

DIGITAL DOCUMENTATION AND TRACEOLOGICAL RESEARCH OF A STONE ALTAR IN THE SITE OF SAN PIETRINO DI ROTA, TOLFA (PROVINCE OF ROME, ITALY)

Martin Trefný^{id} – František R. Václavík^{id} – Michal Cihla –
Lucio Giuseppe Perego – Fabian Gapp



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The paper presents the results of the traceological research of the stone altar in the site of San Pietrino di Rota near Tolfa, province of Rome, Lazio, Italy. The altar was firstly documented and published in the 60's of the 20th c. Its position was later lost and found again in 2021. The traceological documentation revealed the traces of two types of the working tools: an adze with toothed cutting edge and an adze

with slightly rounded cutting edge. Although the surface of the altar was worn, as typical for the exposed structures, the results of the traceological research indicated rather the Late Republican chronology of the altar.

INTRODUCTION

During 2021 a stepped stone altar has been re-discovered in San Pietrino di Rota near Tolfa in province of Rome, Italy (Fig. 1; 7–13). This altar has been researched already in 60's of 20th c. and published by B. Pergi (1961, 60–71). Nevertheless its position has been subsequently lost and the altar has been accidentally re-discovered in november 2021 by citizens of Tolfa (Stracci 2021).

The altar belongs to the group of rock-cut architecture, that is not rare in Southern Etruria (*Etruria meridionale rupestre* 2014; Prayon/Steingraber 2010; Steingraber/Prayon 2011). It must be also stressed that the function of similar structures as an altar is not fully accepted and the function of a tomb is considered too. For this purpose similar objects are sometimes denoted as “tomba-altare” (Di Paolo Colonna 1984, 522–526; cf. also Prayon/Steingraber 2010, 224).

The monument was classified by F. Prayon as his type “a gradini con cippo o incavo in sommità – tipo II” (Prayon 2014, 349, 350), and as a type “a gradini” by L. Pulcinelli and S. Steingraber (Pulcinelli 2014, 366; Steingraber 2015, 2). This type is in a surrounding area represented, except of that one from San Pietrino di Rota, also by the altars in Manziana (Ara di Quadroni) and Bassano Romano (Prayon 2014, 349; Pulcinelli 2014, 380). However, the chronology of this type was in the past a subject of a debate. Originally such altars were considered to be an Etruscan work, beginning in the first half of the 6th c. BC (Euwe-Beaufort 1985, 103; 1989, 46–48). Later on another chronology appeared, dating these monuments to Late Republican period (Cristofani 1991, 120; Pulcinelli 2014, note 25). F. Prayon pointed out also particular similarities with the tomb of C. Anicius in Selva di Malano, dated back by the inscriptions to the end of Roman republic and beginnings of the 1st c. AD (Prayon 2014, 350).

Our team is longer time active in the research of the stoneworking in the Southern Etruria. Our first research project was focused on the subterranean limestone quarry in the site of Cava Maggi, located near extensive Tarquinian necropolis of Monterozzi (Cihla/Václavík/Trefný 2017; Trefný/Cihla/Václavík 2022, 92–97). Our research has brought important data on the reconstruction of the used tools in the quarry, reconstruction of the separation techniques used for splitting off the great rectangular blocks of the

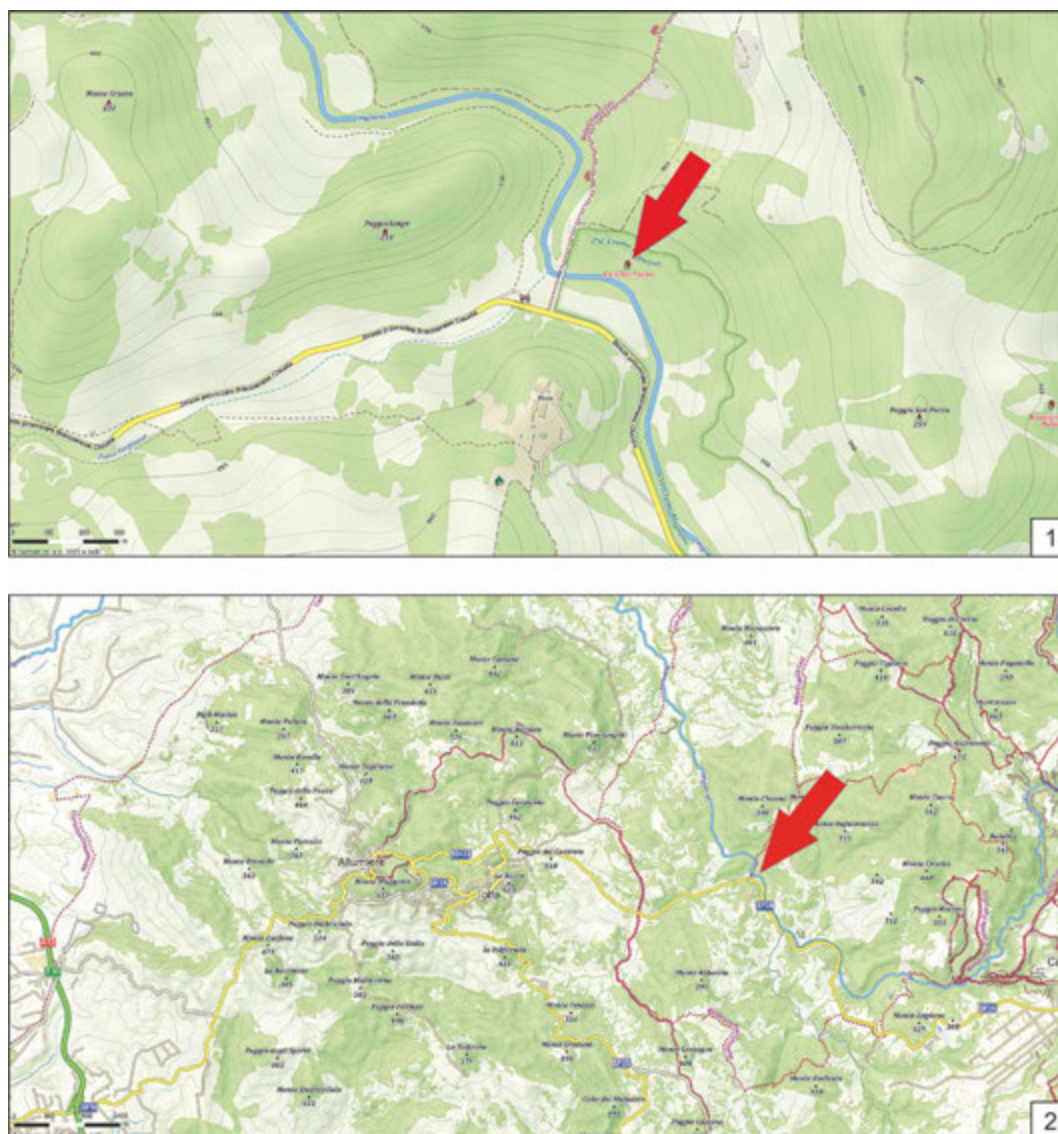


Fig. 1. San Pietrino di Tolfa. Location of the site on the map. 1 – detail of the location; 2 – broader region of the site (www.mapy.cz).

stone, information on the handling with the stone blocks as well as on the overall management of the stone in the quarry. Finally our documentation provided a 3D model of the quarry that was used also to generate its plan.

We realized also a research of very rare stoneworking activities of the Villanovan culture. It was the documentation of the stone containers (custodie) intended for the insertion of the cinerary urn and other grave gifts in the Tarquinian necropolis of the Villanovan culture excavated in the site Villa Bruschi Falgari (Trefný/Cihla 2021; Trefný/Cihla/Václavík 2022, 9, 10).

Our activities were aimed also at the research of the tumulus of the Archaic period in the necropolis of Grotta Porcina near Vetralla (Trefný *et al.* 2021). This tumulus is very known due to its unusual construction design, since its body is completely hewn out from the stone massif. Furthermore, the interior of the tumulus was converted in the modern times into stalls. Thus it provides an unique possibility for the comparison of the ancient and modern stoneworking techniques.

Finally, our research covered more than 50 other sites in Southern and Central Etruria (Trefný/Cihla/Václavík 2022). The results showed that the stoneworking activities of Etruscans followed particular procedures or approaches, including the use of the specific tools. These findings could contribute to chronological questions connected with the “newly” re-discovered altar in the site of San Pietrino di



Fig. 2. Grotta Porcina. Altar. Photo V. Beran.

Rota. For this reason, we decided to focus our attention on the research of the mentioned structure¹ in order to:

- realize 3D digital documentation of the altar to create a 3D model that might be utilized for other architectonic analyses;
- document the surroundings of the altar to identify other potential architectural remnants of the altar and;
- realize a traceological research of the surface of the altar to identify the tool traces of the working up the surface in order to determine and reconstruct the tools and the techniques of the stoneworking activities realised during the construction of the altar. The identified techniques and tools could also contribute to the determination of the chronology of the altar.

