

Ceramic production in Roman-age Apulia: lychnological contexts



Abstract: Archaeological research in Apulia have given solid grounds for a historical characteristic of the region, specifying the nature of settlements and their socio-economic environment in the Roman age. But production centers, primarily pottery workshops, as well as commonly traded shapes, trade routes and consumer centers still are in need of comprehensive study. For this purpose a targeted examination of *Apulia et Calabria* has been launched, identifying places and modalities of pottery production from the 3rd century BC to the 3rd century AD on the grounds of both permanent installations and mobile finds. This contribution, which takes advantage of the documentation collected within the frame of this research, seeks to identify and contextualize sites where clay oil lamps were being produced, through the scopes of production continuity/discontinuity and the modalities of settlement, craft, economy and commerce.

Keywords: *Apulia et Calabria*, urban and landscape archaeology, Roman archaeology, clay oil lamps, Roman pottery, material culture

The results of 30 years of rural and urban landscape archaeology research in the region of *Apulia et Calabria*, coinciding more or less with modern Puglia [Fig. 1], have given a solid base for reconstructing an articulated framework of settlement history and related socio-economic issues (Grelle and Volpe 1994; Silvestrini 2005; De Mitri 2010; Mangiatordi 2011; Volpe 2011; Small 2014b; Fioriello 2017). Numerous studies and contri-

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butions have been devoted to the political-institutional context, the dynamics of urbanization, land management and natural resources, and the circulation of foodstuffs and traded goods (Volpe 1990; Sirago 1993; Volpe 1996; 1999; Mangiatordi 2011; Small 2011; Grelle and Silvestrini 2013; Goffredo 2014; Grelle et al. 2017). What is still missing is a comprehensive and targeted survey of ceramic production in the *Regio II* of the Augustan administrative division, placed in context with the economic and social processes that are at the base of all production, trade and consumption, which in turn are shaped by regional topography and demographics (Fioriello 2012a; Fioriello and Mangiatordi 2013; Small 2014b; Mangiatordi and Fioriello 2015; Grelle et al. 2017; Volpe 2018).

The research presented here is part of a much broader survey of settlement and the ceramics supply chain in central Apulia in Roman times (Fioriello 2008; Conte 2010; De Filippis 2010; Mangiatordi 2010; 2011; Small 2013; 2018), which has been redefined (Fioriello 2012a; Fioriello and Mangiatordi 2013; Mangiatordi and Fioriello 2015) and extended to cover all of *Apulia et Calabria* in an effort to verify the importance of a reversed perspective, a critical heterogenesis, which reverses the usual diagnostic path, taking the “indigenous” local production system as a point of departure for the research rather than the “original” outcome in the form of the produced artifacts. The approach is still conventional, even when archaeometrics are involved (Curri 1996; Giannichedda 2006; Malfitana 2012; Giannichedda 2018; Volpe 2018). The objec-



Fig. 1. The *Regio II* of Augustus on the southern Adriatic coast of Italy (After Baratta, Fraccaro, and Visintin 1966: 14)

Sites with evidence of ceramic production mapped in Fig. 2 on the opposite page

Key: i = permanent installation; m = mobile finds

Topographical identification: bold – **urban**; italic – *rural*; regular font – no attribution possible

No.	Context surveyed*	A – end 4th to beginning 2nd century BC	B – 2nd to 1st century BC	C – 1st to 3rd/early 4th century AD	D – generically from the Roman era
1	Carlantino	<i>i</i>		<i>m</i>	
2	Castelnuovo della Daunia	<i>i</i>			
3	Lucera	i	<i>i</i>	m	
4	Barletta-Canne	<i>i • i • i</i>			
5	Canosa	i • i	<i>i/m • i/m • ?/m</i>	m • i • i • m • i/m	i
6	Ruvo di Puglia	m			
7	Altamura	<i>?/i</i>	<i>i/m</i>		<i>?/i</i>
8	Ceglie del Campo	m		i/m	
9	Conversano	i/m			
10	Fasano- <i>Gnatia</i>	i • i • i	<i>?/i • ?/i • ?/m • m</i>		
11	Taranto	<i>i • i • m • i/m • i/m • i • i/m • i/m • i • i/m</i>	i • i • m • m • i/m	<i>Ci</i>	i • m • ?/i • m • i • i/m • i • m • i
12	Brindisi	i	<i>i • i • i • j • i • j • i • i • i • i • i/m • m</i>		
13	Mesagne-Muro Tenente	i/m			<i>?/m</i>
14	Torchiarolo-Valesio	i/m			
15	Melendugno-Rocavecchia	i			
16	Poggiardo-Vaste	m • i/m • i			m
17	Alezio	i	i • i	m	i
18	Ugento	i • i	<i>m</i>		
19	Tremiti-San Nicola		<i>i</i>		
20	Rodi Garganico		<i>m</i>		
21	Ordona- <i>Herdonia</i>		i/m • m • i/m • i/m	m	
22	Ascoli Satriano		<i>m</i>	<i>m/i • m/i • m/i</i>	
23	Minervino Murge		<i>i/m</i>		
24	Bitonto		<i>m</i>		
25	Gravina in Puglia		<i>i/m • m • i</i>	<i>i/m • i</i>	
26	Torricella		<i>i</i>		
27	Francavilla Fontana		<i>i/m</i>		
28	Oria		m • i		
29	Salve		<i>m/i</i>		
30	Lecce-Ramanno		<i>i/m</i>		
31	San Giorgio Jonico			<i>i</i>	
32	San Donaci-Fondo Palazzo			<i>i</i>	
33	Alliste-Felline				<i>m</i>

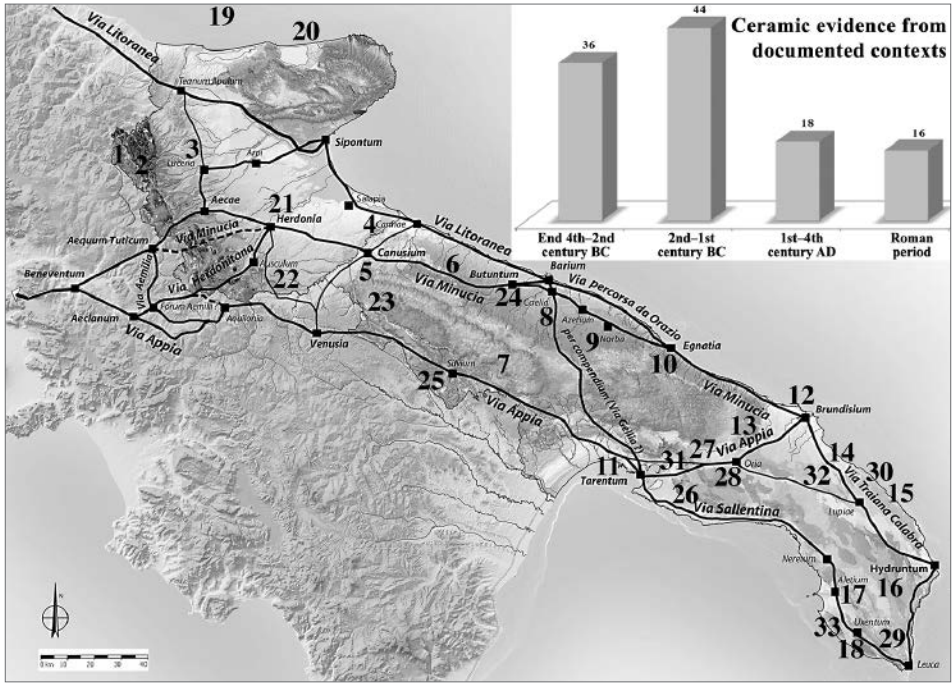


Fig. 2. Map of the Apulian area in Roman times: network of the main roads from the Late Republican period and sites with evidence of ceramic production (see opposite page for identification of recorded sites); inset, breakdown of sites with ceramic evidence by chronological periods (After Ceraudo 2015: 215, Fig. 1; processing C.S. Fioriello)

