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Eneolithic menhirs of Laconi (central Sardinia, Italy): from provenance to technological properties

Marco Serra [a,b], Valentina Mameli [c,d], Carla Cannas [c,d,*]

[a] Dipartimento di Scienze dell'Antichità, "La Sapienza" Rome University, Via dei Volsci 122, 00185 Rome, Italy
[b] Dipartimento di Storia, Beni Culturali e Territorio, Cagliari University, Piazza Arsenale 1, 09100 Cagliari, Italy
[c] Dipartimento di Scienze Chimiche e Geologiche, Cagliari University, Cittadella Universitaria, 09042 Monserrato, Italy
[d] INSTM, Cagliari Unit, Italy

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ABSTRACT

A multi-technique approach was carried out to investigate the provenance and technological properties of 34 anthropomorphic menhirs from Laconi (central Sardinia, Italy) dated back to the local Copper Age (III millennium BC). After visual inspection, geological materials coming from local ignimbritic outcrops were characterized by elemental and mineralogical analyses: portable X-Ray Fluorescence (pXRF), Inductively Coupled Plasma-Optical Emission Spectrometry (ICP-OES), Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) and Powder X-Ray Diffraction (PXRD). Conversely, the menhirs were studied only by visual examination and non-destructive pXRF measurements. By means of a comparison between pXRF data collected on the menhirs and the lithological outcrops, it was possible to assign the prehistoric artifacts of Laconi to local geo-sources, taking into account geochemical intra- and inter-source variabilities. pXRF was demonstrated to be a useful tool for provenance studies while mineralogical analysis resulted fundamental for the technological aspects. The latter technique pointed out the main use of hardstones, probably owing to the durability they give to the menhirs.
To the best of our knowledge, this is the first archaeometric study on Sardinian menhirs and one of the few recently developed on European megaliths.

1. Introduction

European megalithism appears to originate during the VI millennium BC, often becoming the symbol of the prehistoric cult of death. It took place in a wide area between Spain and the Ural mountains (Guilaine, 2004), with a high number of standing stones called menhirs. To explain the spread of menhirs across Central-Western Europe and their artistic evolution between the VI and III millennium BC, scholars have largely endorsed the polygenic origin of the phenomenon and the existence of cultural exchanges between British, French, Iberian, Balearic, Sardinian, Corsican, Maltese and Baltic areas (Guilaine, 1980). Furthermore, they reject the traditional diffusionist thesis (e.g. Arnal et al., 1983).

In the recent past, few archaeometric studies were carried out on European megalithic monuments, especially to investigate the technological properties and the provenance of their stone raw materials (e.g. Bevins and Ixer, 2013; Bevins et al., 2014; Pirson et al., 2002, 2003; Thorpe et al., 1991; Williams-Thorpe et al., 2006). Some of them specifically addressed a number of III–II millennium menhirs characterized by anthropomorphic features, often coming from Italy (Di Battistini et al., 2008; Rubinetto et al., 2013).

Within Italian megalithism, the anthropomorphism of Sardinian menhirs dates back to the Early Eneolithic, during the cultural phases of Filigosa and Abealzu (3000–2400 cal. BC) (Cocchi Genick, 2012; Melis, 2009; Perra, 2012; Saba, 2001). As in other European contexts (Calado, 2002; Taçon, 1999), these megaliths were probably used for an ancestors' cult (Cossu, 1996; Perra, 1992) and as territorial markers (Atzeni, 1982; Saba, 2000, 2001; Usai and Perra, 2012). So far, over 100 of these human-shaped menhirs are known in Sardinia: all of them come from inland areas (Marghine, Mandrolisai, Barbagia, Barigadu, Marmilla and Sarcidano) (Cicilloni, 2008, 2013) with the exception of one that was found in the southern Sulcis area (Atzeni, 2009) (Fig. 1).