ROCK-CUT ALTARS IN THE SURROUNDING AREA

Existence of the altars in Etruria is a matter of extensive studies (*Colonna 1985; Euwe-Beaufort 1985; Menichelli 2009; Steingraber 1982; Steingraber/Menichelli 2010*). As for the relevant part of the Southern Etruria or surrounding area of our site, rock-cut altars have been known here already since the Orientalizing period. An example of simple oblong altar cut in the floor may be found in the left lateral cella of the Tomba Cima in the necropolis of San Giuliano in Barbarano Romano, dated back to the second half of the 7th c. BC (*Colonna 1996, 166; Di Paolo Colonna 1978, 22, 23, fig. 20; Menichelli 2014, 164, 165; Naso 1996, 117–120, fig. 91; Steingraber 1983, 336, 337; 1997, 101, fig. 4*).

We already mentioned the tumulus in the site of Grotta Porcina dated to the first half of the 6th c. BC (*Barbieri 1998; Colonna 1965, 16; 1967; 1985, 116; 1993; Colonna Di Paolo 1978, 34; Naso 1996, 154–164; Pernigotti 2021; Quilici Gigli 1978, 43–49; Romanelli 1986, 29–31; Rosi 1925; Santella 1999*). This site includes also another very notable structure – a rock-cut altar (Fig. 2). It consists of a cylindric part with a diameter of 6.2 m. It is surrounded by the rectangular rock-cut structure made of several steps and connected with

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Fig. 3. Casetta in Blera. A cube tomb with the altar on the roof (after Wikimedia Commons).



Fig. 4. Manziana. An altar called Ara di Quadroni. Available on: <https://www.facebook.com/photo/?fbid=2396705340431769&set=pcb.1594328784076322>.

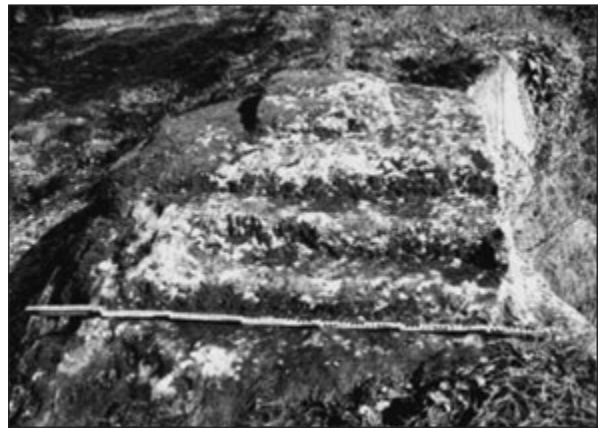


Fig. 5. Soriano nel Cimino. A stepped altar (after *Prayon* 2014, fig. 6).

the altar by a rampart. Rampart and the cylindric element have originally been decorated by the relief of the procession of (feline, bovine or perhaps equine) animals and the trees on the background. Unfortunately only the lower parts of the animals survived to the modern times.

The function of altars for funeral cults had also terraces or roofs of some tombs. Such example is attested in case of one tomb of a semi-cube type (Fig. 3), dated back to the second half of the 6th c. BC in the necropolis of Casetta in Blera (*Colonna* 1986, 448, fig. 329; *Colonna di Paolo* 1978, 30–32, fig. 49; *De Laurenzi* 2006, 181–183; *Giannini* 2003, 245, 246; *Menichelli* 2014, 164, 165; *Ricciardi* 1987, 42–68, fig. 91; *Steingraber* 1983, 325–332; 1997, 98–100).

Nevertheless, the area of the relevant part of the Southern Etruria is typical with appearance of many other forms of the altars or related rupestal features that are subject to several typologies (Fig. 4; 5). For example *F. Prayon* (2014, 346–353) distinguished four types. Type I (rupestal monuments with a platform), type II (rupestal monuments with steps and with cippus or cavity on the summit), type III (monu-

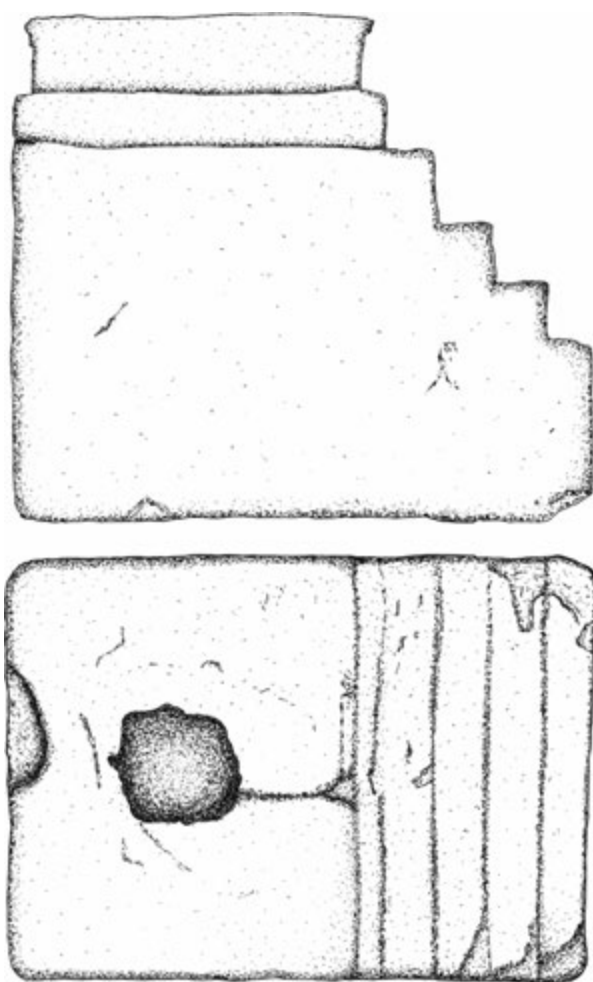


Fig. 6. Vulci. An altar (after Prayon 2014, fig. 9, amended).

ments with a socle with a cippus) and type IV (cubic rupestral monuments). The feature that is a subject of this article, altar in San Pietrino di Rota, is classified here as a type II.

The “altar-shaped” objects in relevant area are also a subject of the article of L. Pulcinelli (2014). He distinguishes the “altar-shaped” monuments decorated by the “kyma recta” and “kyma reversa”, “altar-shaped” monuments, other rock-cut monuments without further specification and of course “stepped monuments” (Pulcinelli 2014, 380), where he includes also our altar from San Pietrino di Rota.

S. Steingraber has identified in this area nine forms of altars, such as type with a platform, with steps without a platform, with a socle and with a cippus, in a form of a cube, in a form of a basin, with a facade and cavity in the upper side, in the form of aedicula, arcosolium or niche, hypogeal form and other types. Some of the mentioned types have also several subvariants (Steingraber 2015, 188).

Absolute majority of these altars fall into the period limited by the first half of the 1st c. BC and the first half of the 1st c. AD, thus to the Late Republican until the Early Imperial period (Pulcinelli 2014; Steingraber 2015, 190). However, the realization of these altars in the mentioned period might be rooted in the earlier Etruscan architecture, when the rock-cut constructions were frequently utilized. As an appropriate examples of these structures the stepped altars in Sovana or in Vulci (Fig. 6) may be mentioned (Prayon 2014, 350, fig. 9; Rafanelli 1997, fig. 2, 3; Steingraber 2015, 190).

METHOD

Digital documentation and 3D models of individual parts of the altar as well as other relevant architec-tonic parts were realised using the device GeoSLAM ZEB Revo Horizon, mobile LIDAR based on technology SLAM with frequency 300,000 points per second, accuracy 1–3 cm, range 100 m. The data were processed in GeoSLAM HUB a GeoSLAM Draw.

Digital documentation of individual working traces of stoneworking activities provided an information on their longitudinal as well as the transverse characteristics. Individual features of the traces also revealed if the trace is dynamic or static. Static trace is a result of the perpendicular impact of the cutting edge of the tool on the worked stone surface. On the contrary, dynamic trace is a result of the movement of the cutting edge of the tool following the movement of the tool held in a moving hand (for example handle tools).

The reconstruction of the used tools was based on the longitudinal and transverse characteristic of its cutting edge and other relevant features. The character of the trace (static/dynamic) determined the way of the work with the tool and so the used stoneworking technique. Of course, the reconstructed tools were compared to existing scale of the working tools, known from archaeological contexts.

The digital documentation of individual working traces was made by the camera Canon 77D, with lens Canon 35 mm. We used also the external light source Jupio Power LED JPL 150 A. 3D model was generated by the AgisoftPhotoscan. The topography of the traces was researched in Global Mapper. The documentation was made without a tripod with ISO 1600, diaphragm F8, focal length 13 mm. During the photographing with an overlap maximally 50%, the direct light attached to the camera was used. The position of an altar and related blocks was measured by the device Emlid RS+, corrected by EUREF with NTRIP correction, (Fig. 2; 3).