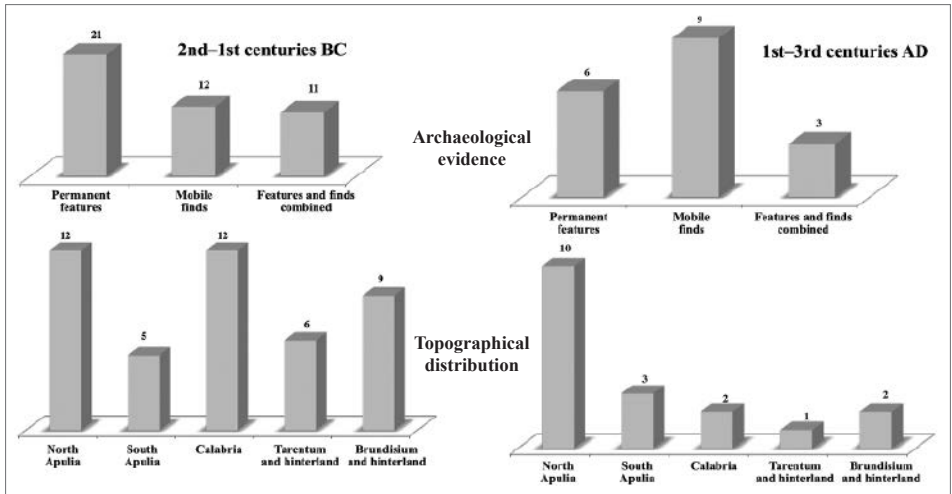


Fig. 3. Production contexts in Apulia in two major periods: left, 2nd-1st centuries BC; right, 1st-3rd centuries AD, presented in terms of the archaeological evidence (top) and topographical distribution (bottom); numbers refer to the number of sites with chronologically identified material (Processing A. Mangiatordi, 2018)

Table 1. Ceramic ateliers producing oil lamps in the Puglia region

NO.	SITE	INDICATOR		TYPOLOGY
		MOBILE	PERMANENT	
1.	Taranto (via Leonida 52)	Production waste Supports/spacers Moulds Containers for mixing clay Modelling rods and models	Furnace Ib Service facilities Well Drainage ditches	Black Gloss (Esquiline types?)
2.	Canosa (Giuseppe Mazzini Elementary School)	Production waste	Furnace (unidentified type)	Esquiline biconical
3.	Carlantino- Masseria Bellizzi	Five moulds	–	Dressel 3 (3 moulds); Loeschcke IA=Deneauve IVB (2 moulds)
4.	Ordona/ <i>Herdonia</i>	Production waste	Four furnaces IIb	Loeschcke IA
5.	Canosa (Via Alcide De Gasperi- Building site Lembo)	Production waste Misfired products	Furnace (unidentified type: IIb or IIc)	Dressel 4 =Loeschcke I–IV, VIII (?)
6.	Canosa (Hill of San Pietro)	Production waste Misfired products Mold	Furnace (unidentified type)	Dressel 3 (? : 1 mould); Loeschcke I–IV=Deneauve IV
7.	Canosa (Giuseppe Mazzini Elementary School)	Production waste		Unidentified type (Loeschcke I–IV?)
8.	Lucera	Production waste		Deneauve VG
9.	Ordona/ <i>Herdonia</i> (Trench 76.5)	<i>Firmalampen</i> moulds (3)		Loeschcke IX–X =Delplace IV and V

DATATION	CONTEXT	ASSOCIATED PRODUCTION	REFERENCES
5th/4th–2nd century BC	Suburban	Ceramic vessels (bowls, <i>stamnoi</i> , <i>lekythoi</i>) and Black-Gloss (<i>skyphoi</i> , bowls, cups, <i>olpai</i> , <i>gutti</i>)	De Juliis and Mertens 1983: 511; Dell'Aglio et al. 1988: 129–130, Pl. XXXV.1; 1989: 212–213, Pl. XCIII.1; Dell'Aglio 1996a: 324–325; 1996b: 53, 56–57, 62–63; 2002: 185–186; De Filippis 2009: § V.84
End 2nd–1st century BC	Urban: southwestern artisanal area	Black-painted ware(?)	Volpe 1990: 76–77, Fig. 76, note 252; De Filippis 2009: § V.86–87; Fioriello 2012b: 87
1st century BC–1st/2nd century AD	Rural		Maucci Vivolo 2008: 38, 88, 179, notes 724–725; Fioriello 2012b: 94, 99, notes 51, 78
1st century BC–beginning 1st century AD	Urban: area between <i>macellum</i> and walls	Common wares	Mertens 1985: 89–95; 1988: 52–65; Volpe 1990: 77, notes 254, 256; Todisco and Volpe 1992: 52; Mertens 1995: 227–228, Figs 233–236; Mertens and Volpe 1999: 76–77, Figs 91–92; De Filippis 2009: § V.75–79; Fioriello 2012b: 98–99, note 76
First half 1st–2nd century AD	Urban: northwestern handicraft area	Common wares Bricks Black-painted wares Italian terra sigillata (?)	De Juliis and Mertens 1983: 524; Morizio 1990: 305–306, 308, 312, Figs 1–2, notes 6, 13; Volpe 1990: 76–77, Fig. 47, note 258; Todisco 1992: 52; De Filippis 2009: § V. 88–92; Fioriello 2012b: 98, note 72
End 1st century BC to 2nd century AD	Suburban	Loom weights Tableware Bricks	De Stefano, Giuliani, and Leone 2007: 42–44, Figs 10–11; Fioriello 2012b: 98, notes 72–73; Gliozzo et al. 2016: <i>passim</i>
First half 1st century AD	Urban: southwestern artisan area		Morizio 1990: 312; Volpe 1990: 77; De Stefano, Giuliani, and Leone 2007: 44, note 24; Fioriello 2012b: 98, note 74
Mid 1st century AD	Urban (?)		Volpe 1990: 76–77, Fig. 48, note 253; De Filippis 2009: § V.152; Fioriello 2012b: 97–98, Fig. 21, notes 65–71; Fioriello and Mangiatordi 2020 forthcoming: 235–238
End 2nd–3rd century AD	Urban		Mertens 1979: 37–39, Fig. 11.2–3, Pl. XX.b–c; Pietropaolo 1995: 277–283, Fig. 286, notes 60, 62; Annese 2000: 337–338, Type 4; Fioriello 2018: 224–226, notes 20–21; 2019b: 156–158; Fioriello and Mangiatordi 2020 forthcoming: 235–238

tive was to analyze each case separately and then set it in the broader context of settlement data from the region in question. The focus was on contexts providing evidence of pottery and brick production in Apulian territory from the beginning of the 3rd century BC to the end of the 3rd and early 4th century AD, that is, a long time span comprising the progressive disintegration of indigenous *ethne*, a gradual Romaniza-

tion of the choro-demographic structure of the Ἰάπυγες καὶ Μεσσήπιοι (mentioned by Polyb. 2, 24, 11 for the *togatorum formula* of 225 BC, on which new light has been shed by Grelle and Silvestrini 2013: 75, 80, 115–120, 145), the reorganization in the Imperial period and the later provincialization of the region (Grelle and Volpe 1994; De Juliis 1996: 256–325; Grelle 2005; Grelle and Silvestrini 2013; Grelle et al. 2017) [Fig. 2].

ARCHAEOLOGICAL MATERIAL

The data collected within the frame of this research comes from publications through 2010. A huge disparity has been noted between the heuristic consistency and interpretative approaches depending on the period of publication and applied methodology; there is also a disproportion of the amount of data for the various parts of the region. Research in the northern part stands out, being based on a longer, richer and constantly developed tradition of field surveys and interpretative evaluations. For the Roman period the results of the research (Volpe 1990; 1996; 2011; Grelle and Silvestrini 2013; Goffredo 2014; Nonnis 2015; Grelle et al. 2017, with references) are a mile ahead of what has been done for neighboring central and southern Apulia, which has only recently benefited from a considered historical-archaeological analysis with regard to the period in question (Ciancio 2002; Todisco 2010; Mangiatordi 2011; Small 2011; 2013; Ciancio and L'Abbate 2013; Small 2014a; 2014b; Fioriello 2017; Small 2018).

