



ANAIIS DE HISTÓRIA DE ALÉM-MAR

Vol. XXIII (2022)

ISSN 0874-9671 (impresso/print)

ISSN 2795-4455 (electrónico/online)

Homepage: <https://revistas.rcaap.pt/aham>

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Como Citar | How to Cite

Marano, Melania. 2022. «A composite anchor from the living area of Tharros (Sardinia)». *Anais de História de Além-Mar* XXIII: 13-25. <https://doi.org/10.57759/aham2022.39923>.

Editor | Publisher

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A composite anchor from the living area of Tharros (Sardinia)*

Melania Marano**

Anais de História de Além-Mar XXIII (2022): 13-25. ISSN 0874-9671

Resumo

A âncora de pedra analisada neste artigo está localizada no bairro oeste de Tharros, escavado pelo Superintendente Gennaro Pesce entre 1961 e 1963. Apresenta uma forma trapezoidal, um orifício quadrado para a corda e dois orifícios retangulares para dentes. Essas características permitem inseri-la no tipo “âncora composta” presente na região do Mediterrâneo desde a Idade do Bronze, ainda que as âncoras com orifícios quadrados/retangulares possam ser situadas no período entre 700/600 aC e 600/575 aC, com base nos orifícios para dentes. Todavia, a âncora de Tharros foi provavelmente reutilizada no bairro em época posterior para satisfazer as necessidades dos habitantes da área.

Palavras-chave: Tharros, Âncoras com Três Orifícios, Âncoras de Pedra com Orifícios Quadrados/Retangulares, Bairro Residencial, Reutilização em Edifícios Antigos.

Data de submissão: 24/02/2020

Data de aprovação: 11/04/2024

Abstract

The stone anchor examined in this article is located in the western quarter of Tharros, excavated by Superintendent Gennaro Pesce between 1961 and 1963. It has a trapezoidal shape, a square rope-hole and two rectangular teeth-holes. These features allow to insert it into the “composite anchor” type, attested in all the Mediterranean area since the Late Bronze Age, even if ones with square/rectangular holes seem to be attributable to a period between 700/600 BC and 600/575 BC, based on the teeth-holes. However, the Tharros’ anchor was likely reused in the living quarter in a later period for the needs of the inhabitants of the area.

Keywords: Tharros, Composite Anchors, Stone Anchors with Square/Rectangular Holes, Living Quarter, Reuse in the Ancient Building

Date of submission: 24/02/2020

Date of approval: 11/04/2024

* I wish to thank Prof A.C. Fariselli for her precious suggestions and advice during the research on the living quarter of the site and on this specific topic. I am grateful to the previous Superintendents Dott M. Picciau, Arch F. Martino and Dott M.E. Minoja, and Dott A. Usai of the Superintendence of Archaeology, Fine Arts and Landscape for the Metropolitan City of Cagliari and the provinces of Oristano and South Sardinia, for giving me the necessary permits for conducting the archaeological study and relief in the living quarter of the site (authorisations protocol n. 7123, class. 34.04.07/33, 2012 and n. 10484, class. 34-04-07/2-3, 24 May 2017).

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Introduction

The urban area of the Punic-Roman site of Tharros (Fariselli et al. 2017, 321-322; Fariselli 2018, 109-131; Fariselli 2021), located on the Sinis Peninsula on the mid-West coast of Sardinia (fig. 1a), was identified between San Giovanni Hill and Oristano Gulf (fig. 1b) and systematically excavated between 1956 and 1964 by the Archaeological Superintendent of Sardinia, Gennaro Pesce (Pesce 1966, with previous bibliography). Afterwards, the site has been the subject of further researches including, among others, a review of the domestic spaces and an architectural analysis (Marano 2014; Marano 2019; Marano 2020a; Marano 2020b). The fieldwork has also involved all the worked stone elements scattered around the archaeological site, which are no longer *in situ*. Many stone blocks are in the western living quarter, which is located on the slope of San Giovanni Hill (figs. 1b, 2a, 2b) and excavated between 1961 and 1963 (Marano 2014, 82-83; Marano 2020a, 39-57; Marano 2020b, 107-111). These blocks are attributable to parts of road paving, basaltic thresholds, building materials, parts of columns and in some cases are related to daily life carried out in the quarter. Among these, a sandstone element with three holes was identified and interpreted as an anchor based on its features (see *infra* section “The sandstone anchor”). Now it is located in one of the spaces South of building n. 20 (fig. 2b, indicated with a red point) (Pesce 1966, 111; Marano 2020a, 56-57, 130-131).