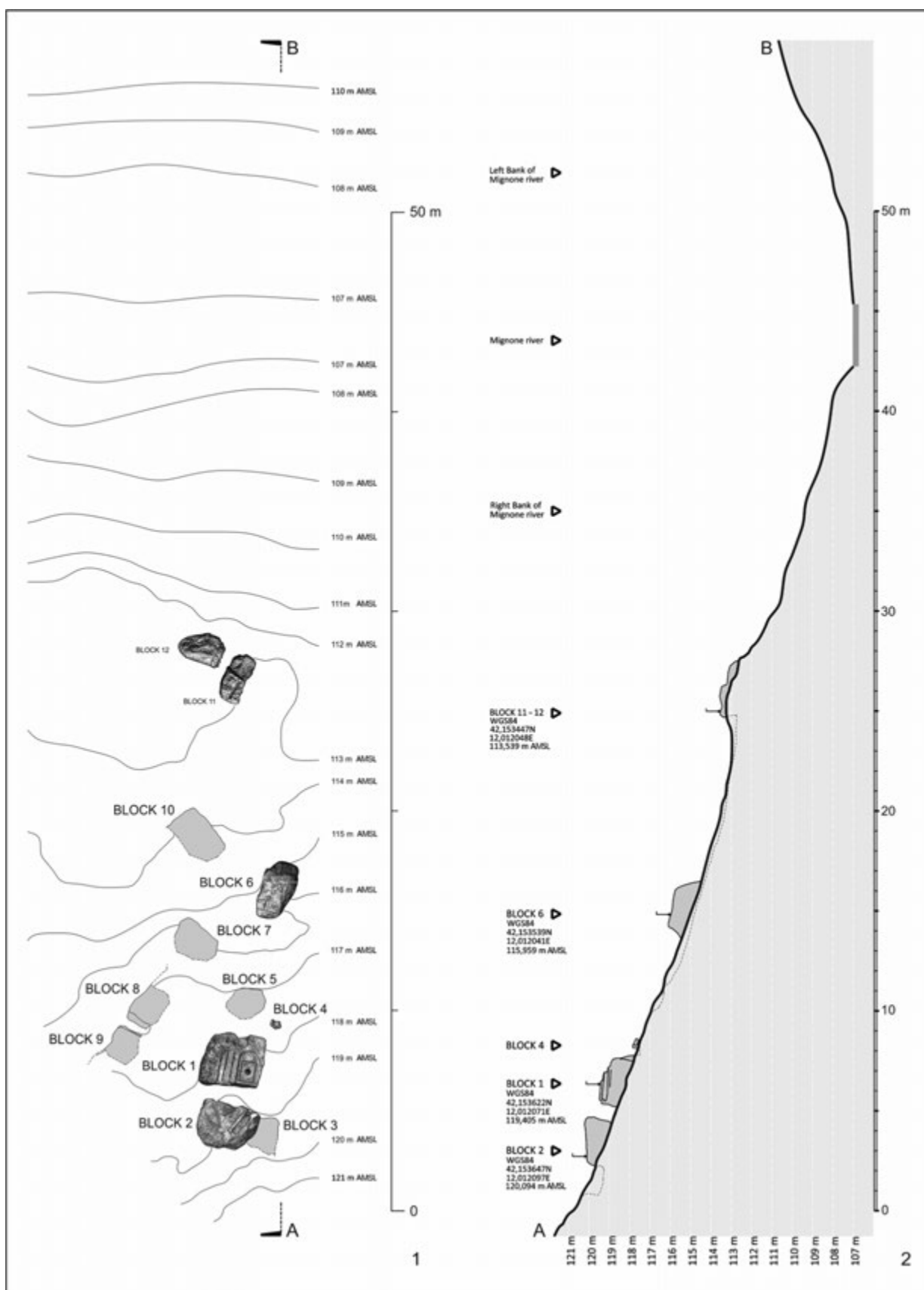


Fig. 7. San Pietrino di Tolfa. 1 – position and coordinates of individual stone blocks identified in the site; 2 – section of the researched situation.

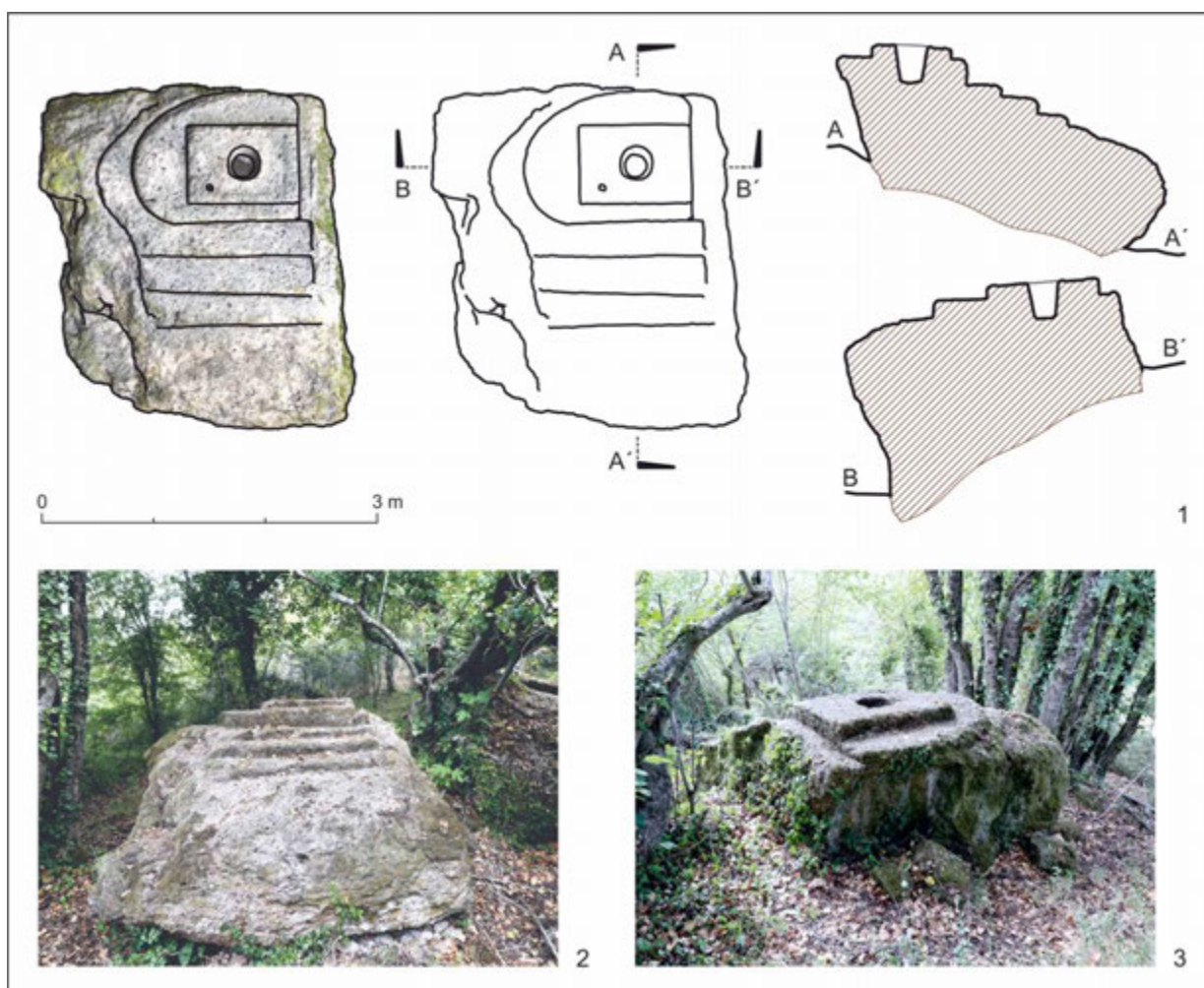


Fig. 8. San Pietrino di Tolfa. Block 1. 1 – plan, drawing and section; 2 – from the east; 3 – from the north – west.

DESCRIPTION OF THE PRESERVED BLOCKS IN SAN PIETRINO DI ROTA

The site of the altar is located on the right bank of the river Mignone in the elevation of ca. 120 m a. s. l., on a slope adjacent to the river (Fig. 1). The direct distance from the river is ca. 50 m. A bridge, connecting both banks of Mignone river is located ca. 190 m from the altar in southwestern direction. The direct distance of the altar and a built up area in the hilltop of Rota is ca. 440 m and this hilltop is located in the southwestern direction.

