss pottery: production sites and technology in northern Etruria, Part II: gloss technology. *Archaeometry* 26(2):227–246
- Maggetti M, Galetti G, Schwander H, Picon M, Wessicken R (1981) Campanian pottery: the nature of black coating. *Archaeometry* 23(2):199–207
- Morel JP, Picon M (1994) Les céramiques étrusco-campaniennes: recherches en laboratoire, In: *Ceramica romana e archeometria: lo stato degli studi*, Atti delle Giornate Internazionali di Studio, Castello di Montegufoni (Firenze). 26–27 aprile 1993, a cura di Olcese, G., Firenze, pp 23–46
- Morelli C, Olcese G, Zevi F (2004) Scoperte recenti nelle saline portuensi (*Campus salinarum romanarum*) e un progetto di ricerca sulla ceramica ostiense in età repubblicana. In: Gallina Zevi A. and Turchetti R., (a cura di) *Anciennes routes maritimes méditerranéennes, Méditerranée occidentale antique: les échanges*, Rubbettino Editore ANSER, 43–55
- Morelli C, et al. (2008) The landscape of the *Ager Portuensis*, Rome: some new discoveries, 2000–2002. In: Lock G, Faustoferri A (a cura di) *Archeologia e territorio nell’Italia centrale: in ricordo di John A. Lloyd*. University of Oxford School of Archaeology, Oxford, 213–231
- Niro Giangiulio M (1999) La ceramica a vernice nera di età ellenistica. In: Chiaramonte Trerè C (a cura di) *Tarquinia, scavi sistematici dell’abitato. I materiali*, Roma
- Olcese G (1998) Ceramiche a vernice nera di Roma e area romana: i risultati delle analisi di laboratorio, Indagini archeometriche relative alla ceramica a vernice nera: nuovi dati sulla provenienza e la diffusione, In: *Atti del Seminario internazionale di Studio*, Milano 22–23 novembre 1996. Edizioni New Press, Como, 141–152
- Olcese G, Picon M (1998) Ceramiche a vernice nera in Italia e analisi di laboratorio: fondamenti teorici e problemi aperti, In *Atti del Seminario internazionale di Studio*, Milano 22–23 novembre 1996. Edizioni New Press, Como, pp 31–37
- Olcese G, Picon M, Thierrin-Michael G (1996) Il quartiere ceramico sotto la chiesa di Santa Restituta a Lacco Ameno d’Ischia e la produzione di anfore e di ceramica ellenistica. *Bollettino di Archeologia* 39–40:7–29
- Olcese G, Thierrin-Michael G (2007) Greco-italic amphorae in the region of Ostia: archaeology and archaeometry, EMAC ’07, Budapest, 24–27 ottobre 2007 (abstract p. 106; text in press)