

Atlas of Ceramic Fabrics

2

Italy: Southern Tyrrhenian

Neolithic – Bronze Age

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with contributions by Andrea Di Renzoni



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To John L. Williams

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 Quartz-Grog (Pertosa, PER5, PPL); **G115 (+grog)** Grog-Quartz
 (Panarea, PANMIL10, PPL); **G117 (+grog)** Grog (Lipari, Lipen3,
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Introduction: Q and A

Why Volume 2?

The Atlas of Ceramic Fabrics summarises the results of a long lasting interdisciplinary project¹ carried out by our team. The publication of the petrographic analyses is organised in several volumes related to different geographical areas of the Central Mediterranean. The first volume, published in early 2018, included Bronze Age Impasto ware from peninsular Italy: North-East, Adriatic and Ionian areas (Cannavò and Levi 2018).

In the introduction of the first volume we discussed the key methodological aspects addressed by the project² in order to illustrate the philosophy of our approach, i.e. the relevance of pottery for archaeology and the meaning of building an Atlas of Ceramic Fabrics. We detailed then the sampling strategies and data presentation in order to decipher the meaning of the fabrics there defined. Hereafter we describe this volume by posing and answering questions about the organisation and strategy of the work.

Which are the geographical areas and the sites considered in this volume?

In this volume we consider 29 sites from 18 different localities in the southern Tyrrhenian basin, including Aeolian Islands, north-east Sicily, southern and central peninsular Italy (**Figure 1, Table 1**). The Aeolian Islands comprise the bulk of this book due to the large number of analyses and the length of the study that our group has dedicated to the archipelago. Comparisons are also made with other areas (northern Tyrrhenian and Sicily).

¹ The project is supported by Preistoria Attuale.

² We are grateful to numerous scholars for discussions and ideas about archaeometry: Alberto Renzulli, Alessandro Vanzetti, David Jenkins, Effie Photos-Jones, Elena Pecchioni, John Williams, Lorenzo D'Alfonso, Luca Bondioli, Marco Pistolesi, Massimo Vidale, Maurizio Mazzucchelli, Maurizio Sonnino, Mauro Rosi, Patrizia Santi, Peter Day, Raffaello Cioni, Richard Jones, Stefano Lugli, Vassili Kilikoglou, Yannis Maniatis.