The site of the altar is situated on the slope declining to the southwest. The surrounding area of the site is characteristic with an accumulation of greater local tuff blocks (Fig. 7). Majority of them seems to be unworked, nevertheless, we registered several sites in a close vicinity of the altar, where various stone elements with visible indices of working up of the surface could be noticed (see ultra).

The main visible part of the altar was labelled as block 1 (Fig. 8). This part was a huge block of a local tuff. Several steps were visible on the eastern side. These steps issued in the small plateau in the top, consisting of one step with hemispherical ending and one smaller step atop of the altar with a circular cavity.

Block 2 was situated in the north from the block 1 (Fig. 9). It was a huge block of a local tuff again. An oblong deepening was cut in the top part.

Block 3 was located in the west from the block 2 (Fig. 7). Its dimensions were unclear, being partly covered by the block 2. Remaining blocks (blocks 4–12) were situated in the vicinity of the block 1 and in the south of it (Fig. 7; 10; 11).

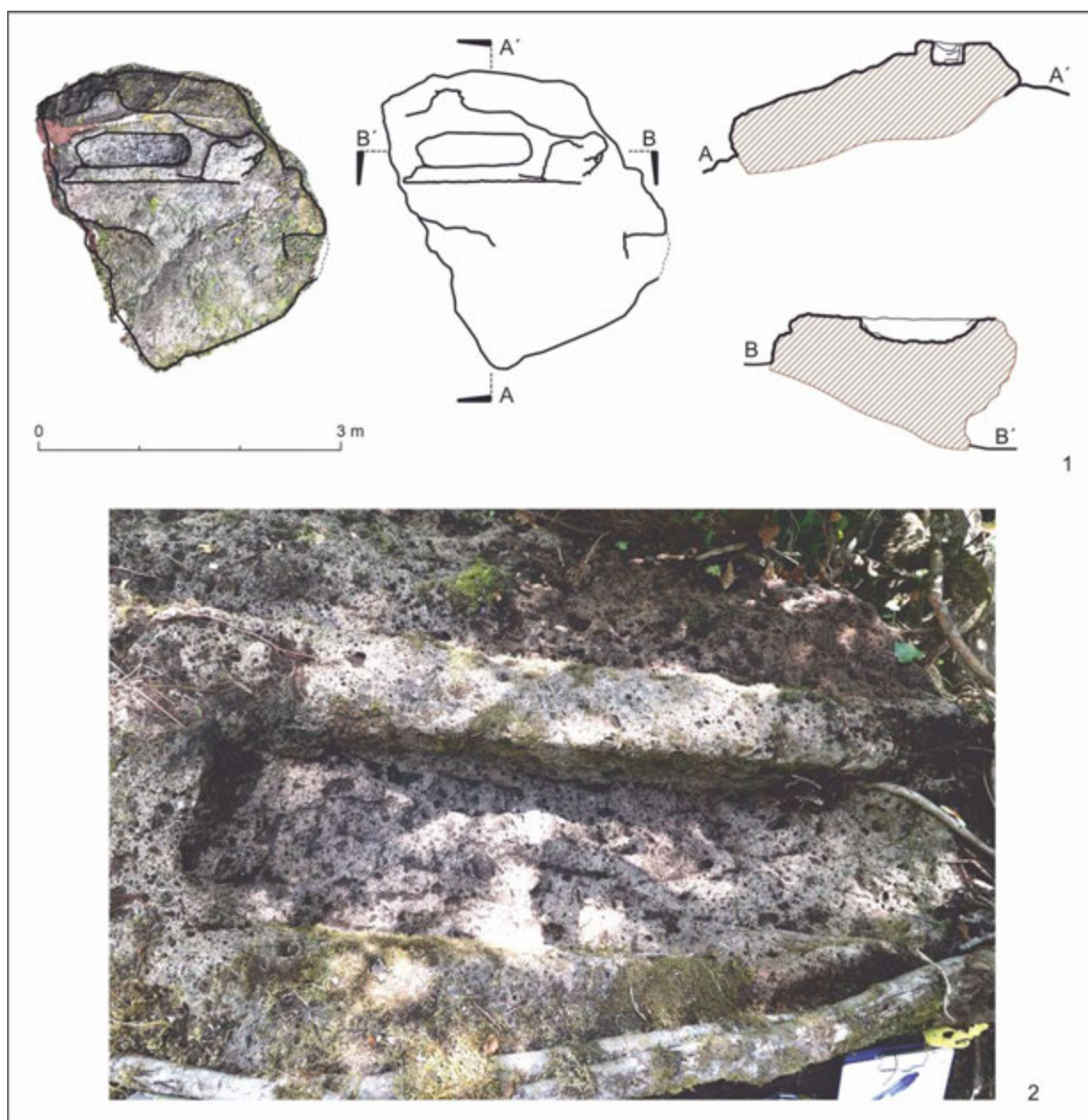


Fig. 9. San Pietrino di Tolfa. Block 2. 1 – plan, drawing and section; 2 – detail.

The traces of working up the surface were registered on the surface of the block 1 (dimensions ca. 305 × 256 × 180 cm), 2 (dimensions ca. 320 × 221 × 120 cm), 4 (dimensions ca. 53 × 49 × 31 cm), 6 (dimensions ca. 300 × 148 × 132 cm), 11 (dimensions ca. 252 × 118 × 0.96 cm) and 12 (dimensions ca. 203 × 146 × 60 cm). However, only the surfaces of blocks 1, 2, 4 and 11 provided the traces of particular working tools.

DESCRIPTION OF IDENTIFIED TRACES

A particular problem of our traceological analysis was that almost all surface of an altar, as well as other worked up stone parts, were extensively eroded. For this reason, it was impossible to reconstruct individual phases of the stoneworking activities. Only four traces of the working up of the surface were identified.

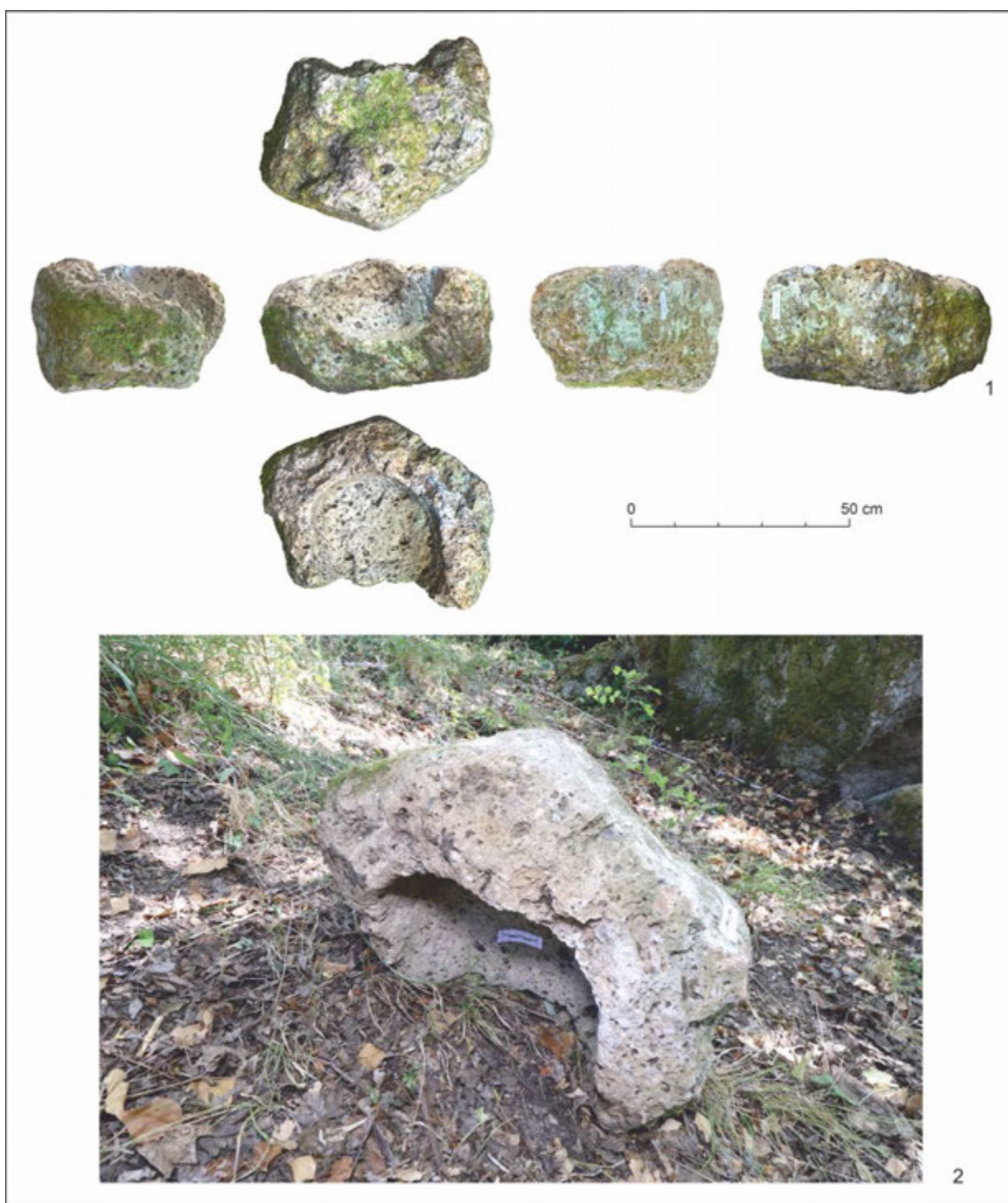


Fig. 10. San Pietrino di Tolfa. Block 4. 1 – plan and section; 2 – photo *in situ*.