The typo-chronological catalog proposed here takes into account fundamental studies dedicated both to the taxonomy of pottery kilns (Cuomo di Caprio

1971–1972; 2007, see also for typology of kilns used below) and to ceramic production treated holistically with elements of ethnoarchaeology in the background (Le Ny 1988; Cuomo di Caprio 1992; Mannoni and Giannichedda 1996; Morel 1996; Failla and Santoro Bianchi 1997; Peacock 1997; Morel 2002; Giannichedda 2006; Pallecchi 2012; Giannichedda 2018). Moreover, by broadening the scope of observation to include production cycles, circulation and use/consumption of resources (biological and mineral), and the related craft practices and dynamics (for the method, e.g., Polfer 2004; Santoro and Olari 2004), the duality of a 'consumer city' and 'producer city' has been avoided in exchange for, if anything, a greater integration of the pluralist relation of the city to its hinterland (Stoppioni 1993; Olcese 1994; Lippolis 1996; Righini 1998; Polfer 2004; Menchelli and Pasquinucci 2006; Malfitana 2012; Nonnis 2015; Santoro 2017; Giannichedda 2018; Volpe 2018). Permanent installations, like kilns/furnaces, tanks for handling and refining the raw material, compartments for processing and storage, wells for water supply, as well as mobile finds, including tools, residual

material, and production waste, were considered as useful indicators (Cuomo di

Caprio 1992; Giannichedda 2006: 161–188; La Serra 2018) [Fig. 3].

LAMP PRODUCTION PLACES: SOURCES

The focus for the purposes of this paper was on known places of production of clay oil lamps [Table 1]. Based on the collected data it was possible to identify nine contexts dated from the late 4th/3rd century BC to the 2nd through 3rd centuries AD. Two of these are from the mid to late Republican period (Nos 1–2), three are dated between the 1st century BC and the 1st century AD (Nos 4, 7–8), three others seem to have been created generically during the late Republican period and survived through the 2nd century AD (Nos 3, 5–6), while the last is from the 2nd to the 3rd century AD (No. 9). The cataloged contexts are concentrated in northern Apulia with the sole exception of the Taranto site (No. 1), which is in any case rather early and ceased with the municipalization of the city (on these events, see Mastrocinque 2010: 39–75, 197–205) [Fig. 4]. Four of the contexts were identified on the base of mobile finds (Nos 3, 7–9), whereas permanent features installations were found alongside artifacts at five of the sites (Nos 1–2, 4–6). In terms of furnace morphology, there is one circular furnace [Type Ib, Table 1: No. 1], two furnaces on a rectangular plan [Types IIb and IIb or IIc, Table 1: Nos 4–5] and two of unidentified type [Table 1: Nos 2, 6]. The sample is small, but it nevertheless demonstrates a change from circular kilns attested during the Romanization period throughout the region to furnaces on a rectangular plan similar to the Cuomo di Caprio II kind in

later periods (De Filippis 2009; Fioriello and Mangiatordi forthcoming).

In two cases [Table 1: Nos 1, 6], the furnaces were situated on the peripheries of the presumed urban core of the site, in one case it is a rural settlement [Table 1: No. 3] and in six it is a generally decentralized area, but not peripheral urban, with a strong emphasis on production [Table 1: Nos 2, 4–5, 7–9]; in the latter instance, e.g., Canusium [Fig. 3] and Herdonia, craft activity was extended over time and enjoyed a revival in late antiquity (Fioriello 2005; Mangone et al. 2012; Gliozzo et al. 2013; Fioriello 2014; Gliozzo et al. 2016; Grelle et al. 2017: 221–270; Fioriello 2018; Fioriello and Mangiatordi forthcoming). At Herdonia, the furnaces were part of an artisan sector, an “agglomeration of workshops” (Peacock 1997: 17–18), located in the southwestern area of the *campus-gymnasium* (near the area later dominated by the *macellum*), close to the city walls, therefore in a topographically hidden but not marginal position and, if anything, instrumentally close to the market in the forum, which would have been involved and cooperating in the production process through the shops found there, with their functional reciprocity of marketing the products manufactured in the crafts area (Mertens and Volpe 1999: 76–84; Mannoni and Giannichedda 1996: 264) [Fig. 6].

The witnessed continuity, until the end of the 1st century BC, of the production of Black Gloss ceramics, appears significant

with regard to Apulia. Wasters of vessels made of a clay recognized as local can in fact be related to the latest and marginal production. Of local origin are the Marabini form XXV grey cups, which continued

to be produced until the Julio-Claudian era and are made there with orange clay and grey slip (Morizio 1990; Mertens 1995: 224–228; Pietropaolo 1995; 1999; Gliozzo et al. 2013; 2016; Grelle et al. 2017: 224–253, 259).

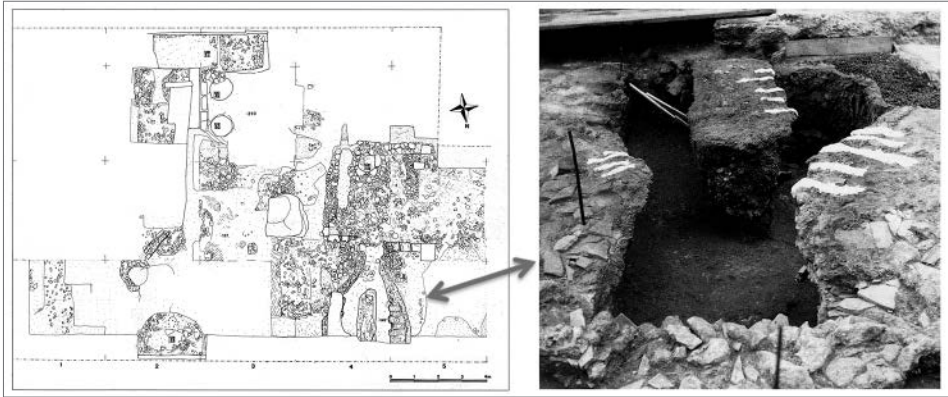


Fig. 4. Taranto/Tarentum, Via Leonida 52 [Table 1: No. 7]: furnace on a circular plan, view and plan (After Dell’Aglío 1996b: 62–63, updated)

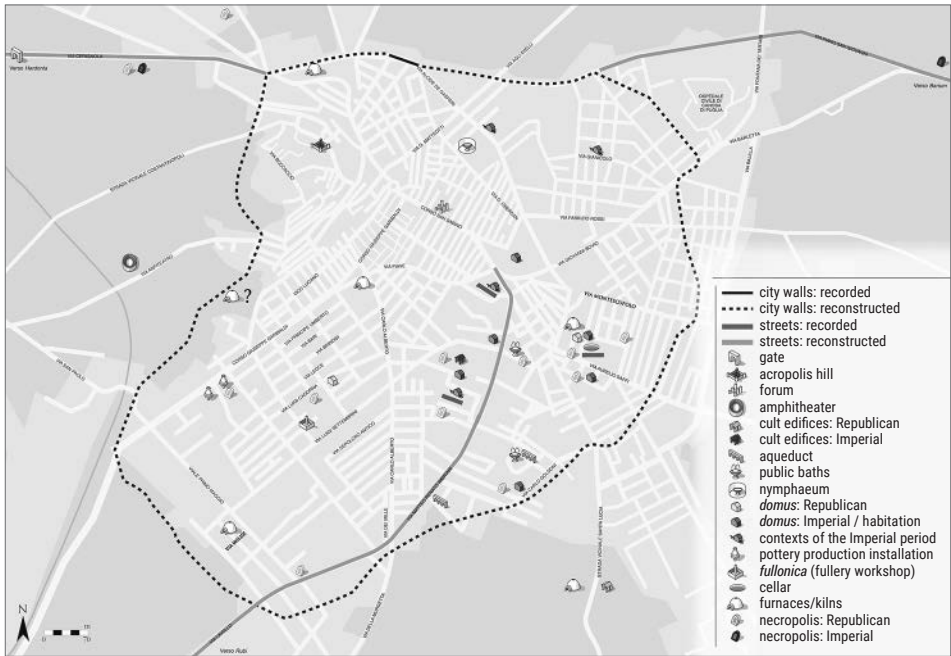


Fig. 5. Canosa/Canusium, urban area: Roman-age remains [Table 1: Nos 2, 5, 6, 7] (Processing A. Mangiatordi and R. Cassano, 2009, revised)



