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Byzantine Fortification Systems of Sardinia in the Light of Archaeological Research and Written Sources

ABSTRACT: The aim of the article is to present and evaluate the current state of research on the Byzantine fortifications in Sardinia that were constructed between the conquest of the island under Justinian the Great in 534 and the decline of imperial control over Sardinia that occurred by the 11th century. Various types of defensive structures that were used in the early medieval period are taken into account – city walls, *castra*, smaller military outposts, as well as re-used Bronze Age and Roman structures. The observations and conclusions are made on the basis of archaeological research and relatively few surviving historical sources.

KEYWORDS: Sardinia, Byzantine, early medieval, fortifications

The Byzantine conquest of Sardinia in 534 brought the Vandalic rule over the island to an end, opening a new era in its history. Although the Byzantine period in Sardinia received much more scholarly attention of both archaeologists and historians than the Vandalic one, the relative paucity of written sources leaves many aspects of the Byzantine rule over Sardinia and subsequent emergence of the independent kingdoms (*giudicati*) poorly understood. One of the important developments during the 6th and 7th centuries in Sardinia was the emergence of new fortification systems built to maintain and consolidate the Byzantine control over the island. This subject has been tackled in regional scale (P.G. Spanu's chapter on the Byzantine fortifications in Sardinia in his

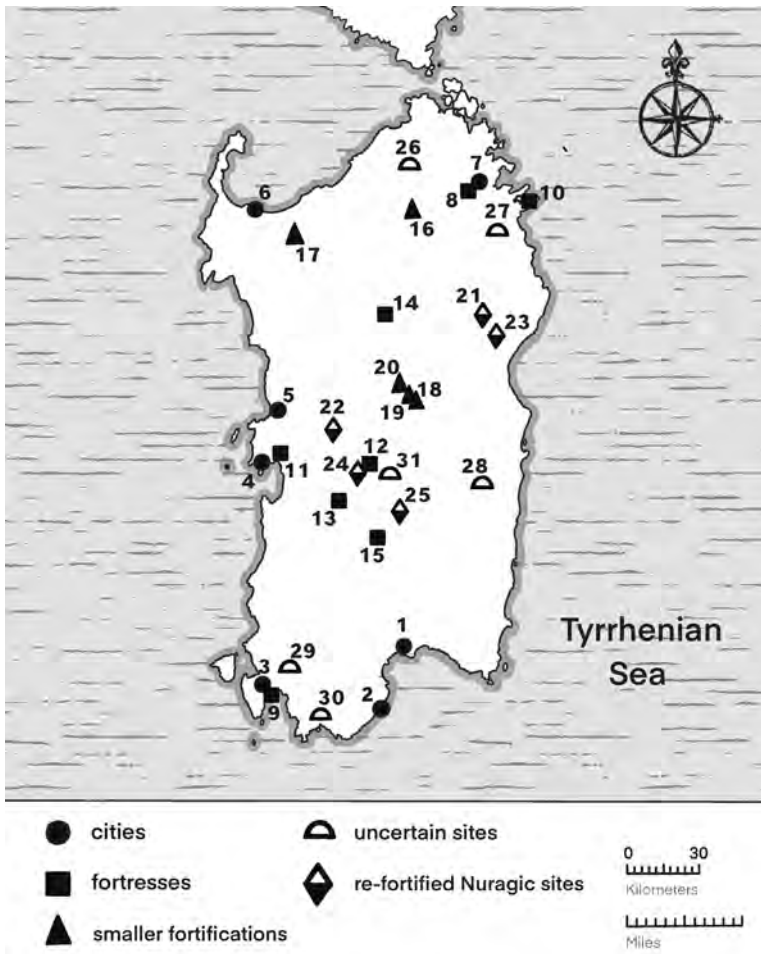


Fig. 1. Map of Byzantine fortifications mentioned in the text. Cities: 1 – Carales, 2 Nora, 3 – Sulcis, 4 – Tharros, 5 – Cornus, 6 – Turris Libisonis, 7 – Fausania; fortresses: 8 – Sa Paulazza, 9 – Sant’Antioco, 10 – Molara, 11 – Mar’e Pontis, 12 – Medusa, 13 – Barumele, 14 – San Giorgio di Aneletto, 15 – Cuccuru Casteddu; smaller fortifications: 16 – Punta Giolzia, 17 – Monte Bianchinu, 18 – Oladdu, 19 – Miriddè, 20 – Gulana; re-fortified Nuragic sites: 21 – Punta Casteddu, 22 – Su Casteddu Ezzu, 23 – Casteddu Ghirtalu, 24 – Su Casteddu de Funtana Menta, 25 – Santa Vittoria; uncertain sites: 26 – La Turrirta, 27 – Punta Casteddacciu, 28 – Su Casteddu, 29 – Tului, 30 – Sant’Isidoro, 31 – Laconi. Map designed by Anna Pietraszkiewicz.

work *La Sardegna bizantina tra VI e VII secolo*¹) and in local contexts (e.g. M.A. Amucano's study of Byzantine fortifications in north-eastern Sardinia²), with some fortified sites receiving particular attention (a notable example is *castrum* Medusa in Samugheo, studied by G. Cavallo and M. Perra³). However, archaeological research has brought to light new data, allowing to identify previously unknown fortifications that could have been in use during the Byzantine period, to verify the sites that received little attention before and to improve our understanding of already known fortifications. This paper will be an attempt to present the current picture of the Byzantine fortification systems in Sardinia and their most probable interpretations with consideration of both archaeological data and written sources.