The trace 1 (Fig. 12: 1) was located in the upper part of the altar (block 1). The traces of the working up the surface were in this part identified in two parallel rows.

The trace 2 (Fig. 12: 2) was found on the surface of the block 2, in the oblong deepening on its top, with dimensions 1.15×0.33 m. The stonemason left also in this case the traces on the surface in several parallel rows.

A stone object (dimensions ca. 40×40 cm), with originally hexagonal shape (Fig. 8: 3) and with semi-globular deepening (block 4) was identified in the vicinity of the block 1. The trace 3 was identified inside of its deepening (Fig. 12: 3).

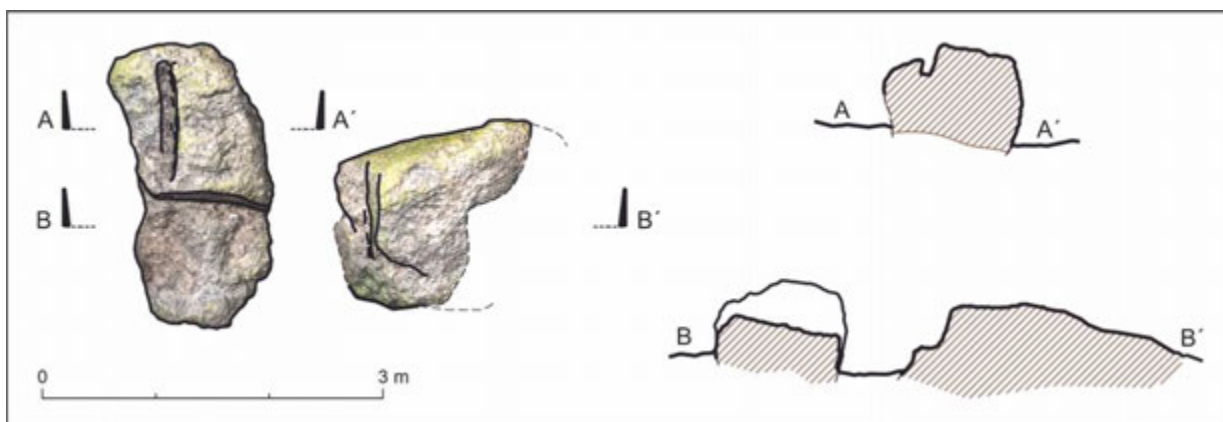


Fig. 11. San Pietrino di Tolfa. Blocks 11 and 12. Plan, drawing and sections.

Trace 4 was identified on the surface of the block 11 (Fig. 12: 4). It was found in a place, that may be interpreted as a separation groove, typical for quarrying. It may be supposed that the separation groove should have split the block 11 in two parts.

Trace 1

Dynamic trace; width 5 cm; preserved length: 5 cm (Fig. 12: 1). The trace was made by a tool with two cogs on the cutting edge. The trajectory of the movement of the tool is due to the superficial erosion indeterminable. Individual cuts of the tool, with the length of ca. 5 cm are located next to each other and indicate dynamics of the tool's movement in the trace. Reconstructed tool: a toothed adze (2 teeth).

Trace 2

Dynamic trace; width 5 cm; preserved length: 5 cm (Fig. 12: 2). The trace was made by a tool with two cogs on the cutting edge. The trajectory of the movement of the tool is due to the superficial erosion indeterminable. Individual cuts of the tool, with the length of ca. 5–6 cm are located next to each other and indicate dynamics of the tool's movement in the trace. Reconstructed tool: a toothed adze (2 teeth).

Trace 3

Dynamic trace; width 5 cm; preserved length: 5 cm (Fig. 12: 3). The trace indicates a slightly rounded cutting edge. The trajectory of the movement of the tool is due to the superficial erosion indeterminable. Individual cuts of the tool, with the length of ca. 4 cm are located next to each other and indicate dynamics of the tool's movement in the trace. Reconstructed tool: an adze with a slightly rounded cutting edge.

Trace 4

Dynamic trace; width 5 cm; preserved length: 5 cm (Fig. 12: 4). The trace was made by a tool with two cogs on the cutting edge. The trajectory of the movement of the tool is due to the superficial erosion indeterminable. Individual cuts of the tool, with the length of ca. 5–6 cm are located next to each other and indicate dynamics of the tool's movement in the trace. Reconstructed tool: a toothed adze (2 teeth).

RESULTS OF THE TRACEOLOGICAL ANALYSIS AND DOCUMENTED TOOLS IN AN ARCHAEOLOGICAL RECORD

Research in the site documented the position of the altar including one block that was originally very probably a part of it. However, uneven lateral sides indicate that these sides have been degraded during the time, so it is not fully clear in what mutual position both blocks were originally situated. Except of these two architectonic remnants, our monitoring in the site revealed other 10 related stone elements, of which some indicated traces of working up the surface. This situation indicates that the site of the altar could have been originally composed of more parts, representing more complex precinct.

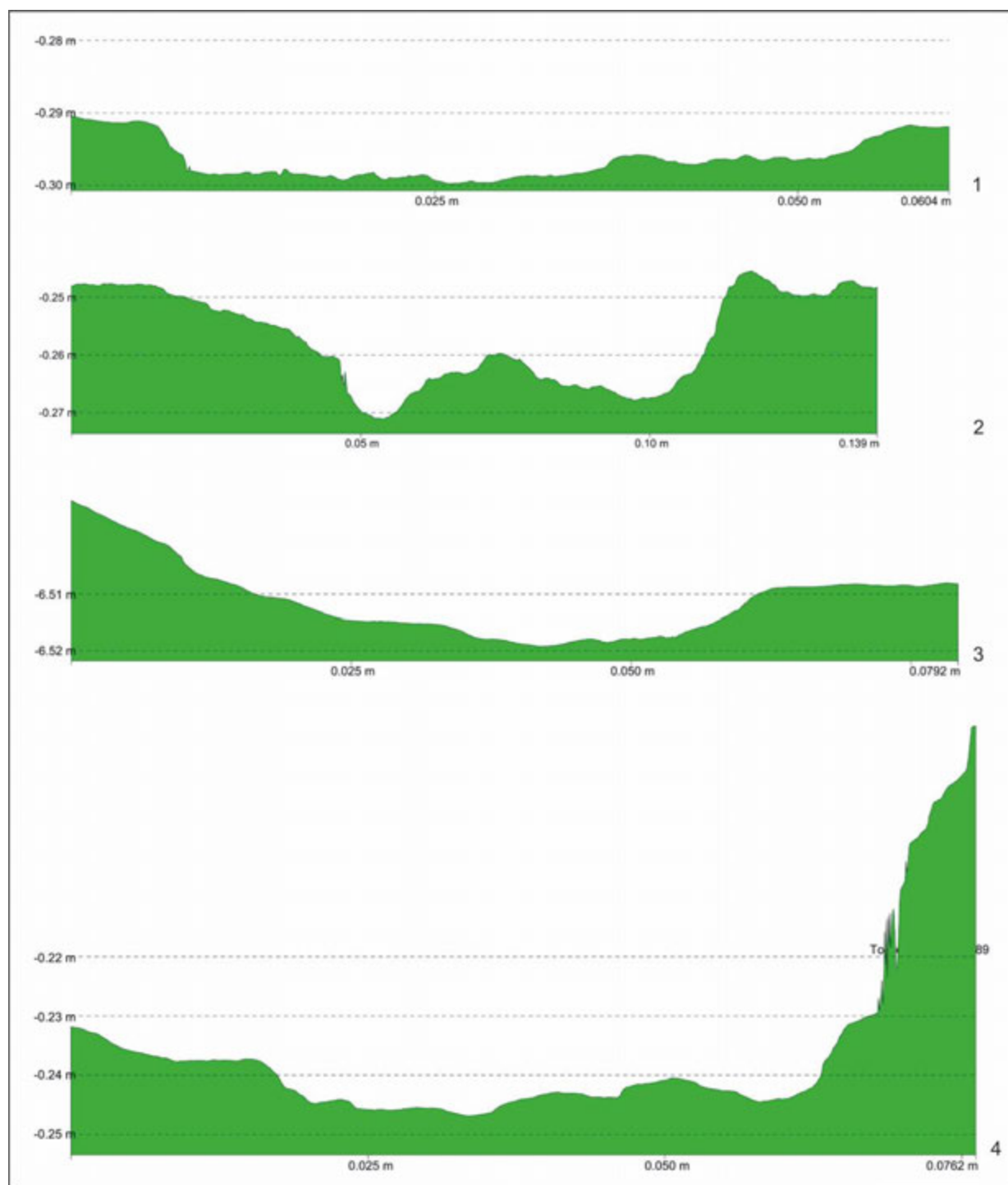


Fig. 12. San Pietrino di Tolfa. 1 – transverse section of the trace 1; 2 – transverse section of the trace 2; 3 – transverse section of the trace 3; 4 – transverse section of the trace 4.