Fig. 6. Ortona/ Herdonia, urban area: top, map with Roman age remains, crafts area at lower right [Table 1: No. 4]; bottom right, production sector between the *macellum* and the city walls; bottom left, plan (A – market space; B – structure interpreted as a fountain; C – drainage channels) and details of the circular (2) and rectangular (5-7) furnaces (Plan of Herdonia: processing L. Pietropaolo, 2010, revised; bottom, after Mertens 1995: 227-229, Figs 233-234, 237)

The location of ceramic production facilities in Canusium in the 2nd century BC is better understood. These are two distinct craft workshops that seem to have been active in the southwestern part of the city (east of the “acropolis” hill, Sabbatini 1992), marginally affected by subsequent urban development in the imperial age and already attested by a furnace from the 4th–3rd century BC in Via Molise (Corrente and Labellarte 1989: 171–172) [Fig. 5]. The first complex, which was also residential in character, is divided into a system of tanks with *cocciopesto* coating, associated with wells and cisterns. This area, in vico San Martino, investigated in 1988–1989, was used between the end of the 4th and the 2nd centuries BC, most probably for purifying the clay for fine molded relief ware production (Mannoni and Giannichedda 1996: 80; Cuomo di Caprio 2007: 150–151). Plausibly, it could have been part of a larger production settlement, suggested by the regular brick-tile floors, identified not only in this sector but also in the surrounding area, as well as structures (difficult to date, but certainly not in use before the 3rd to 2nd centuries BC) extending between via Aristofane and corso Giuseppe Garibaldi, identified as a channel aligned north–south, rectangular basins and a well, all excavated in the volcanic tuff bedrock and all suggesting unspecified workshop activities (Corrente and Labellarte 1989: 175–177,

Pl. LXXII; Barchetta, Melilli, and Corrente 2001: 50–51). This urban district, well served by a network of roads, seems to have continued to produce until the Imperial age, as indicated by the nearby *fullonica* in Via E. Vanoni, which is dated to the 1st–2nd century AD (Sabbatini 1992: 694–696, No. 24; Tiné Bertocchi 1992). The other ceramic production facility is a little further north, between Via Piave and Via Carlo Alberto, at the location of the Giuseppe Mazzini Elementary School [Table 1: Nos 2, 7]. Black Gloss ware ceramics were produced here in the 2nd–1st century BC, as well as oil lamps of Pavolini’s biconical Esquiline type [Fig. 7] and later, in the mid-1st century AD, other types of lamps, including ones with voluted nozzles.

Two furnace sites were discovered in the northwestern part of the town, between Via Alcide De Gasperi and M. Terenzio Varrone [Table 1: No. 5], in a context already heavily disturbed by modern factory construction (Sabbatini 1992: 694–696, No. 9). The earlier kiln, with no discernible articulated structure, was used in the 2nd–1st centuries BC to produce Black Gloss ceramics, common wares and architectural elements.¹ The area was developed in the 1st century AD by the addition of a rectangular furnace divided into two superposed compartments: the combustion chamber (where it is documented that there were “wasters” of voluted oil

1 Morizio (1990: 305, 307) reported unverified information of a mold for producing Italian terra sigillata vessels being stolen from the site at the time of discovery. In 1960, in the same sector, near the ancient amphitheatre, archaeologists observed a “brick structure characterized by a vaulted corridor about 2 m wide partly obstructed by soil mixed with blocks of tuff”; this structure was summarily identified as a praefurnium without giving any details in support, cf. De Filippis 2009: 138, 358–359, notes 927–928, § VI.1, § VI.1.2.6.

lamps, see below, Note 5) and the firing chamber, the floor between the two supported on columns of bricks, and framed

with walls made of bricks and clay, now vitrified. A central niche in the upper chamber was the opening through which the clay objects for firing were introduced (De Jullis and Mertens 1983: 524; Morizio 1990: 305–306, notes 6, 13, Figs 1–2; Todisco and Volpe 1992: 52).

The relative similarity of these sites at Canusium and the distance between them suggest, despite the incomplete documentation, a “single workshop” system (Peacock 1997: 17–18) which appears to have predominated in the western part of the city from the late Republican age and the incipient Imperial period. This artisanal quarter which extended from north to south seems to have been



Fig. 7. Waster of a biconical Esquiline type oil lamp from Canosa, Giuseppe Mazzini Elementary School [Table 1: No. 2] (After Volpe 1990: 76, Fig. 46)

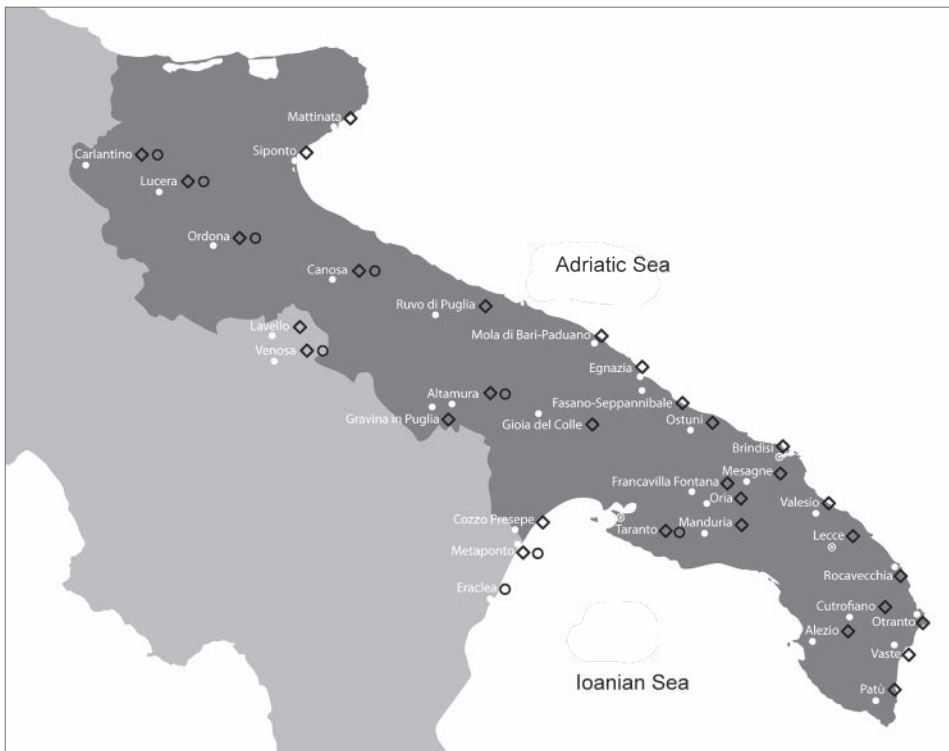


Fig. 8. Distribution of oil lamps: ◇ – biconical Esquiline type; ○ – cylindrical Esquiline type (After Masiello 1992: Table XXXVIII, revised)

characterized by a similar production (therefore potentially in competition with one another), exemplifying an exclusive functional organization of city space instead of a shared economic sense of cooperation (contrary to what was shown above for Herdonia). One can read into this a sound even if fragmented production chain, radiating from a central urban core and taking advantage of a road network. This suggestive hypothesis is further confirmed by the location of two others ceramic production centers on the eastern peripheries of the town, one on the Hill of San Pietro on a road leaving Canusium and going south (De Stefano, Giuliani, and Leone 2007: 42–45) [Table 1: No. 6] and the other, recognized with difficulty, set between the streets of P. Colletta and Montescupolo (Andreassi 2005: 210; De Filippis 2009: 398, notes 1151–1153).