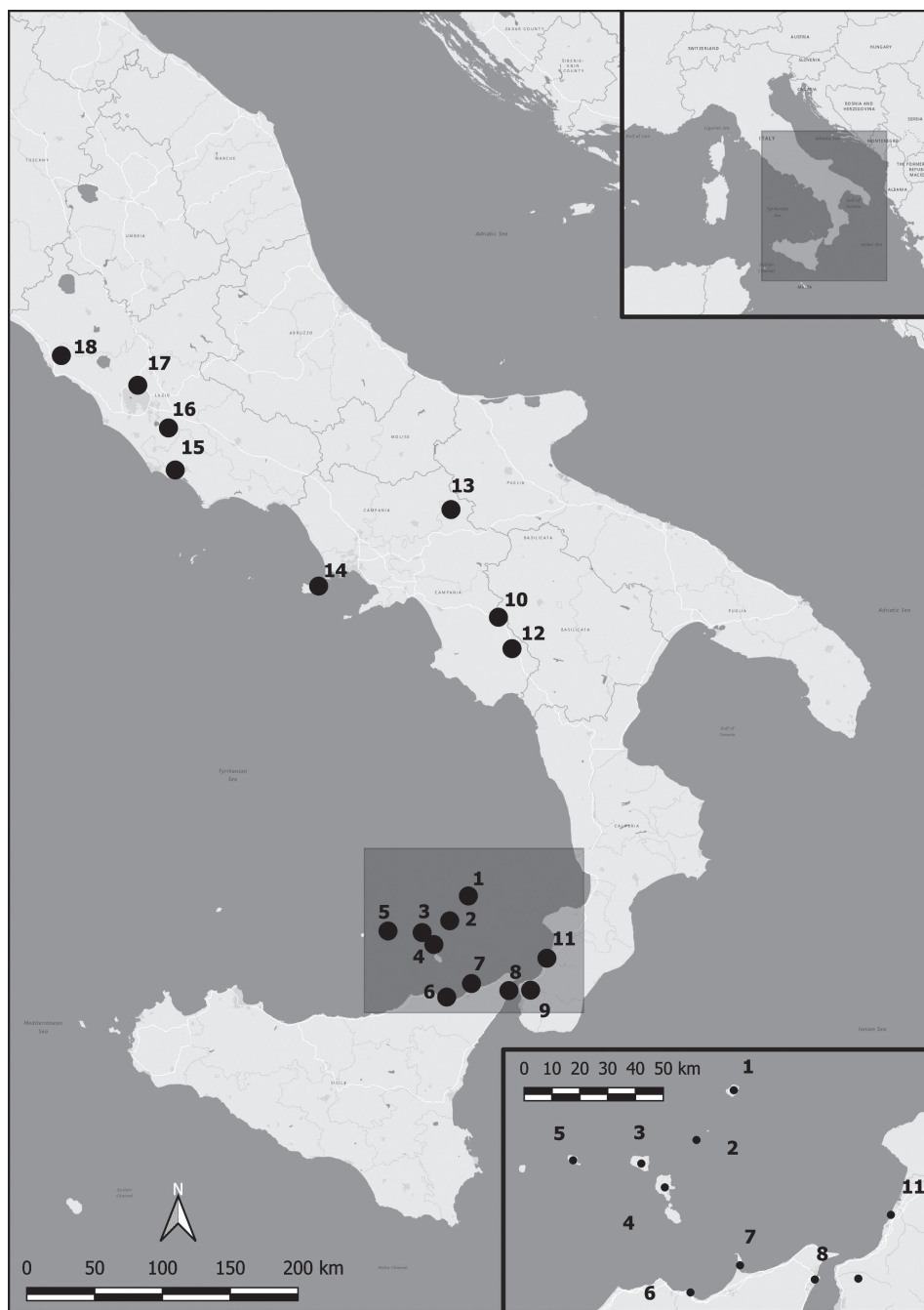


Figure 1 Distribution of the 18 archaeological localities considered in the present Volume. The complete list of the 29 specific sites is reported in **Table 1**.

Site N.	Site	Area	Samples (PE)	Chronology	Publications linked to this project	Chemical	Other analyses	Code
1a	Stromboli – Ginostra	Aeolian	4	CHA				GIN
1b	Stromboli – Serra Fareddu	Aeolian	17	CHA				FAR
1c	Stromboli – San Vincenzo	Aeolian	174	NE-MBA2	Brunelli et al. 2013; Cannò et al. 2017; Levi et al. 2014	ICP	micr	CGD-SSV-SVN
2	Panarea – Milazzese	Aeolian	11	MBA3	Williams 1991			PANMIL
3a	Salina – Rinicedda	Aeolian	37	NE	Levi et al. 2014; Williams, Levi 1995			CGD
3b	Salina – Serro dei Cianfi	Aeolian	1	MBA1-2	Levi et al. 2014			CGD
3c	Salina – Portella	Aeolian	42	MBA3	Levi and Fragnoli 2010; Levi and Jones 2005; Williams 1991	ICP		POR-SAL
4a	Lipari – Castellaro Vecchio	Aeolian	44	NE	Williams 1980; Williams and Levi 1995, 2001, 2008			CV
4b	Lipari – Acropolis	Aeolian	318	NE-FBA	Brunelli et al. 2013; Levi et al. 2014; Williams 1980; Williams and Levi 1995, 2001, 2008	ICP	micr	ACR-ACRCG-AUSI-AUSII-CGD-DIA-LIP-LIPEN-LIPCG-MIL-NUR-PC-PIU-PGE-PQ-SDA
4c	Lipari – Diana	Aeolian	15	CHA-MBA2	Levi et al. 2014; Brunelli et al. 2013		micr	LIPEN-CGD
4d	Lipari – Pianoconte	Aeolian	3	CHA				CGD
4e	Lipari – Pignataro	Aeolian	4	MBA1-2	Brunelli et al. 2013		micr	PIG
5a	Filicudi – Filo Braccio	Aeolian	35	EBA	Brunelli et al. 2013; Levi et al. 2014; Martinelli et al. 2010		micr	FBR
5b	Filicudi – Montagnola	Aeolian	25	MBA	Brunelli et al. 2013; Levi et al. 2014; Williams 1991		micr	CGD-FILCGI-FILCGII
6	Tindari	NE Sicily	11	MBA1-2				TIN
7a	Milazzo – Scuole elementari	NE Sicily	3	EBA-MBA				MCSE
7b	Milazzo – Viale dei Cipressi	NE Sicily	16	MBA-FBA	Levi et al. 1999, 2014	XRF-ICP		MVC
8a	Messina – Camaro	NE Sicily	12	CHA	Levi 2000; Levi et al. 1999	XRF		CAM-ME
8b	Messina – Via La Farina, Casa dello Studente, Via dei Mille	NE Sicily	8	EBA/MBA	Levi 2000; Levi et al. 1999	XRF		ME
9	Calanna	Peninsular	11	EBA-MBA1				CAL
10	Pertosa	Peninsular	25	MBA	Carlioni et al. 2017			PER
11	Taureana	Peninsular	18	MBA-FBA	Jones et al. 2014	ICP		TAU
12	Grotta del Pino	Peninsular	2	EBA?MBA	Jones and Levi 2000; Jones et al. 2014	INAA		GSA
13	La Starza	Peninsular	4	EBA-MBA	Cioni et al. 2000	XRF	micr	LST
14	Vivara – Punta Mezzogiorno	Peninsular	17	MBA1-2	Cazzella et al. 1997; Jones et al. 2014			VIV
15	Casale Nuovo	Peninsular	20	RBA-FBA	Jones and Levi 2004; Jones et al. 2014	AAS-INAA		CNU
16	Monte dei Ferrari	Peninsular	2	EIA				MFE
17	Fidene	Peninsular	9	EIA				FID
18	Monte Rovello	Peninsular	2	MBA-FBA	Bettelli et al. 2006; Jones et al. 2014	INAA		MRO
			890					