However, its original form is unknown. There are other visible anthropogenic impacts in broader surroundings of the site, indicating the quarrying of tufa blocks, various terrain modifications etc., showing that the site was utilized in the different periods for varied purposes, which could have persisted even in a recent time.

Traceological analysis of individual parts of the altar and surrounding elements has confirmed the use at least of two types of the tools. First one is an adze with toothed cutting edge, second one an adze with slightly rounded cutting edge.

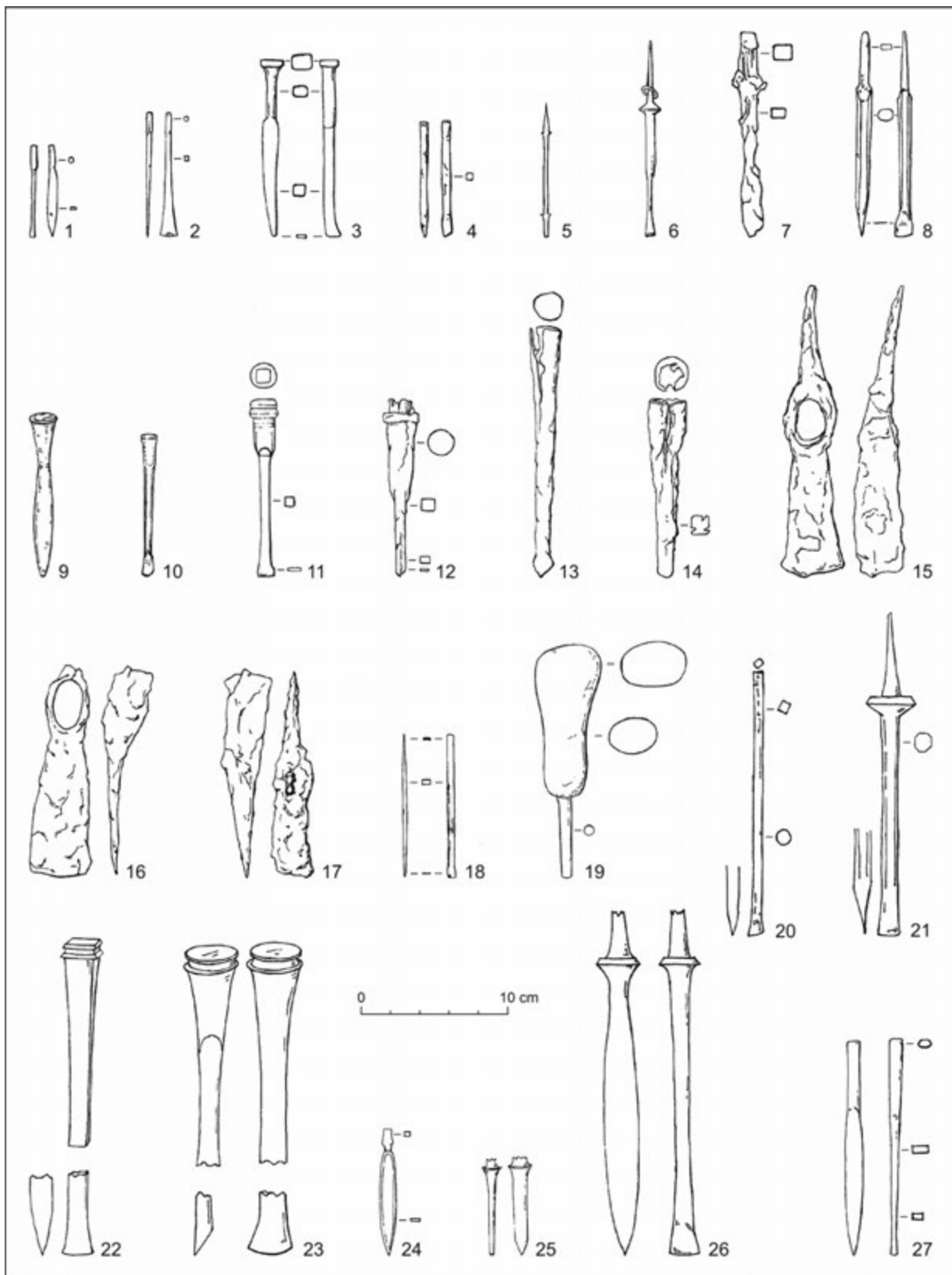


Fig. 13. Examples of chisels and adze-like tools in Italian millieu. 1, 2 – San Vito al Tagliamento; 3, 8 – Veio; 4, 7, 15 – Tursi; 5 – Cerveteri; 6, 9 – Vetulonia; 10 – Vulci; 11, 12, 16 – Pontecagnano; 13 – Roggiano Gravina; 14 – Pitecusa; 17 – Tolentino S. Egidio; 18 – Castione Marchesi; 19 – Monte Titano; 20 – Seconda Torre; 21–26 – Bologna; 27 – Monte Cavanero (after Trefný et al. 2022, fig. 25).

Turning our attention to potential use of the traceological results for chronology of the altar in San Pietrino di Rota, we must point out here one aspect. It seems that the tool, that was used in earlier Etruscan architecture (Orientalizing to Classical/Hellenistic) for the finishing or smoothing of the plain surfaces was an axe (cf. *Trefný/Cihla/Václavík 2022*). This was documented for example in Veio in Tomba dei Leoni Ruggenti, the earliest painted Etruscan tomb dated back to around 700 BC (*Trefný et al. 2021*, fig. 9: 1), in Tomba dei Capitelli, Tumulo Maroi and Tumulo Policromo in Cerveteri (*Trefný et al. 2021*, fig. 9: 2–4), in the chambers of the tomb in tumulus of Grotta Porcina (*Trefný et al. 2021*, fig. 4), in one of the tomb in Crocefisso del Tufo in Orvieto (*Trefný et al. 2021*, fig. 9: 5), in the Tomba delle Leonesse, Tomba Bettini or on one of the stone slabs from the tomb in Monterozzi necropolis, exposed in Museo Nazionale Tarquiniense in Tarquinia (*Trefný et al. 2021*, fig. 9: 6–8) and in other sites. One of the earliest evidence of the use of the axe as a finishing tool in Etruscan milieu are the stone containers of the Villanovan or Protovillanovan cremation burials in Tarquinia-Villa Bruschi Falgari (*Barbaro/De Angelis/Trucco 2012*; *De Angelis/Barbaro/Trucco 2016*, 433; *Trefný/Cihla 2021*; *Trefný et al. 2022*, 61; *Trucco 2001*, fig. 89; 90; 92; 93; 2006a, fig. 1, 3, 5, 6, 10; 2006b) or in Monte Rovello-Allumiere (*Biancofiore/Toti 1973*; *Di Gennaro 2007*; *Toti 1964*; 1976; 2010; *Trefný/Cihla 2021*, fig. 5a–d). We mentioned here mostly funeral structures. Nevertheless, the use of an axe is in Southern Etruria typical also for other types of the stoneworking. Its traces may be seen for example on the podium or walls of the cella of famous temple of Ara della Regina in Tarquinia (*Trefný et al. 2021*, fig. 10: 1; 2022, 70, 71) or on other types of the structures (*Trefný et al. 2022*, 61–73).

As for the origin of the use of the axe as a stoneworking tool it seems that this technique came to Etruria from Sardinia, where it was registered in earlier context for example in a tomb from the necropolis of Su Crucifissu Mannu, on the socle of one masculine statue of a warrior from Monte Prama or on one stone block, originally from the sides of the monumental staircase to the sacred well in Santa Cristina (*Trefný/Cihla/Václavík 2022*, 162, 163). It is symptomatic that also the famous Tomba dei bronzetti sardi in Vulci (*Arancio et al. 2010*, fig. 2, 170, note 15) representing by its inventory an example of the Sardinian influences in the Villanovan milieu features also the ovoid stone container worked in the same way.