Four of the contexts [Table 1: Nos 1, 4–6] presented also associated production beside the oil lamps, composed of other categories of clay artifacts

(sometimes of very good quality) and/or bricks. Thus, we get the impression of ateliers with a broad production range, matured in the wake of a consolidated tradition supported by the use of economic resources and manpower used for basic operational skills but also technical knowledge (De Filippis 2009: *passim*; 2010; Conte 2010; 2012, as well as the contributions in Fioriello 2012a; Caminacci, Parello, and Rizzo 2018).

Finally, with regard to the lychnological typologies attested, there is a significant presence of the latest wheel-made types and/or Black Gloss variants, all made after central Italic forms [Table 1: Nos 1–2 and perhaps 3, 6], and then a clear prevalence of the volute-nozzle types, produced from late Republican to early Imperial molds [Table 1: Nos 3–6, 8, perhaps 7]. A small number of later imperial lamps with rounded nozzles was also observed, a “standard” type attested already in the late 1st century AD and then predominant up to late antiquity and even beyond [Table 1: Nos 5, 9].

DISCUSSION

Scarce though it is, the information pertaining to lamp production in the region, considered in the context of the extensive data acquired and discussed in recent decades regarding the Apulian and Calabrian area,² provides a good outline of the attestation as well as production of clay oil lamps in the region in the period in question.

A gradual consolidation of the political-institutional, administrative and economic

organization of the region corresponding to modern Puglia, in effect under Rome’s influence, took place from the second half of the 3rd century BC (De Mitri 2010; Mangiatordi 2011; Grelle and Silvestrini 2013; Fioriello 2017; Grelle et al. 2017). This resulted in the ubiquitous presence of the latest wheel-made oil lamps of Hellenistic inspiration, demonstrating the “reference background” for the Apulian lychnological

2 For an overview, encompassing the periods from Romanization to late antiquity, see Masiello 1988a; 1988b; 1992; 1994; Fioriello 2003; 2005; 2008; 2012b; 2012c; 2014; 2018; Conte 2010, as well as contributions collected in Fioriello 2012a, with thematic insights and further references.

production (Pavolini 1981: 144–148, 280, note 20). Typically ‘Italic’ artifacts are also found, the lamps adopting morphological elements (oval, barely carinated body, flared nozzle) that can be recognized in contemporary Hellenistic forms, but also, for the first time, derivative forms incorporating Italic elements and showing clear similarities. They highlight the mimetic modalities and capabilities of workshops to create “new models” after models developed in central Italy, primarily in Latium, where “areas remained so far almost alien to the use of these artifacts”, which at the end of the 3rd century BC had not yet become “the main means of domestic lighting” (Pavolini 1981: 140, 161; Masiello 1992: 71–72, note 110; Seidel 2009: 55–56).³

This concerns in particular the biconical Esquiline type (and much less the cylindrical Esquiline type, which is found very near to the Daunian and the Ionian part of our territory, but seems to be absent in Salento), produced between the mid-3rd and mid-1st century BC, to which the bulk of the specimens from Apulia of this time are attributed [Fig. 8]. In this sense, Apulia may be considered a homogeneous and culturally uniform area, where it is therefore plausible to

identify workshops producing such types of lamps. To these we should add the Taranto and, above all, the Canosa contexts presented here [Table 1: Nos 1–2].⁴

Esquiline-type lamps as well as some related shapes tend to become exhausted already during the 2nd century BC, the latest examples dating to the first decades of the 1st century BC. At this time new forms had already been established, sometimes inspired by the manufacturing traditions of the Aegean and Micro-Asiatic transitional types. Those forms, supported by the adoption of the molding technique and the innovations it allowed, improved both the production capacity and morphological quality. One of the innovations was a broader shoulder designed to assume decoration in relief. These lamps are generally similar to the Ephesus group. We find both imports, even if poorly attested, of lamps of type Howland 49A–B=Delplace IC, and primarily local products, such as those with radial decoration (types Delplace IB1c, IB2a), the manufacture of which in the region is attested by extensive archaeological evidence, even if no direct structural or instrumental indicator is known so far (Fioriello 1999; 2012b; Masiello 1992).

3 In this respect, the contribution of literary sources should be cited, dwelling on the caesura, in consumption as well as language, between “an ancestral and *parcus* past”, which allowed candles and similar means of lighting, and an “innovative and *unctus* present”, accustomed to the glow of the oil lamp: so, for example, Lucil. I, 15–16; Mart. XIV, 42–44, on which Fioriello 2012b: 86, note 21 and contributions collected in Micheli and Santucci 2015.

4 Fioriello 2012b: 86–89, notes 22–28, Figs 3–7, with discussion and bibliography. For this period dating to 1981, Pavolini’s proposal remains valid (1981: 144–148, 280, note 20); he notes a “Hellenistic mark ... sensitive in the case of oil lamps” (otherwise “scarce or absent in general” for the other “Italian productions ...”), which lacked a “handicraft background” of reference, so that many Apulian manufacturers drew on the repertoire of middle to late Hellenistic models, declining the results independently, expressed in the context of a central-Italian koine; see also Masiello 1988b: 103–105, 109, No. 1; 1992: 69–73; Malerba 2001: 182–184, Fig. 2; Fioriello 2005: 99–100; 2008: 169; De Stefano 2008: 123–126, 132, Types 4–5, Pl. XXXVII.4–5.

The documentation available suggests the existence of a distinct lychnological southern Italian production, including Apulian, although products of central Italian workshops, especially from the Tyrrhenian area, continued to circulate in the region all through the 2nd and 1st centuries BC; the circulation is confirmed by marks (single letters and monograms, impressed or incised, or anepigraphic stamps) on the base of lamps representing the four forms established by Heinrich Dressel (Pavolini 1980; 1981: 161–163; 1993: 65–66; Fioriello 1999: 260–262; 2012b: 91–92, notes 41–45).⁵ However, *Vogelkopflampen* (type Dressel 4 =Deneauve II) are represented only by a very few specimens in the Apulian area and in Taranto, all dated to the late Republican period (Fioriello 2012b: 92–93, note 46), while wasters found in the Canosa production area [Table 1: No. 5] can perhaps be placed a little later, in any case not after the middle of the 1st century AD.

Identifying a regional production of these forms is still difficult (Delplace 1974: 26, 91; Malerba 2001: 187, 196), the hypothesis bolstered only by a reconsideration of the finds from Canosa [Table 1: Nos 5–6]. In this context, one should look again in more detail at the interesting proposal associating the locally active atelier with two Dressel 3 specimens, one from Herdonia and the other from Lucera. The lamps are morphologically very similar, they were found in the same general area and both

bear on the discus an inscription in relief, GGA/PPA (even if incomplete on the Herdonia example), not attested elsewhere. It is much more substantiated to consider these specimens as part of the production of a lychnological workshop in the nearby rural area of Carlantino-Masseria Bellizzi in the hills of the Daunian chain of the Apennines, where four clay molds were recently acquired [Table 1: No. 3; Fig. 9 left]. The scarce published documentation suggests that at least two of these could have been used to produce oil lamps of type Dressel 3.

For the beginning of the Principate—and also for the early Imperial period—the evidence recorded is more articulate, even in the centers that recorded only a sporadic presence for the previous period considered, because the archaeological documentation is better. The most important attestations concern the volute and semi-volute lamps (types Dressel 9–16=Loeschcke I–V=Deneauve IV–V=Delplace ID, IIA–B), for which the molding technique reaches a certain uniformity of the fabric and slip and considerable technical advancement, in the overall quality of the lamps and their aesthetics, the latter exploiting in full the new decorative possibilities, drawing for discus motifs upon a vast repertoire shared across different crafts, such as toreutics and Italian terra sigillata (Fioriello 2012b: 94, note 52).