Table 1 Sites, analyses and archaeometric bibliography.

How many samples in this volume?

In this volume we consider 890 samples,³ mainly *Impasto* but also other wares, cooking slabs and daubs.

Some sites are very well represented being case studies of specific projects: Lipari (almost 400 samples) Stromboli (almost 200 samples), Filicudi and Salina (more than 50 samples). For the other sites the number is usually between 11 and 25 whereas a few sites are represented by smaller quantities.

All together Aeolian samples make 730 pieces, Peninsular 110 and Sicilian 50.

The summary of the samples per each site is reported in **Table 1**; the complete list is reported in the databases: the samples are arranged according to Fabrics in DB1 and according to archaeological sites in DB2.

What are the dates of samples in this volume?

The samples presented in this volume range from the Neolithic to the Bronze Age (**Figure 2**). In Italian studies the Late Bronze Age is further divided into Recent and Final. Few samples are more recent, including some from historical phases.

For the correlation with the Aegean chronology see Jones *et al.* (2014). For a general chronological and cultural comparison of the Southern Tyrrhenian see **Table 2**.

Which main projects are included in this volume?

The distribution of the samples reflects of course the history of the research.

³ Samples in this volume have been selected and collected in collaboration with: Alberto Cazzella, Anna Maria Bietti Sestieri, Annunziata Ollà, Claude Albore Livadie, Elena Lattanzi, Enrico Procelli, Felice Larocca, Flavia Trucco, Gabriella Tigano, Giorgio Buchner, John Williams, Luigi Bernabò Brea, Madeleine Cavalier, Marcello Piperno, Maria Amalia Mastelloni, Maria Clara Martinelli, Massimiliano Marazzi, Massimo Osanna, Michaela Angle, Paola Aurino, Paola Vertuani, Riccardo Gullo, Rosa Maria Albanese Procelli, Rosario Vilardo, Rossella Agostino, Sebastiano Tusa, Umberto Spigo. Thin sections have been prepared by John Williams (see below), Armando Coeli (Torino) and Massimo Bortolotti and Simona Marchetti Dori (University of Modena and Reggio Emilia, Dept. of Chemical and Geological Sciences Modena).