On the contrary, the researched altar in San Pietrino di Rota completely misses any traces of this stonemason's tool. We may argue, that the surface of the exposed structures may be frequently worn by the activity of the weather. It is true, but we know also cases, when clear and visible working up the surface with an axe may be documented on external exposed surfaces. This is for example monumental structure of the temple Ara della Regina (*Trefný et al. 2021*, fig. 10: 1) or Orientalizing tomb of Poggio Galinaro near Tarquinia (visual observation).

Turning our attention to the adzes, use of the adze with slightly rounded cutting edge does not represent any clue to the chronology. This type of the tool is widely known from Italic/Etruscan contexts. We know them for example from San Vito al Tagliamento, Veio, Tursi, Cerveteri, Vetulonia, Vulci, Pontecagnano, Roggiano Gravina, Pitecusa, Tolentino S. Egidio, Castione Marchesi, Monte Titano, Seconda Torre, Bologna or Monte Cavanero (Fig. 13; cf. *Iaia 2014*; *Trefný et al. 2022*, fig. 25). They were documented also in the ancient quarry in the site of Cava Maggi near Tarquinian necropolis of Monterozzi (Fig. 14; *Cihla/Václavík/Trefný 2017*, fig. 8; 9; *Trefný/Cihla/Václavík 2022*, fig. 102), but also in other sites (*Trefný/Cihla/Václavík 2022*). However, the tools from sites we mentioned are typical with much narrower cutting edge, reaching some 1–3 cm in width, not 5 cm, as is the case of traces identified on the altar.

We know the adzes also from Roman archaeological contexts. Nevertheless, it seems that the Roman adzes are of a little different form and their cutting edge seems to be more frequently broader. It may be demonstrated by many finds (*Adam 1989*, fig. 45: 3; *Petrie 1917*, pl. XIV: 54, 55, 64; XV: 9, 31, 37, 44, 58, 59; XVIII: 103, 107, 108, 112, 136, 141, 140, 149; XLV: 96). The tools that would perfectly correspond by its parameters to our reconstructed tool with the width of the cutting edge of 5 cm are those with transverse cutting edge, found near Viminacium in Serbia (Fig. 15: 1, 2) and dated to the 1st c. A.D. (*Ilić/Jovičić 2021*, pl. I: 1, 2) Although it was interpreted as a mattock, it could have been without problems used also as an adze. The width of the cutting edge of this tool reaches ca. 5 cm, corresponding with the width of the cutting edge of our reconstructed tool (trace 3).

As for the analogies to the use of the adze with toothed cutting edge, we are not aware of any examples in the form of real archaeological finds of an adze in "Etruscan" or "Roman" archaeological contexts. Nevertheless, we registered in Grotta Porcina near Vetralla a trace of an axe with a toothed cutting edge (*Trefný et al. 2021*, 221) and in Cava Maggi near Tarquinian necropolis of Monterozzi

Quarry sector	Type of tool / tool number			
A	AI. / adze / 1967-2014/2017 ?	AI. / axe / 139-176/2018		
				
C	CO. / adze / 227-268/2018	CO. / axe / 359-385/2018	CII. / adze / 276-357/2018 ?	CIV. / adze / 416-482/2018 ?
				
D		DII. / axe / 187-222/2018 ?		
				
E	EI. / adze / 391-413/2018 ?			
				
F	FI. / adze / 485-605/2018		FIII. / adze / 607-664/2018 ?	
				
J	JII. / pick / 827-883/2018	JII. / adze / 885-910/2018		
				
L	LI. / adze / 763-825/2018			
				
M	MI. / adze / 706-757/2018			
				
O	OI. / adze / 1051-1065/2018			
				
U	UI. / axe / 1075-100/2018			
				
Hypothetical material: ■ Bronze ■ Copper ■ Iron ? uncertain				0 5 cm

Fig. 14. Tarquinia, Cava Maggi. Reconstruction of the cutting edges of the tools identified in the quarry (after Trefný/Cihla/Václavík 2022, fig. 102).

a trace of an adze with two teeth on the cutting edge (Trefný *et al.* 2021, tab. 1). Unfortunately, it cannot be specified in these cases, if they may be connected with Eruscan or later “Late Republican” activities. Very significant indication of using of such tools in later times are the traces in Roman quarries in Gaul. Here the use of the double toothed cutting edge tool is attested for the Imperial period (Bessac 2002, 35, fig. 21: 2).

OTHER OBSERVATIONS

The above mentioned data of “traceological” nature tend rather to the later chronology of the researched altar. Furthermore, such conclusions may be supported also by other observations, regarding to the typology of these altars or to the iconography of Etruscan altars depicted for example on Etruscan or Campanian black figured pottery.

The known analogies of altars in the relevant area, especially those from Ara di Quadroni near Manziana (Fig. 4; *Prayon 2014*, fig. 8), Veiano (*Prayon 2014*, fig. 4), Soriano nel Cimino (Fig. 5; *Prayon 2014*, fig. 6) or Bassano Romano (*Prayon 2014*, fig. 7) typical with its stepped construction and some of them with top block with semiglobular deepening, indicate the Late Republican chronology of the altar in San Pietrino di Rota. Also for example the countersink form of the Roman burial from La Lenta, very similar to analogous element in San Pietrino di Rota seems to confirm this chronology. It is noteworthy, that also the settlement pattern in the close vicinity of the altar does not indicate any related situations, that might be connected with earlier periods. Two of the closest sites are the cemeteries of San Pietro and San Pietrino. However, they are situated in the distance of 1.7 and 1.3 km. Thus, their connection with the altar seems to be improbable. Looking westwards from San Pietrino di Rota, the picture is the same. Orientalizing/ Archaic necropolis of Pian di Conserva is located in the distance of 2,3 km from the altar (*Cerasuolo/Pulcinelli 2013*, fig. 1).

Etruscan/Campanian black figured pottery shows sometimes particular iconography, where representations of various types of the altars may be observed. We know the altars depicted as simple quadratic blocks. This is the case of the scenes for example on one amphora of the Painter of white tails from the beginning of the 5th c. BC (Fig. 15: 3), where a simple altar block is located between the maenad and the satyr (*Parise Badoni 1968*, pl. 9: 2). More sophisticated altars, featuring the elements such as profiled cornices or cymae on the upper side, standing on krepis, may be observed on some amphorae, attributed for example to the Painter of white tails (Fig. 15: 4; *Falcone/Ibelli 2007*, No. 14, 88, 89), Group of Lion-coq (Fig. 15: 5; *Parise Badoni 1968*, pl. 13: 2A) or Group of Diphros (Fig. 15: 6; *Parise Badoni 1968*, pl. 3: 5A; 5: 8A–B, 10A; 7: 12; 8: 14B). Some vases show the altars with more elaborated profile including cornices or volutes and also the stairs leading to the top of the altars. This is for instance the crater of the Painter of knotted tails (*Pittore delle code annodate*; *Hugot 2010*, fig. 1; *Martelli 1987*, fig. 85), where it is clearly visible that the altar is not hewn from the compact block of the stone (Fig. 15: 7). On the contrary, it is constructed from individual ashlar blocks. Similar is the situation in one scene of the amphora of the Painter of Silenus (*Martelli 1987*, No. 105), where altar made of stone blocks, is equipped with stairs and the upper part has a stepped cornice (Fig. 15: 8). An altar with the stairs or another one with elaborated upper cornice (Fig. 15: 9) are also present on two amphorae of the famous Etruscan artist – Micali Painter (*Bruni 2002*, 13, 14). Altars made of blocks are present also in the painted scenes on the amphora of Tityos painter (*Martelli 1987*, Nr. 108) or hydria (Fig. 15: 10) attributed to the Busiris painter (*Hemelrijk 1984*, pl. 119–122, Nr. 34).

Considering the mentioned representations of altars, the only one element that share some of the depicted altars with our altar from San Pietrino di Rota is the presence of the stairs or steps. However, although such analogies are tempting argument for the “earlier” chronology of the altar in San Pietrino di Rota, it must be stressed that it differs from the mentioned altars in all remaining aspects.

CONCLUSION

Summing up the most significant findings to the chronology of the studied altar, it is necessary to point out these three aspects:

- Traceological analysis of the working traces on the stepped altar in San Pietrino di Rota resulted in a reconstruction of the working tools that are more typical for Roman stonemason’s activities.
- The most analogous altars from the point of view of their typology in the relevant area fall to the Late Republican or even Early Imperial period.
- Representations of the altars in the iconography of the Etruscan or Campanian black figured pottery of the 5th c. BC show several types of altars. However these are in majority of formal criteria different from the altar from San Pietrino di Rota.

All these observations indicate that the altar has originated in Late Republican or even later times, as some scholars suggested already in the past and as the results of our research confirm.



Fig. 15. 1, 2 – tools from Viminacium, Serbia (after Ilić/Jovičić 2021, pl. I: 1, 2); 3–10 – representation of various types of the altars on the Etruscan and Campanian pottery (after Hugot 2010; photo Wikimedia Commons).