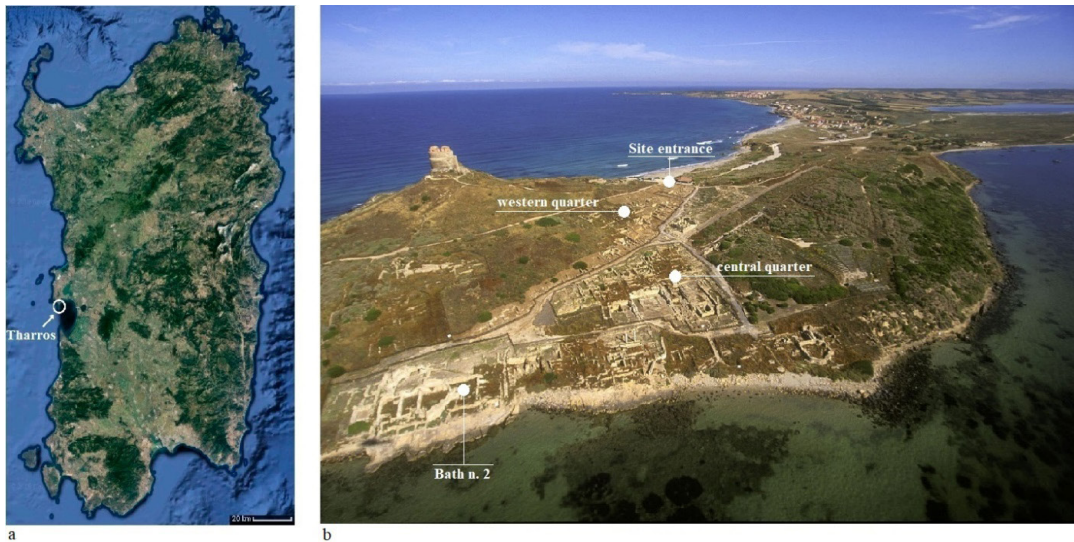
The archaeological context

The anchor is situated among the ruins discovered at the South-East corner of the western residential quarter (fig. 2). The adjacent area located West of this element was partially excavated in the last century (Pesce 1966, 111), so some of the ruins have not been assigned to the specific contexts so far (fig. 2b) (Marano 2020a, 130). In the East area, instead, there are some rooms attributable to two buildings at least, excavated in the second half of July 1963 (Marano 2020a, 130-132; Marano 2020b, 109). These archaeological evidences are situated along the street that leads from the site entrance point to the square in proximity of Bath n. 2, between western and central quarters (figs. 1b, 2a).

The stone element examined here is close to the southernmost house excavated in the western quarter (fig. 2b). The building in question is not well-preserved, so the walls range from a single row of blocks on the East

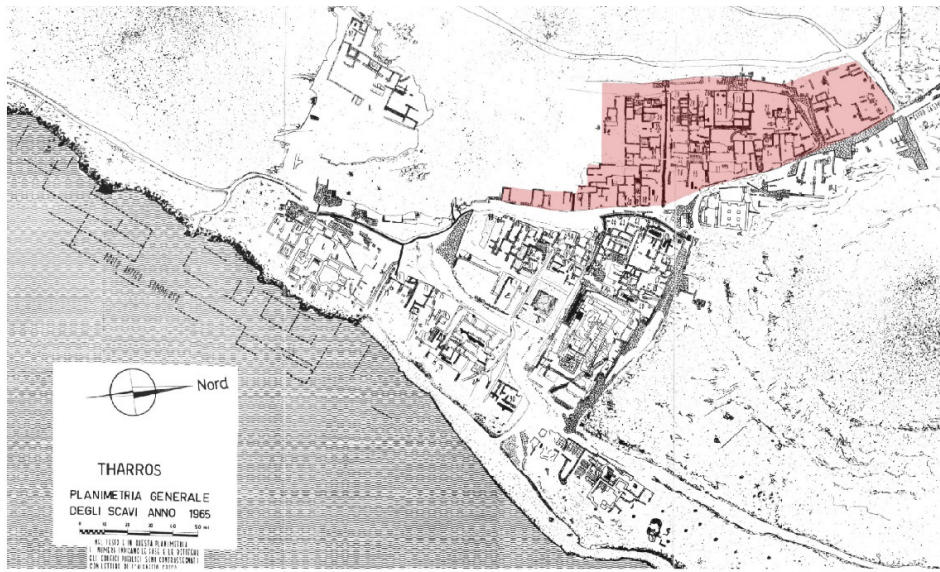
side to a height of more than 1 m on the West side (fig. 2c) (Marano 2020a, 130). The entrance point to the building is not preserved, but it was likely in the central room, considering the internal organization of the rooms (fig. 2c). The house consists of a central elongated room, which provides access to others along the northern and southern sides and to a perpendicular space at the West limit (figs. 2b, 2c). The latter is divided into three rooms: the middle one leads to two others along the northern and southern edges. In some cases, the walls are made from building materials reused in the structures, sometimes indicating different building phases. Despite the continuous use, the house shows some similarities with other residential buildings identified in Sicily and North Africa, referring to a known Punic house type¹ (Marano 2020a, 130-131, with previous bibliography).