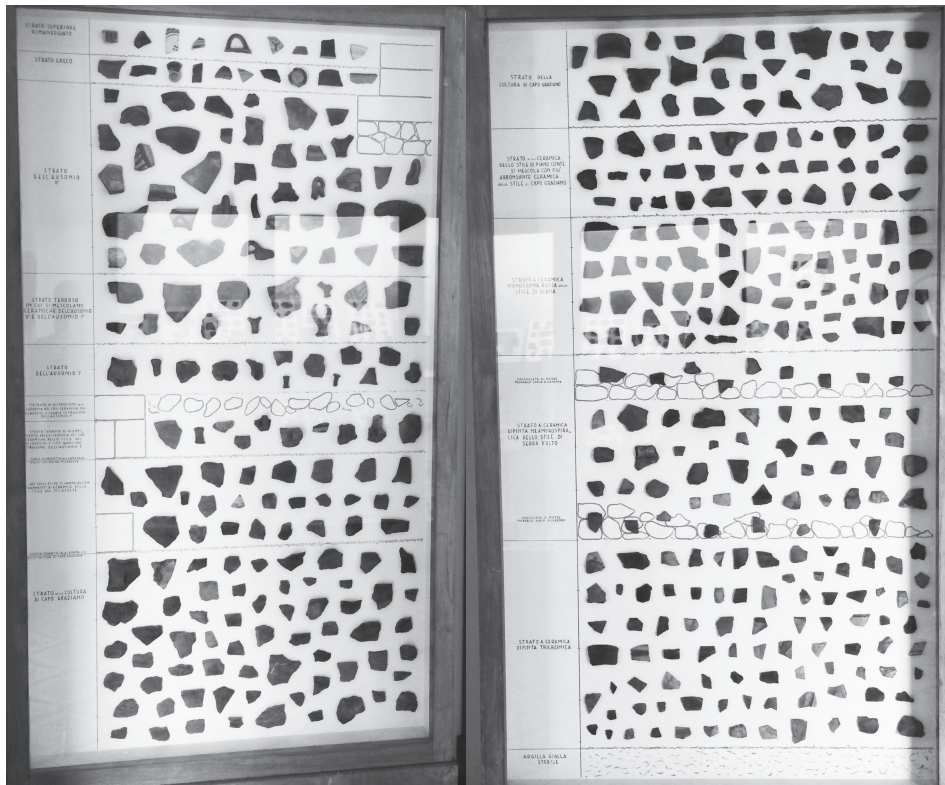


Figure 2 Stratigraphic sequence in the Acropolis of Lipari (Courtesy Regione Siciliana, Assessorato per i Beni Culturali, Museo Archeologico Regionale Luigi Benabò Brea – Lipari – ME).

BCE	Italian chronology	Southern Italian Peninsula	Aeolian Islands	Sicily
1150-950	Final BA	Protovillanovian	Ausonian 2	Pantalica II / Cassibile
1300-1150	Recent BA	Subapennine	Ausonian 1	Pantalica North
1700-1300	Middle BA	Protoapennine, Apennine	Capo Graziano 2, Milazzese	Late Castelluccio / Rodi Tindari, Thapsos
2300-1700	Early BA	Palma Campania	Capo Graziano 1	Castelluccio
3500-2300	Chalcolithic	Diana/Spatarella, Pianoconte, Gaudo-Laterza	Diana/Spatarella, Pianoconte, Piano Quartara	Pianoconte, Serrafelicchio, Conzo-San Cono-Piano Notaro, Conca d'oro
4000-3500	Late Neolithic	Diana	Diana	Diana
6000-4000	Neolithic	Impressa, Tricromica, Serra D'Alto	Stentinello, Tricromica, Serra D'Alto	Stentinello, Tricromica, Serra D'Alto

Table 2 General synthesis and summary of the Southern Italian/Aeolian/Sicilian archaeological phases and chronology.

Aeolian Islands

The Aeolian Islands are among the best known pre-protolithic areas and have been regarded as milestone in the development of central Mediterranean archaeology.⁴ Furthermore, the petrographic investigation conducted in 1960s by John L. Williams marked the first introduction of this approach to the study of prehistoric and protolithic pottery in Italy.⁵ He analysed the entire key sequence of Lipari and some reference contexts from the other islands examining a total of approximately 400 samples (**Figure 3a**). The results were presented in John's PhD thesis at the University of London in 1967 and published in several journals since 1980.⁶ His pioneering, extensive and detailed study carried out at the Museum of Lipari remains an outstanding example of integration between archaeology and archaeometry (Williams 2018).

A new wave of analyses began in 1990s fuelled by the warm friendship between John and Sara (**Figures 3b-3d**) and by a further impulse derived by the new excavations in the Islands.⁷

The present study is deeply connected with the Arch**EOLogIE** project: an interdisciplinary archaeological, geological and volcanological investigation including the excavation of the site of San Vincenzo, the integrated study of all archaeological evidence of Stromboli and of the several so-called 'minor' sites on various islands.⁸ At Stromboli the entire ceramic assemblage was macroscopically classified and recorded during the excavation for careful selection of samples (Di Renzoni et al. 2012). Petrographic, chemical and microchemical analyses of the artifacts and the volcanic sand from the stratigraphy of the site were performed extensively.⁹

⁴ http://www.luigibernabobrea.it/biografia_e.html

⁵ We are very grateful to the Museo Archeologico Regionale Luigi Benabò Brea for the continuous support to this project for more than 50 years.

⁶ Another archaeometric study is the analysis of some Neolithic painted decorations (Mannoni 1980).

⁷ See for example Bettelli et al. 2016; Cannavò et al. 2017a; Di Renzoni et al. 2104, 2016; Ferranti et al. 2015; Fiorentino et al. 2012; Levi et al. 2014b, 2015a, 2015b, 2017a, 2018, 2019; Martinelli 2005, 2010, 2015, 2016, Martinelli and Giordano 2017; Martinelli and Speciale 2017; Martinelli et al. 2010; Vidale et al. 2018; Zhao et al. 2015.