The researched situation well illustrates the potential of the cooperation between traditional archaeological methods of typo-chronological analysis, iconography and application of the method of structural and historic analysis of the buildings. The significance of the study of the stoneworking of various structural parts of the buildings may be emphasized since it may be in particular cases useful also for the chronology of studied buildings. For example, comparing the architecture of the Orientalizing or Archaic period with the works of Classical and Hellenistic periods, the changes between the stonemason's

quality of the work are obvious. This was clearly documented by our research of several types of architecture in many studied South Etruscan sites (*Trefný/Cihla/Václavík* 2022, 86–90). Although our study of the stoneworking with respect to the chronology of the studied architecture is still in its infancy, we hope we will be able to provide in the future at least general chronological information to the studied architecture, based on the analysis of working up the surface of its structural parts. The merit of such analysis may be appreciated especially in the situations, when we lack other data of archaeological nature or any other “historical” information, as is the case of the altar in San Pietrino di Rota.

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Digitální dokumentace a traseologický výzkum kamenného oltáře v lokalitě San Pietrino di Rota, Tolfa (provincie Řím, Itálie)

Martin Trefný – František R. Václavík – Michal Cihla –
Lucio Giuseppe Perego – Fabian Gapp

Souhrn

Během roku 2021 došlo ke znovuobjevení stupňovitého oltáře v lokalitě San Pietrino di Rota nedaleko města Tolfa (provincie Řím, Itálie). Tento oltář byl prozkoumán již šedesátých letech 20. století a publikován B. Pergim (1961, 60–71). Nicméně v průběhu času byla jeho přesná lokace zapomenuta. Znovuobjeven byl v listopadu 2021, kdy na něj narazili turisté z Tolfy (Stracci 2021).

Oltář náleží do skupiny „skalní architektury“, která není v jižní Etrurii řídkým jevem (Steingrüber/Prayon 2011). Někteří badatelé rovněž plně neakceptují interpretaci těchto staveb jako oltářů a naopak je interpretují jako hroby. Z tohoto důvodu jsou někdy podobné stavby označovány termínem „hrobka-oltář“, v italštině „tomba-altare“ (Di Paolo Colonna 1984, 522–526).

Oltář je typologicky řešen v několika novějších publikacích různých etruskologů. F. Prayon jej klasifikuje jako typ „se stupni a cippem nebo prohlubní na vrcholku“ (Prayon 2014, 349, 350). L. Pulcinelli (2014, 366) a S. Steingrüber (2015, 2) hovoří o typu „se stupni“. Původně byl oltář považován za etruskou práci a datován do první poloviny 6. století př. Kr. (Euwe-Beaufort 1985, 103; 1989, 46–48). Později se objevil názor, dle kterého oltář náleží až do pozdně republikánského období či dokonce do počátku císařského období (Cristofani 1991, 120; Prayon 2014, 350; Pulcinelli 2014, pozn. 25). Za účelem studia kamenického opracování povrchu oltáře, které by mohlo indikovat jeho chronologii, byl tento oltář podroben trasologickému výzkumu. Realizována byla rovněž digitální 3D dokumentace celé lokality a jednotlivé partie oltáře byly zaměřeny.

Výzkum zdokumentoval polohu oltáře, včetně jednoho dalšího kamenného opracovaného bloku, který byl velmi pravděpodobně jeho součástí. Monitoring náleзовé situace odhalil dalších deset tufových bloků, z nichž některé nesly stopy kamenického opracování povrchu. Je tedy pravděpodobné, že oltář se původně skládal z více částí než jen nejdůležitější části s několika stupni a s polokulovitým otvorem na vrchní platformě. V širším okolí oltáře byly navíc zjištěny další antropogenní činnosti, které svědčí o tom, že v blízkosti lokality mohl být též kámen a dále být realizovány

určité úpravy terénu, které nasvědčují tomu, že prostor mohl být využíván i k jiným účelům nebo ve vícero odlišných časových periodách.

Trasologická analýza pracovních stop vzniklých kamenickou činností při vzniku oltáře prokázala užití nejméně dvou typů pracovních nástrojů. Jednalo se o teslici se dvěma zuby na ostří a širší teslici s jemně oblým ostřím.

Náz předchozí výzkum (srov. *Trefný/Cihla/Václavík 2022*) doložil využívání teslic i seker v prostředí etruského kmenictví již od orientalizujícího, resp. archaického období. Nicméně tyto teslice mají vždy výrazně užší ostří, než je tomu u zjištěného nástroje v případě oltáře v poloze San Pietrino di Rota. Stejně tak nástroje se zubatým ostřím jsou prozatím spolehlivě doloženy v římském prostředí. Trasologická analýza tak koresponduje s názory některých badatelů, kteří považují oltář za pozdně republikánskou nebo raně císařskou stavbu. Výzkum zároveň dokládá potenciál stavebně historických metod, které mohou napomoci tam, kde se tradiční typo-chronologická analýza jeví jako nedostatečná.

Obr. 1. San Pietrino di Tolfa. Poloha lokality na mapě. 1 – detail polohy; 2 – širší region s vyznačením polohy (www.mapy.cz).

Obr. 2. Grotta Porcina. Oltář. Foto V. Beran.

Obr. 3. Blera. Hrobka ve tvaru krychle s oltářem na střeše na pohřebišti Casetta (podle Wikimedia Commons).

Obr. 4. Manziana. Oltář nazývaný Ara di Quadroni. <https://www.facebook.com/photo/?fbid=2396705340431769&set=pcb.1594328784076322>

Obr. 5. Soriano nel Cimino. Stupňovitý oltář (podle *Prayon 2014*, fig. 6).

Obr. 6. Oltář z Vulci (podle *Prayon 2014*, fig. 9, upraveno).

Obr. 7. San Pietrino di Tolfa. 1 – poloha a koordináty jednotlivých kamenných bloků identifikovaných na lokalitě; 2 – řez celkovou situací.

Obr. 8. San Pietrino di Tolfa. Blok 1. 1 – plán, kresba a řez; 2 – od východu; 3 – od severozápadu.

Obr. 9. San Pietrino di Tolfa. Blok 2. 1 – plán, kresba a řez; 2 – detail.

Obr. 10. San Pietrino di Tolfa. Blok 4. 1 – plán a řez; 2 – foto *in situ*.

Obr. 11. San Pietrino di Tolfa. Blok 11 a 12. Plán, kresba a řez.

Obr. 12. San Pietrino di Tolfa. 1 – příčný řez stopou 1; 2 – příčný řez stopou 2; 3 – příčný řez stopou 3; 4 – příčný řez stopou 4.

Obr. 13. Příklady dlát a teslicovitých nástrojů v oblasti Itálie. 1, 2 – San Vito al Tagliamento; 3, 8 – Veio; 4, 7, 15 – Tursi; 5 – Cerveteri; 6, 9 – Vetulonia; 10 – Vulci; 11, 12, 16 – Pontecagnano; 13 – Roggiano Gravina; 14 – Pitecusa; 17 – Tolerentino S. Egidio; 18 – Castione Marchesi; 19 – Monte Titano; 20 – Seconda Torre; 21–26 – Bologna; 27 – Monte Cavanero (podle *Trefný et al. 2022*, fig. 25).

Obr. 14. Tarquinia, Cava Maggi. Rekonstrukce ostří nástrojů identifikovaných v lomu (podle *Trefný/Cihla/Václavík 2022*, fig. 102).

Obr. 15. 1, 2 – nástroje z Viminacia, Srbsko (podle *Ilić/Jovičić 2021*, pl. I: 1, 2); 3–10 – zobrazení různých typů oltářů na etruské a kampánské keramice (podle *Hugot 2010*; foto Wikimedia Commons).

Translated by Martin Trefný

doc. PhDr. Martin Trefný, Ph.D.
Katedra historie
Univerzita Jana Evangelisty Purkyně
Pasteurova 3571/13
CZ – 400 96 Ústí nad Labem

and

Institut für Ur- und Frühgeschichte
Friedrich-Alexander-Universität Erlangen-Nürnberg
Kochstr. 4/18
D – 910 54 Erlangen
trefnymartin@seznam.cz

MgA. František R. Václavík
Univerzita Pardubice
Studentská 95
CZ – 532 10 Pardubice 2
fravaclavik@volny.cz

PhDr. Michal Cihla
Muzeum Karlova mostu
Křižovnické náměstí 3
CZ – 110 00 Praha 1
cihla.m@seznam.cz

Dr. Lucio Giuseppe Perego, Ph.D.
via F. Lattuada 40
IT – 200 81 Caselle di Morimondo (MI)
lucio77@gmail.com

Fabian Gapp
Institut für Klassische Archäologie
Friedrich-Alexander-Universität Erlangen-Nürnberg
Kochstr. 4/19
D – 91054 Erlangen
fabian.gapp@online.de