5 One should keep in mind an isolated instance of an oil lamp from Gnatia, from the second half of the 1st century BC, with “phytomorphic” decoration and two engraved monograms on the bottom, probably in Greek characters; it comes from a period when oil lamp production in central and south Italy was growing considerably and also the percentage of stamped specimens could lead to one of the many active figlinae in the period in question, often attested by very few specimens with a signature sometimes reduced to isolated letters, see Fioriello 1999: 260, No. 6, Pl. CXVIII.3.

Although fragmentary and not homogeneous, the sample presented here outlines to some extent the territorial distribution of the various forms, which seems to be concentrated in the northern inland and in the southern Adriatic sectors of the Apulian region, with a slight prevalence of lamps with double volutes and triangular nozzles well documented in Herdonia [Fig. 9 right], Venosa, and Lucera, where these specimens, mostly dated between the Augustan and Flavian periods, exceed the volume of the lychnological attestations known for the late Republican phases (and, sometimes, also from the first two centuries of the Empire). These lamps are distributed according to their different morphological

aspects, without significant clustering in terms of numbers (Fioriello 2012b: 94–95, with references and discussion of the data).

There is a large number of specimens of lamps belonging to type Loeschcke III (Dressel 12–13=Deneauve VB), which is important because they are considered among the types of volute lamps produced in Italy already in the Augustan age which were subsequently widely exported throughout the Mediterranean way after the Principate. The evidence, sometimes consisting of only a few fragments, mainly the characteristic triangular reflector handle ornaments, shows the same spread as for the other types with volute nozzles, but it also allows for some



Fig. 9. Oil lamp production waste: left, clay moulds for lamps of the Dressel 3 and Deneauve IVB from the rural site of Carlantino-Masseria Bellizzi [Table 1: No. 3]; right, wasters from the rectangular furnaces in Herdonia, from the production sector located between the *macellum* and the city walls [Table 1: No. 4] (left, Carlantino, deposit of the municipal antiquarium, after Maulucci Vivolo 2008: 88; right, after Mertens 1988: 63–65, Pl. XXVI.a)

It is plausible to consider both marks as being “signatures of local manufacturers” (Malerba 2001: 190), thus endorsing the hypothesis which identifies the location of workshops active around the middle of the 1st century AD in the territory of Lucera (Fioriello 2019a) [Fig. 10]. This hypothesis is suggested not only by the robust evidence of workshops producing oil lamps and other categories of objects, including status things (Andreassi 2003: 748–749; Fioriello 2012b: 96–98, as well as numerous contributions in Antonacci Sanpaolo 1999; *Lucera antica...* 2001), but also by the discovery of production waste, in fairly good condition, of a stylized type Deneauve VG ‘degenerated’ volute lamp, the shape of which shows some defects

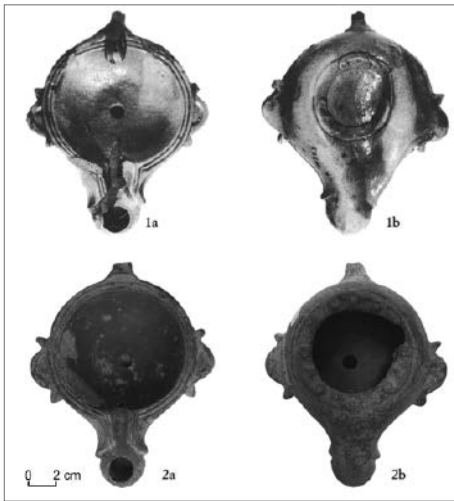


Fig. 11. Lucera/Luceria, M.A.U. ‘Fiorelli’. Oil lamps of the Deneauve VG type from the mid 1st century AD: top, wasters; bottom, well preserved specimen probably from the same mould (After Fioriello 2012b: 98, Fig. 21)

due to thermomechanical shock as a result of being crushed under the weight of other lamps stacked upon it in the firing chamber of a pottery furnace (Malerba 1983: 47, 50, 253, No. 145; 2001: 188–190, 198–199, Figs 10–11). The same mold that produced the flawed example described here appears to have been used for another lamp (Malerba 1983: 47, 50, 251–252, No. 144) [Fig. 11].⁶ The type Deneauve VG has a clear, and almost exclusive, diffusion in the nearby Apulian centers, where some of the ‘canonical’ volute types can be observed, even if they are not so well documented in the archives. Beside delivering a few volute lamps, the site of Cagnano Varano–Piano di Carpino delivered six examples similar to type Deneauve VG, one of which bears a mark in the form of a D, impressed on the base. This initial, not attested elsewhere, reinforces the impression of a local oil lamp production, at least during the 1st century AD, following the same form of organization of lychnological production in this period that entrusted the production chain to a selection of workshops distributed throughout the territory (Masiello 1988a: 83–85, 90–91, Pls I–II; 1988b: 105–107, 112–113; 1992; Pavolini 1987; 1993; Malerba 2001: 189–190; Fioriello 2012b: 97–98, notes 78–91).

Production of lamps generically attributable to types Loeschcke I to IV volute lamps and lamps with prominent side lugs was observed in various urban contexts at Canosa (Fioriello 2012b: 98, notes 72–73), thus highlighting the ‘pluralistic’ character of the production, not only lychnological, of the Canosa pottery

6 The parallel shares a ring base with three *peltae* with a central apicature and three small circles, for other examples, see Masiello 1988a: 83–84, Fig. 17, but on a Dressel 3 lamp; 1988b: 112, No. 15, Pls XXVII, XLI. See also Malerba 2001: 188–190.



Fig. 12. Canosa/Canusium, urban area: wasters of Dressel 4 and Loeschcke I to IV and VIII lamp types from a furnace [Table 1: No. 5] (After Morizio 1990: 308, Fig. 2)

workshops, already attested for the late Republican age and the Principate [*Table 1: Nos 2, 5-7*]. It was a long lasting craft tradition, then consolidated and continuing at least until late antiquity (Volpe 1990: 76-77, Figs 46-47; Morizio 1990: 305-306, 308, 312, Figs 1-2; De Stefano, Giuliani, and Leone 2007: 43-44, notes 20-26; Fioriello 2012b; 2012c; Eramo et al. 2014; Gliozzo et al. 2016). The same dynamic can be observed also at Herdonia, where, for the period in question, there are kilns dedicated to the manufacture of lamps of type Loeschcke IA [*Table 1: No. 4*], which are part of a complex regional production chain that was active already before the

reign of Augustus and showing an amazing continuity at least until the 4th to 6th centuries AD (Pietropaolo 1995: 280-283, Figs 285-288; 1999; Mangone et al. 2012; Fioriello 2012b: 98-99, notes 75-77; 2012c; 2018). Completing this presentation are two clay moulds, recently found at the site of Carlantino-Masseria Bellini [*Table 1: No. 3*], which could be used for oil lamps with side lugs attributed, with reservations, to type Loeschcke IA=Deneauve IVB (Fioriello 2012b: 99, note 78).