The anchor is situated above the western wall of the house, in correspondence of the passage point between the central and northern rooms, on the upper level (fig. 2c, indicated with a red circle). Unfortunately, the excavations data of this sector do not provide information about the discovery of the stone element (Marano 2020a, 199-201), so we cannot establish with accuracy in which space it was placed.



1a / 1b Tharros on the Sandinia's satellite picture (1a: from Google Earth Pro, modified by A.) and aerial view of the site (1b: from Marano 2020, XVII, fig. 2, modified by A.).

¹ Concerning the mentioned house classification, the type n. 1 of the typology to which we refer and its predecessors in the Eastern Mediterranean contexts, see Helas 2009, 294-296. In general, for the Punic domestic architecture, see Jiménez Vialás and Prados Martínez 2013; Montanero Vico 2014, Prados Martínez 2014. About the cultural persistence in Sardinia between Punic and Roman age, see Bonetto 2006, 257-270; Ghiotto 2016, 107-122.



a



b



c

2a / 2b / 2c Tharros' archaeological map with western living quarter shown in red (2a: from Pesce 1966, *Planimetria generale degli scavi anno 1965*, modified by A.); map of the western living quarter with the building and the specific point where the composite anchor is located indicated in red (2b: from Pesce 1966, *Planimetria generale degli scavi anno 1965*, modified by A.); view of the building in question from East with the indication (red circle) of the composite anchor (2c: photo by A.).

The sandstone anchor

The anchor stands upright on its smallest side (figs. 3a, 3d). It has a trapezoidal shape, with two parallel sides characterized by rounded corners; it measures 0.42 m in length, 0.18/0.34 m in width, 0.12 m in thickness (fig. 3e) and has an estimated weight of 26.50 kg, so it can be included in the small anchors class (cf. Tóth 2002, 114). The anchor has three holes on the trapezoidal surface: the hole placed in proximity of the shorter side is almost square in shape and measures 0.07 m in length and 0.06 m in height; the other two have rectangular shape with rounded corners² and are carved on the same horizontal line, near the longer side compared to the previous one (fig. 3e). These features lead to assign the sandstone block to the “composite anchors” class³ (McCaslin 1980, 18; Tóth 2002, 85).

Based on the typological reconstruction (fig. 3f), a rope was looped in the single hole near the shorter side – connecting the stone element and the ship –, while the other two were to function as teeth-holes: wooden bars were fixed inside them for fastening the anchor to the sea bottom and thus keeping the ship stationary⁴ (McCaslin 1980, 18; Gianfrotta and Pomey 1981, 297-298; Tóth 2002, 85). Moreover, iron tenons would have prevented the leakage of the bars from the holes, as shown by traces observed on a composite pseudo-trapezoidal anchor found on the sea bottom in proximity of Isola delle Femmine (Palermo) (Tusa 1997, 72, tav. I n. 2 B).

In this type of anchors, some variations are known as the shape of the blocks, but also the number and shape of the holes cut on the surfaces: on this basis, the sandstone element examined here can be inserted in the trapezoidal shape type with three square/rectangular holes (cf. Tóth 2002, 92-113).

² A hole measures 0.08 m in length and 0.06 m in height; the other one measures 0.08 m in length and 0.05 m in height (fig. 3e).

³ About the evolution of the anchors in the Mediterranean area, see Frost 1963a, 1-20.

⁴ In addition, another additional bar could be inserted in the single hole near the shorter side (Gargallo 1961, 31). This anchor type differs from “weight anchors” about fixing ways to the sea bottom that occurs not only by its weight, but also through the wooden teeth (Gargallo 1961, 31).