Fifty menhirs were found in the small town of Laconi, in the Sarcidano zone (Fig. 1). They show a typical ogival profile and a plano-convex section: 46 menhirs are characterized by masculine (upside-down anthropomorphic representations and daggers with single or double triangular blades) or female (breasts) bas-relief attributes (Cicilloni, 2008), while the others (four menhirs) are asexual (Atzeni, 1972, 1982, 2004) (Fig. 2). In the same area, two likely prehistoric megalithic quarries were discovered, on the Mind'e Putzu and Serra Nocili hills (Atzeni, 1982; Lilliu, 1986, 1988; Marini et al., 2007; Murru et al., 2008) (Fig. 3).

* Corresponding author at: Dipartimento di Scienze Chimiche e Geologiche, Cagliari University, Cittadella Universitaria, 09042 Monserrato, Italy.
E-mail addresses: marco.serra@uniroma1.it, marco.serra@unica.it (M. Serra), valentina.mameli@unica.it (V. Mameli), ccannas@unica.it (C. Cannas).

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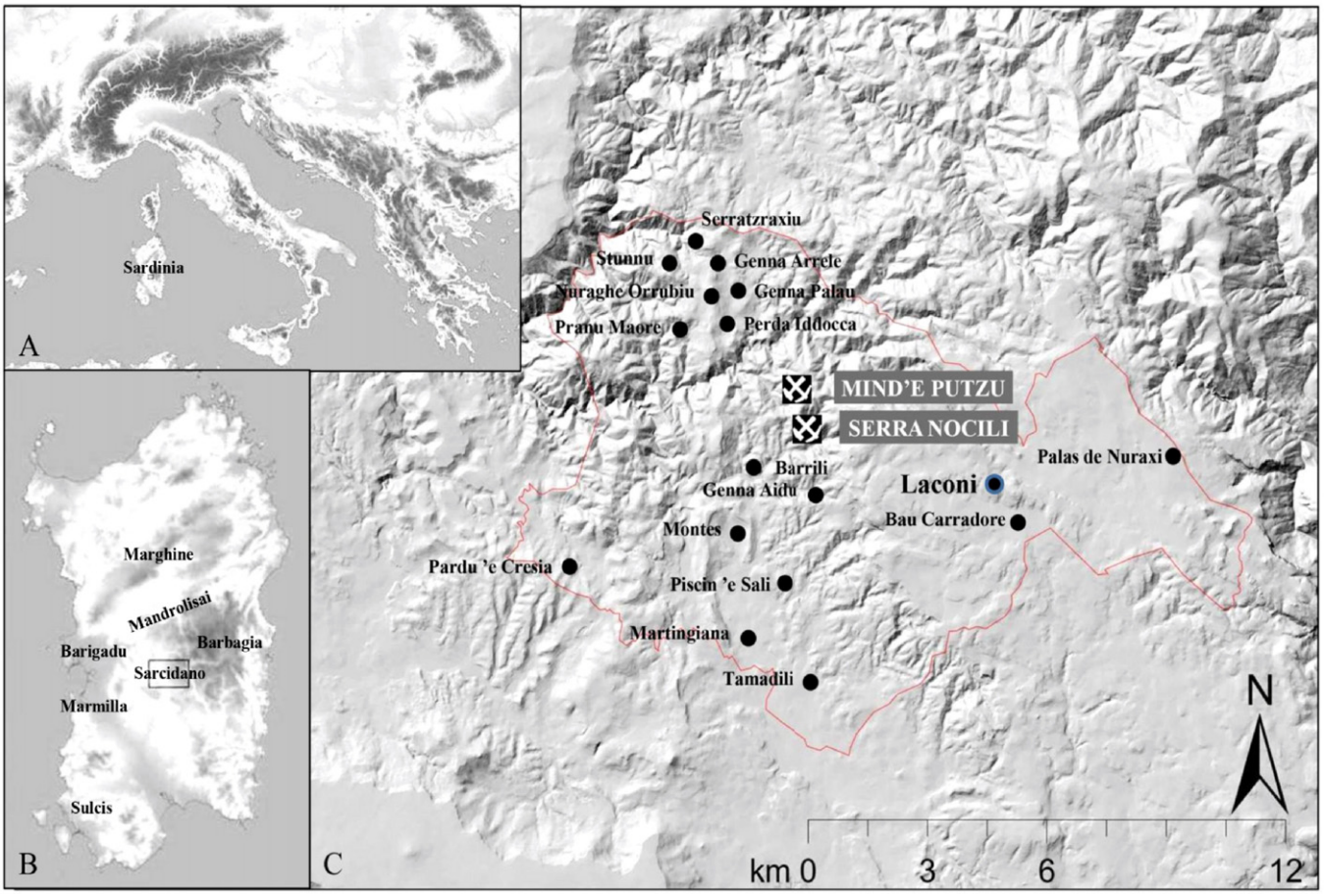