The documentation of oil lamp production contexts for the middle and late Imperial periods is dependent exclusively on some fragments of the Loeschcke VIII type,

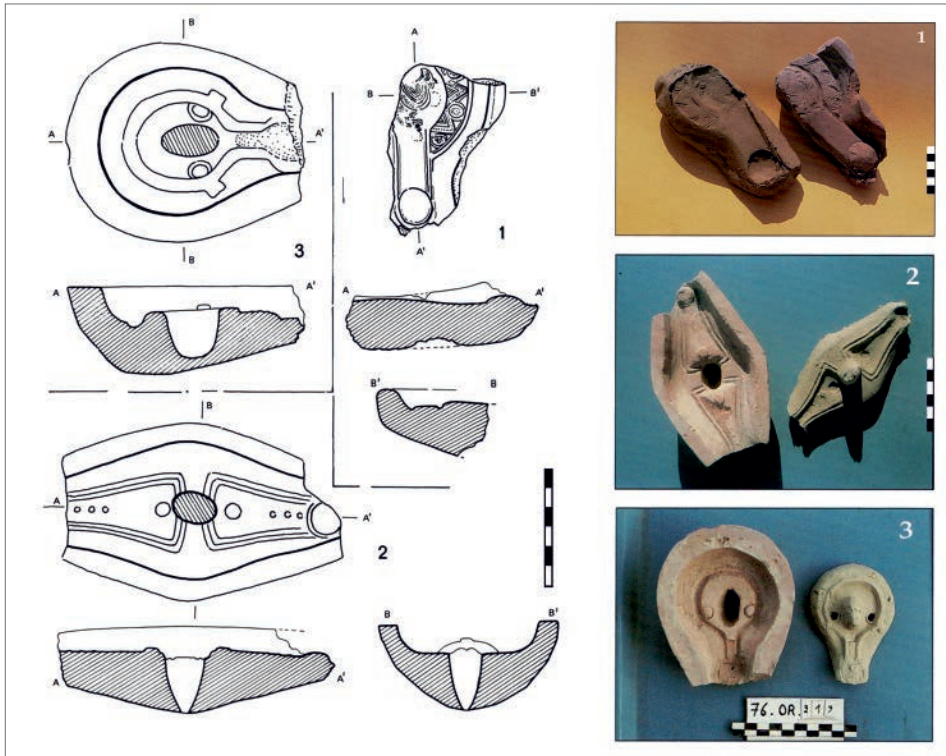


Fig. 13. Moulds for the production of oil lamps from Herdonia (Trench 76.5): 1 – imitation of form Atlante X; 2, 3 – forms attributable to *Firmalampen* types [*Table 1: No. 9*] (After Mertens 1979: 38, Fig. 11; Pietropaolo 1995: 281, Fig. 286)

which are difficult to recognize among the production waste from Canosa (Morizio 1990: 305, 308, note 6, Fig. 2) [Table 1: No. 5; Fig. 12], to which one should add the upper part of three moulds similar to *Firmalampen* recovered in Herdonia: two coming from a long trench excavated in the peripheral northeastern urban sector [Fig. 13], permanently occupied during the Imperial period (Mertens 1979: 8–10, 26–27, 32–39),⁷ and the third found in a modern earth dump from the excavation of *Domus B* in 1996–1997 (Annese 2000: 285–286, 337–338, Type 4).

Evidence for oil lamp manufacture in the central part of the region in the Imperial period declines (assuming it is not the effect of gaps in the documentation or flaws in our reasoning), aptly characterizing production in the Apulian–Calabrian region, especially if compared to the previous and following periods. It can also suggest a closer examination of the of the socio-economic dynamics, which could have determined this sort of temporary regression of local production and the concomitant increase in imports,

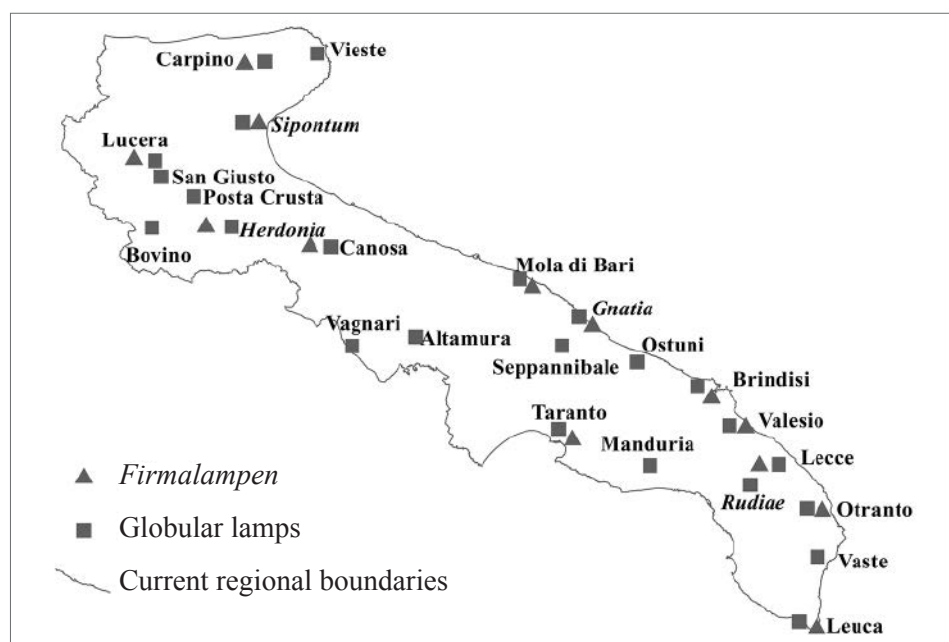


Fig. 14. Attestations of *Firmalampen* and globular (Fabricotti type) oil lamps in Apulia (After Fioriello 2018: 224, Fig. 1)

7 The moulds are for a bilychnis of the Delplace V1 and a monolychnos with a central vertical handle, similar to Delplace IV (Delplace 1974: 70–77; Mertens 1979: 37–39, Fig. 11.2–3, Pl. XX.b–c; Pietropao-
lo 1995: 281, Fig. 286; in general, Fioriello 2018, with references). A third mould was also found
for the production of an Atlante X oil lamp, letting J. Mertens note that “several hundred meters
separate the discovery sites, making it virtually impossible to locate a workshop. The pieces simply
prove lamp production in Ordonia/Herdonia, just as the presence of potters was already attested by
the discovery of a mold for terra sigillata vessels” (Mertens 1979: 37–39, Fig. 11.1, Pl. XX.a).