a



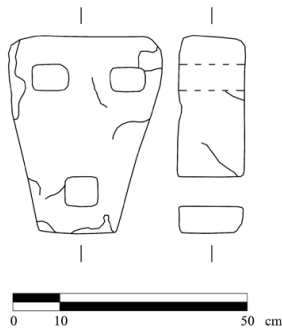
b



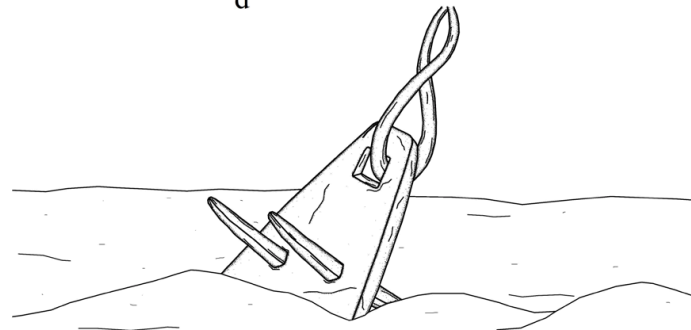
c



d



e



f

3a/3b/3c/3d/3e/3f View (3a, 3b: photos by A.), photogrammetric model (3c, 3d: data processing by A.) and drawing of the composite anchor from Tharros (3e: data processing by A.); reconstructive drawing of a composite anchor during use on the seabed (f: drawing by A.).

In general, many specimens attributable to the composite anchors with trapezoidal shape are attested in all the Mediterranean area between the Late Bronze and Iron Age⁵. However, many of them show some differences in the shape of the holes compared to Tharros' anchor, being characterized by round holes in some cases; this features is completely absent in the block examined here. Nevertheless, some specific similarities are found with some of them: despite the great variability and keeping in mind the features of the stone element from Tharros, it is possible to consider some specific types with trapezoidal shape and square/rectangular holes. This anchor type with rectangular teeth-holes⁶ has been recently dated to the period 700/600 BC-600/575 BC, based on the shape of the holes (Tóth 2002, 100-101). An example of composite anchor with these features is documented from Agde in France: it is characterized by a square rope-hole and two rectangular teeth-holes⁷ (Frost 1963b, 49 fig. 11 n. 2). Pseudo-rectangular holes occur also in the submentioned anchor found in proximity of Isola delle Femmine (Palermo) (see *supra*. Cf. Tusa 1997, 69, 71-72, tav. I n. 2): it was dated not later than the end of 6th century BC based on the epigraphic evidence of the monogram π detected on the surface (Tusa 1997, 72, tav. I n. 2 A).

In addition to these, in the specialized literature, rectangular holes are generally considered an evolution of the square ones, taking into

⁵ Considering only the specific mentioned features, some examples are from Ugarit and Athlit (McCaslin 1980, 39-41, 45-47. See also Frost 1969a, 235-246); others are identified at Kition, Hala Sultan Tekke and Maroni-Tsaroukkas in Cyprus (McCaslin 1980, 21, 24-25; Tóth 2002, 94-95. See also Frost 1970b, 14-23) and at Karnak in Egypt (Frost 1979, 155-157); some specimens are also in the Bodrum Museum (Evrin et al. 2002, 257). In addition, some examples are attested in the surroundings of Marseille (Tóth 2002, 100) and from Agde in France (Tóth 2002, 100-101. See also Fonquerle 1986, 370-380 and figures on pages 527-529); others are from San Pietro Vernotico (Puglia, Italy) (Quilici 1971, tav. II fig. 5), Punta Cornacchia and Santa Maria di Castellabate (Campania, Italy) (Tóth 2002, 106, 108 fig. 12), Stintino (Lo Schiavo 1995, 413 fig. 2.2, 416) and Santa Teresa di Gallura (Sardinia, Italy) (Lo Schiavo 1995, 413 fig. 2.4, 418), Biscoe Island belonging to Maddalena Archipelago (Lo Schiavo 1995, 413 fig. 2.3, 417) and Catalano Island (Sardinia, Italy) (Del Vais 2006, 59 n. 7). Furthermore, some composite trapezoidal anchors are attested along the northern coastline of Spain (Benito Domínguez 2000, 665-684). About trapezoidal anchors with one or two holes, their different use compared to the examples with three holes and their distribution in the Mediterranean area, see Frost 1970a, 377-394; Frost 1986, 354-369 and figure on page 520; Frost 1989, 97-113. More in general, about the distribution of the composite anchors in the Mediterranean area, see Quilici 1971, 4-8.

⁶ Iron Age type IV/b (Tóth 2002, 100-101, 113 fig. 15).

⁷ This specimen is part of an anchors group that documents widely rectangular teeth-holes, but combined with round rope-hole in other cases (Fonquerle 1986). Some composite trapezoidal anchors with round rope-hole and rectangular teeth-holes are also documented along the northern coastline of Spain (Benito Domínguez 2000, 666-671).

account that they do not compare in any more ancient examples (Tóth 2002, 92-113). Indeed, square rope and teeth-holes combined together are documented on composite trapezoidal anchors since Late Bronze Age⁸, continuing to be used during the Iron Age⁹ in a period ranging from 1200-1150 BC to 650-620 BC¹⁰ (Tóth 2002, 101). Moreover, the uncertain chronology of the mentioned anchors group from Athlit (see *supra* footnotes nn. 8-9) must be considered, being dated to a period from 1700 BC to early Hellenistic age at least (McCaslin 1980, 42).