Fig. 1. Sardinia in the European geographic context (A); geographic map of Sardinia showing the menhir find areas (B); territory of Laconi showing the menhir find localities and the megalithic quarry sites of Mind'e Putzu and Serra Nocili (C).

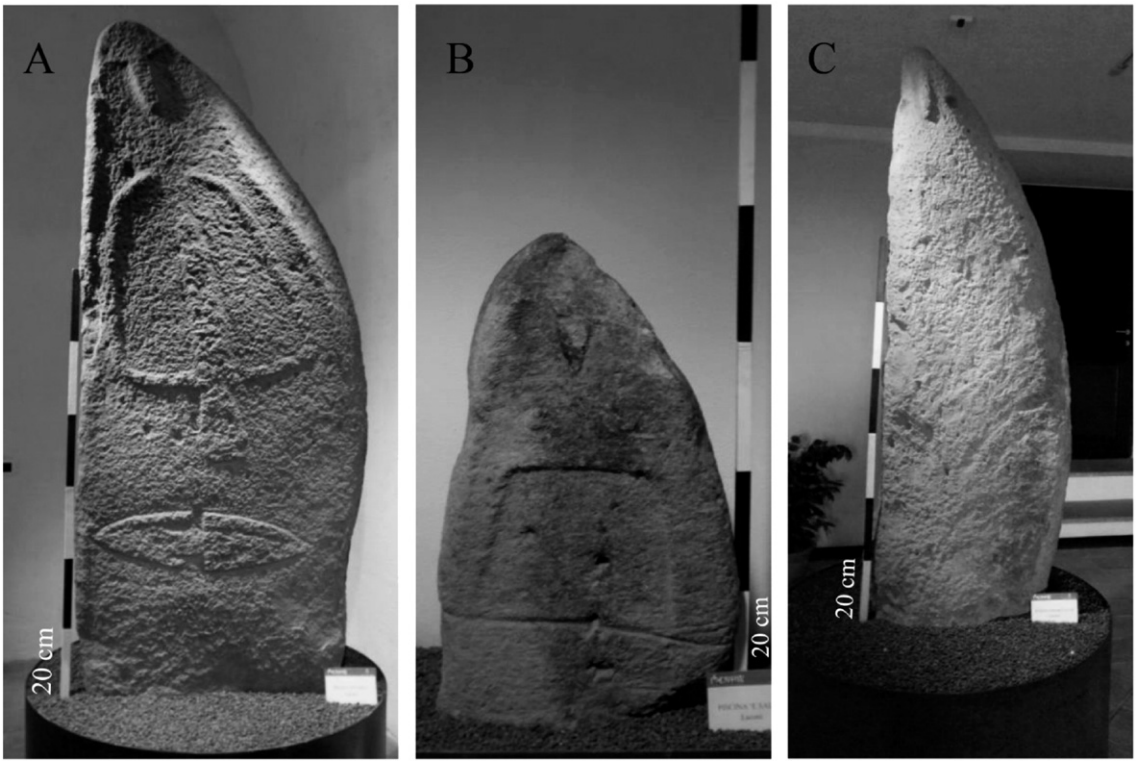

Fig. 2. Pranu Maore I male menhir (A), Piscina'e Sali III female menhir (B) and Perda Iddocca VII asexual menhir (C) hosted in the "Museo della Statuaria Preistorica in Sardegna" of Laconi.