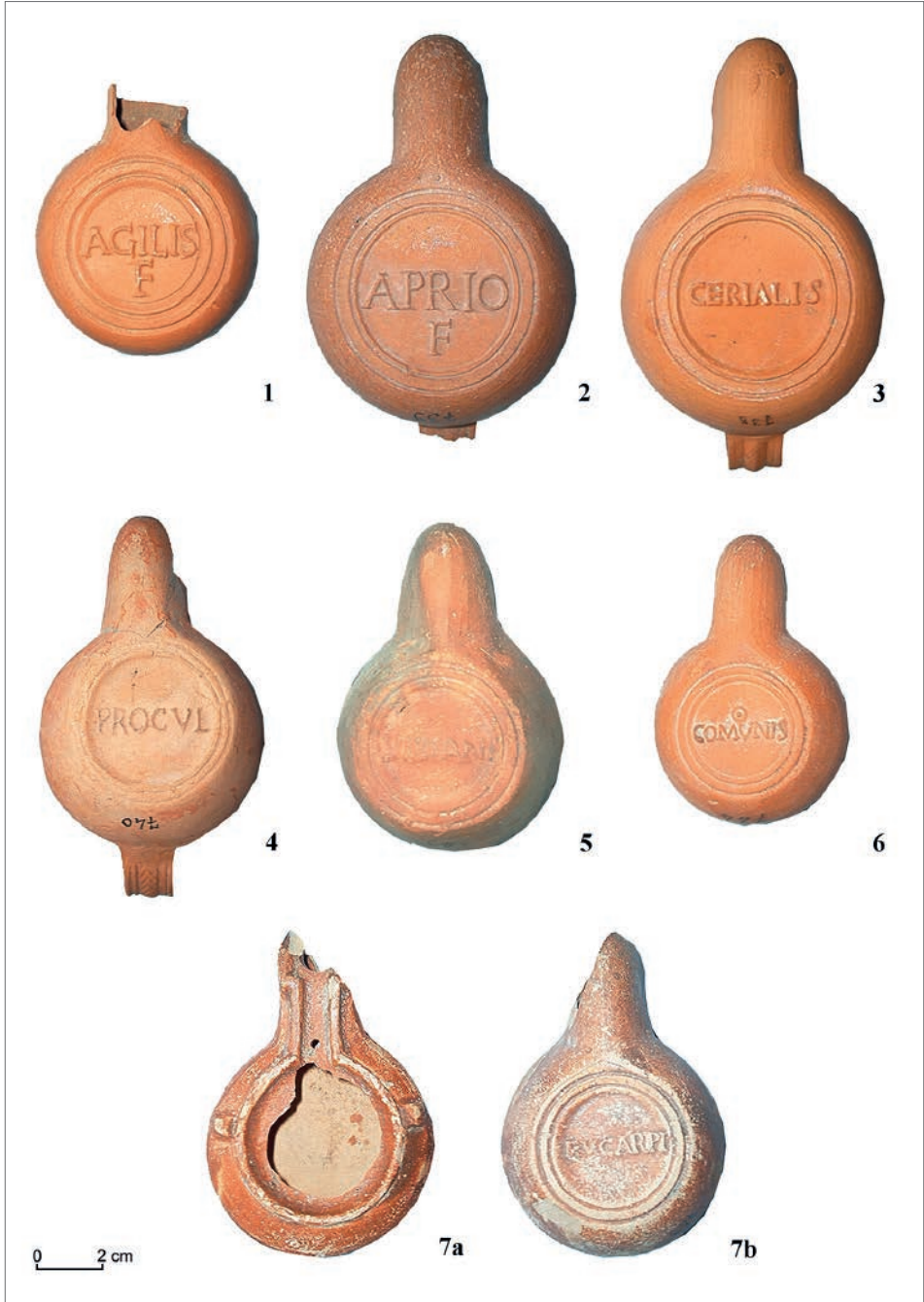


Fig. 15. Lucera/Luceria, M.A.U. 'Fiorelli'. Lychnological collection: typological example. *Firmalampen*: 1–5 – Loeschcke X (=Buchi Xa), with marks AGILIS F, APRIO F, CERIALIS, PROCVL, VIBIANI; 6 – Loeschcke IXc, with mark COMVNIS; 7 – Loeschcke X (=Buchi Xa), with mark EVCARPI (After Fioriello 2019a: 54, Fig. 9)

first of all in what concerns high quality goods (see some incipient assessments in Bonifay 2005; Garcea 2005; Conte 2012; and, in general, Malfitana 2012; Gliozzo et al. 2013; Nonnis 2015; Mangiatordi and Fioriello 2015; Gliozzo et al. 2016; Fioriello and Mangiatordi 2020 forthcoming; forthcoming).

The regional panorama concerning *Firmalampen* [Fig. 14] does not register substantial variations with respect to the earlier framework (Fioriello 2003: 24–26; 2005: 101–102; 2014; 2018), which is also confirmed by the pre-eminence of this type in the lychnological collection of the Museum of Urban Archaeology “Fiorelli” in Lucera, where there are 21 examples of type Loeschcke X (and one Loeschcke IXc), dated to the 2nd century AD, all in a good state of preservation. Ten of these lamps were imported (Malerba 1983: 58–61, 289–314, Nos 176–195; 2001: 191; Fioriello 2019a) [Fig. 15].⁸ The relatively abundant presence of *Firmalampen* in the sector of Lucera and Ortona/Herdonia, along with proof of the production of local imitations represented by the three moulds from Herdonia discussed above (Delplace 1974: 71–74; Fioriello 2018: 224, note 18), launches anew the discussion on the diffusion of this type of oil lamps in the ancient Apulian–Calabrian area, where they are less rare than in the rest of modern Puglia and more generally,

in southern Italy. This lets us envisage commercial relations (following the Adriatic routes, see Fioriello and Tassaux 2019) with the valley of the Po, which is where these forms were produced in great numbers in Italy (Auer 2012; Auer and Sitz 2014; Fioriello 2018). The signature ARB on some flagrantly local copies from the 2nd–3rd century AD could also be considered as proof of Herdonia producing lamps very closely resembling northern Italian *Firmalampen*. The mark appears to be pertinent to the area of this *municipium*, where it appears on other types of locally made contemporary oil lamps (Fioriello 2005: 102, note 16) as well as on coroplastic products of slightly later date (D. Liberatore, personal communication).

The most frequent mark on *Firmalampen* from the Apulian and Calabrian area is FORTIS, also to be found in Gnatia, which appears also on imitations of lamps produced in Herdonia. The production of these oil lamps on site presupposes the import of originals bearing in relief the marks of the Po Valley workshops, as indicated above. These marks have been documented not only in Luceria and Herdonia, but also—to a lesser extent and usually by single example—in Piano di Carpino (FRONTO: Masiello 1988b: 108, 119, No. 58, Pls XXXVIII, XLI), Venosa (FESTI: Salvatore 1991:

8 Lamps from the Lucerne Museum bear the stamps of AGILIS, APRIO, CERALIS, COMVNIS, procvl[I ?] and vibiani (types Loeschcke IX and X short) as well as evarcari (Loeschcke A =Buchi Xa), an evident imitation, see Auer and Sitz 2014; Fioriello 2018: 224–226. The handle, present on both imported lamps and their imitations, is an element worth emphasizing, as it is generally considered a characteristic of local production; other characteristics of a local make are the fabric (beige-colored clay), reddish slip and some morphological details (Malerba 2001: 191–192, notes 44–46). One should assign here ten examples (Buchi Xb, Buchi Xc and Loeschcke X short), as well as a bilychnis with a central suspension loop (see Fioriello 2019a).

228, No. 2, Table XXI), Gnathia (FORTIS, CRE[SCES], ATIMETI: Fioriello 2008: 173–174, Fig. 13.a–b; Conte 2012: 126, notes 113–115, Pl. IV.8), Taranto (FESTI, STROBILI: Masiello 1988a: 85, 88, 90–91, notes 38–39, Table II) and in the Salento area (Conte 2012: 117, 122, notes 43–45, Pl. II.10; D’Andria 2012: 143, Fig. 13; Palmisano 2012: 65–67, notes 20–22; Polito 2012: 185, Pl. IV.80).

Yet the *Firmalampe* is a form that, although attested in Apulia in many variants, remains in the minority quantitatively speaking, when compared to the other lamp types that have been noted. The same can be said of the subsequent, sporadic and late schematizations of ‘similar’ and even ‘ancient’ *Vogelkopflampen* (Dressel 22), of central Italic production. The scarce presence of these types in the southern sector, in general, has been explained by the greater circulation of other oil lamps types, with discus, rounded nozzle and globule ornament, able to address better the “basic tastes, on average more refined by earlier contacts with Hellenistic culture still vivid in local mentality”. These lamps were certainly produced in the area and therefore sold cheaper, while they are not widespread in central and northern Italy (Fabricotti 1974; Buchi 1975; D’Angela 1979a; 1979b; Pavolini 1981: 166–177, note 112; Malerba 1987; Fioriello 2005: 101–102; Conte 2012: 119, note 65; Fioriello 2014; 2018).

In this horizon we have the isolated Canosa production of type Loeschcke VIII lamps (a very unclear tradition: Morizio 1990: 305, 308, note 6, Fig. 2) [Table 1: No. 5]. It gives more attestations

of the short-nozzled circular oil lamps, various articulations and morphological contaminations of which rule the lych-nological landscape in southeastern Italy (and not only) from the end of the 1st to the 3rd centuries AD. They are different from the numerous central Italian imports, a weak continental-Greek group of imports, the incipient North African imports (which would monopolize the market for the next three centuries, also thanks to a great deal of local imitations) and, to a lesser extent, interesting local interpretations that can be seen on a micro-regional scale, for which we have consistent evidence and significant data recently collected and discussed (Fioriello 2005: 101–103; Garcea 2005; Conte 2012; Fioriello 2018; 2019b).

In conclusion, the ideas presented in this paper are per force of a preliminary nature based on the available documentation, but they highlight a diversified and articulated knowledge of the field, even if not everything is yet clear. Continued research should bring a new understanding of how oil lamp producers functioned in this socio-economic landscape, including organization/technical specialization, topography of artisanal activities, economic strategies and social relations resulting from the diversity of production and distribution venues, complex reading of the different workshops (‘ghost shops’) known today only from finished products. In particular, a detailed examination of surveyed contexts and a comparative analysis of the various kinds of sources will suggest answers to historical-archaeological questions posed here for all to reflect on.

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