Furthermore, a prolonged use of the composite anchors in various shapes is supported by the specimens found at Caesarea Marittima, which are in a context dating back to 10th-13th century AD (Raban 2000, 260-261).

Conclusion and research prospects

The composite anchor analyzed here is of some importance for a more complete understanding of the western residential quarter. The lack of its excavations data does not allow to connect it with its archaeological context and to date its last use phase.

Considering its features, the Tharros' anchor was probably used on a small ship in its first use phase¹¹: it testifies a specific anchoring-ships way and thus attests determined habits of the ancient seamen about the tools necessary in the activities on the sea (cf. Frost 1970a, 378).

Moreover, an interesting point is the identification of the quarry from which the material comes, in order to define if its manufacture is local or not. Considering the difficulty to determine this aspect, the application of the petrographic techniques, such as thin section studies, XRD analysis

⁸ Bronze Age type V (Tóth 2002, 94). This type is attested at Ugarit and Athlit (McCaslin 1980, 39-44; Tóth 2002, 94).

⁹ Iron Age type VI (Tóth 2002, 101). This type is documented at Athlit, Gallinorponne Island and San Pietro Vernotico (Frost 1970b, 21 fig. IV n. 10; Quilici 1971, tav. II fig. 5; Tóth 2002, 101). In the typology in question, a find from Specchiolla, close to Brindisi (Puglia, Italy) is mentioned, but it is likely the one from San Pietro Vernotico (Puglia, Italy), considering the different shape of the first one (Quilici 1971, tav. II figs. 4-5). About a general data on the distribution of the composite anchors with square teeth-holes in the Mediterranean Area, see Tóth 2002, 112. See also Nibbi 1993, 5-26.

¹⁰ Three square holes is also documented on a pottery rectangular anchor from Scoglio della Formica, close to Solunto, dated to Hellenistic age (Gianfrotta 1983, 336-339; Purpura 1986, 143 n. 23, 144 fig. 7). Another similar anchor is also attested from Terrasini (Sicily) (Purpura 1986, 143 n. 23).

¹¹ About the possible connection between weight of the anchors and kind of the ships in which they were to be used, see Tóth 2002, 115.

and SEM-EDS studies, is considered highly relevant for establishing the provenance of the stone and rebuilding any ancient movements on the sea, as done in other parts of the Mediterranean area and beyond (Frost 1991, 407-408; Shaw 1995, 287-289; Evrin et al. 2002, 259-266; Tripathi et al. 2010, 1999-2009). These techniques would allow to define the structural composition of the block and thus determine the place of the manufacture, in order to obtain a clearer framework on it before the displacement in the living area. Its placement in the site and the distance from the sea (fig. 3a) might suggest the presence of a storage room for tools related to maritime activities, but more likely a reuse of the sandstone anchor in the area where it was found, clearly with a different function compared with the first intended use: indeed, it was probably reuse here in a later period as building material¹² or for other purposes connected with the activities carried out in the residential spaces of the quarter.

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¹² About the reuse of the worked stone blocks in the site as building materials, see Marano 2020c. In general, some examples attesting the reuse of the anchors are documented in Mediterranean area, as ones from Caesarea Maritima reused as building material in some walls of the Medieval buildings (Raban 2000, 261-262). In more ancient time, some parts of the anchors were reused as filling of a grave at Hala Sultan Tekke, in which Mycenaean and Egyptian objects dated to late 12th-early 11th century BC were found (Frost 1970a, 390-391; Quilici 1971, 4); others were reused in Kition as building material and as an anvil for crushing ore (Frost 1970a, 389; Quilici 1971, 5). Moreover, votive use of some anchors must be remembered, as attested from the evidences in Ugarit (Frost 1969a, 235-245; Frost 1979, 146; Frost 1991, 356-357), Byblos (Frost 1969b, 425-442; Frost 1979, 145; Nouredine 2016, 293-308) and Kition (Frost 1979, 143-144; Frost 1991, 357, 359). Some examples are also from Karnak (Frost 1979, 146, 156-157; Frost 1991, 371), Saqqara (Frost 1979, 142-144, 146-147) and Wadi Gawasis (Frost 1979, 147-154). About their use inside the graves, see Frost 1979, 140-147; Frost 1991, 360-362.

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