⁸ Directed by Sara T. Levi (San Vincenzo project; *À la recherche du volcan perdu*) and by Andrea Di Renzoni (Minority Reports), in collaboration with David Yoon, Francesca Ferranti, Marco Bettelli and Valentina Cannavò; project manager: Luciana Galliano. The geoarchaeological and archaeometric investigation is in collaboration with Alberto Renzulli, Antonella Bertagnini, Daniele Brunelli, Effie Photos-Jones, Elena Basso, Fabio Speranza, Gianna Ayala, Luigi Vigliotti, Marco Pistolesi, Mauro Rosi, Patrizia Santi and Stefano Lugli. Bibliography: 'San Vincenzo Stromboli' in www.academia.edu.

⁹ The students Beatrice Gasparini Casari, Carmelo Triolo, Debora Buonavoglia, Giacomo Lomarmo,

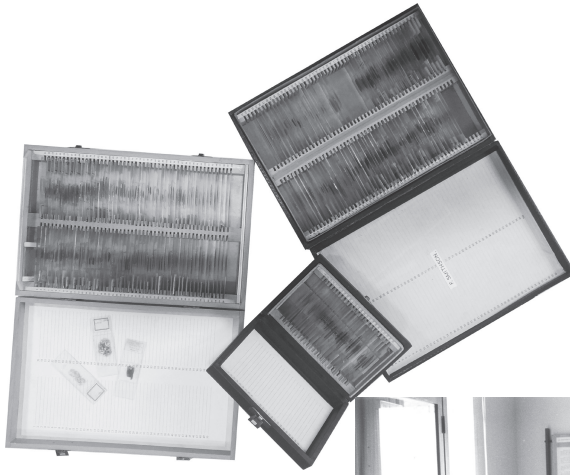


Figure 3a John's thin sections collection is integrated in the present study.



Figure 3b John and Paola in the Museum of Lipari (2007)



Figure 3c John and Sara in the storage room at Lipari (2007)



Figure 3d Sampling,,,,

North-East Sicily

The main project included here is represented by the excavation of Milazzo Viale dei Cipressi, a Bronze Age settlement where a detailed study of pottery was carried out. Other samples are from several sites in the localities of Milazzo, Tindari,¹⁰ Camaro and Messina.

Peninsular Italy

Samples are from several sites from southern and central western coasts of peninsular Italy. The main projects were the excavation of the Middle BA 3 village of Taureana,¹¹ Vivara Punta Mezzogiorno (Gulf of Naples). Other samples came from Calanna, Punta Zambrone, Grotta del Pino, Grotta di Pertosa,¹² La Starza, Pontecagnano, Fidene, Casale Nuovo, Monte dei Ferrari and Monte Rovello.

Where have preliminary data been published?

The complete set of data has never been published in this format.

Previous results have been extensively reconsidered and revised in this volume and, in the frame of the general picture proposed here, were sometimes modified.

The following list includes the main past publications by our team with archaeometric and technological investigations on pottery from the areas considered in this volume.

General

Italo-Mycenaean pottery volume: compositional and technological data of various wares (Jones *et al.* 2014).

Aeolian Islands

Archipelago: Levi and Williams 2001, 2003

Lipari: Brunelli *et al.* 2013; Levi *et al.* 1999, 2014; Williams 1980; Williams and Levi 1995, 2001, 2008

Giulia Guadagnini, Jessica Olivieri, Martina De Pietri, Pamela Fragnoli, Stefano Buffagni (Modena and Reggio Emilia University and Ferrara University) participated to the study.

¹⁰ The student Erica Corradini (Modena and Reggio Emilia University) participated to the study.

¹¹ The student Erica Corradini (Modena and Reggio Emilia University) participated to the Study.

¹² The student Delia Carloni (Ferrara University) participated to the study.

Stromboli: Brunelli *et al.* 2013; Cannavò *et al.* 2017b; Levi *et al.* 2014a, 2014b

Filicudi: Brunelli *et al.* 2013; Levi *et al.* 2014, 2015; Williams 1991

Panarea: Williams 1991

Salina: Levi and Fragnoli 2010; Levi and Jones 2005; Levi *et al.* 1999, 2014; Williams 1991; Williams and Levi 1995

North-East Sicily

Levi 2000; Levi *et al.* 1999, 2014

Peninsular Italy: Tyrrhenian

Bettelli *et al.* 2006; Carloni *et al.* 2017; Cazzella *et al.* 1997; Goran *et al.* 2001, Jones and Levi 2001, 2004a