Historical background: The Byzantine political and military control over Sardinia

The Byzantine conquest of Sardinia was finalised in 534, during the Mediterranean campaigns of Justinian the Great. The collapse of Vandalic power after Belisarius' victory in the battle of Tricamarum (533) opened the door to conquest of the island that was achieved with relatively little resistance, as the Byzantine commander Cyril showed the head of Tzazon – brother of Vandalic king Gelimer – who was killed at Tricamarum, to the Sardinian people.⁴ Subsequently the island became one of the seven African provinces of the Byzantine Empire, subordinate to the prefect in Carthage. Sardinia was governed by *praeses* (head of the civil administration) and *dux* (military commander who resided in *Forum Traiani*, current Fordongianus).⁵ The Byzantine control over the island was initially far from firm – four years after Cyril departed a major rebellion broke out, in 552 Sardinia was invaded by the Ostrogoths, while in 599 the island suffered an incursion by the Longobards.

¹ Spanu 1998: 173–198.

² Amucano 2010.

³ Cavallo 1981; Perra 1991.

⁴ Procop. *Vand.* IV, 5.

⁵ Boscolo 1978: 33.

Internal problems occurred as well, caused – among other reasons – by heavy tax burdens imposed by the Byzantine administration, recorded also in Corsica.⁶

Internal and external threats to the Byzantine rule in Sardinia resulted in construction of fortification systems that included both coastal areas of the island and its interior. The emergence of fortified *limes* in Sardinia was directly connected to the presence of pagan “barbarian” tribes (*gens barbaricina*) in the central part of the island. Pope St. Gregory the Great refers to them in several of his epistles – one of them is addressed to Hospiton, “duke of the *Barbaricini*”, whom St. Gregory the Great praises for acceptance of Christianity, but laments paganism of his people, urging the leader to evangelise and convert them.⁷ The presence of *Barbaricini* resulted in military conflicts as well, as attested by St. Gregory the Great’s letter to the Byzantine *dux* Zabardas, in which the Pope rejoices over peace treaty with the barbarians that has been worked out.⁸ The identity of the *Barbaricini* remains uncertain – P.B. Serra points out that St. Gregory the Great seems to distinguish them separately from the Longobards,⁹ while R. Turtas argues that they were likely descendants of the tribes of *Balari* and *Corsi* mentioned in earlier ancient sources¹⁰ (e.g. Strabo¹¹). According to Procopius’ account the *Barbaricini* were Moors brought to Sardinia from North Africa by the Vandals,¹² but it is doubtful whether this explains the identity of all of them. Likewise, the exact geographical extent of the areas inhabited by *Barbaricini* is uncertain – Serra concludes that this problem is not definitively resolved and argues that the dualistic and simplistic view of the barbarians inhabiting sparsely populated mountains and threatening prosperous and rich lowlands is largely

⁶ Turtas 2007: 137.

⁷ *Registrum Epistolarum* IV, 23. Paganism seems to have been a concern that was not limited to *Barbaricini*, as St. Gregory the Great introduced punishments for Sardinian bishops who tolerated paganism in their dioceses – see *Registrum Epistolarum* IV, 26 and Whitby 1991: 128.

⁸ *Registrum Epistolarum* IV, 24.

⁹ Serra 2006: 296.

¹⁰ Turtas 1999: 109.

¹¹ Strab. V.2.

¹² Procop. *Vand.* IV.13.

a picture painted by much later Sardinian historiography.¹³ Nonetheless, some clues may be derived from historical and archaeological evidence – A. Boscolo has suggested that the choice of *Forum Traiani* as the main seat of the Byzantine *dux* in Sardinia was dictated by its inland location that was useful for controlling the *Barbaricini*.¹⁴ The barbarians probably inhabited some larger centres, as *civitates Barbariae* are mentioned in two inscriptions found in Preneste and Fordongianus.¹⁵

The first half of the 7th century was a period of relative peace in Sardinia.¹⁶ However, after the Longobard conquest of Liguria in the second half of the 7th century, northern Sardinia became an important base used by the Byzantine army to resist the Longobardian expansion.¹⁷ Interestingly, Sardinia is one of the areas of Central Mediterranean with largest number of Longobard coins, which partly replaced the declining Byzantine coinage by the end of the 8th century,¹⁸ perhaps attesting to weaker control and influence of the empire in Sardinia.

The early 8th century saw a new danger to Byzantine Sardinia – Muslim raids are recorded by Arabic sources in 706, 721, 724, 727, 732, 735, 737,¹⁹ following the Arab conquest of North Africa culminating in the fall of Carthage (698). In 815, an envoy was sent from Carales to Frankish king Louis the Pious – this is seen as an attempt to obtain help in the face of Muslim attacks, but can also be interpreted as evidence for increasing the practical autonomy of Sardinia.²⁰ Some Muslim incursions are apparently attested to by archaeological evidence – in Tharros the 8th century mass burial of some 30 individuals with weapons was discovered; it is interpreted as a possible result of a Muslim raid of 752–753. Two vessels made of agate and glass with Arabic inscription might be of the same date.²¹ However, those raids never resulted in Arabic control over Sardinia, except for a much later

¹³ Serra 2006: 340.

¹⁴ Boscolo 1978: 33–34.

¹⁵ Serra 2006: 297.

¹⁶ Boscolo 1978: 48.

¹⁷ Rovina 2002: 173.

¹⁸ Muresu 2024: 515.

¹⁹ Metcalfe 2021: 127.

²⁰ Gallinari 2021: 206–207.

²¹ Rowland Jr. 2001: 136; Dyson, Rowland Jr. 2007: 188.

short episode when in 1015 and 1016 Mujahid Al-Amiri, ruler of the taif of Denia in the Iberian Peninsula and Balearic Islands, attacked Sardinia twice and established control over southern areas of the island, evidently intending permanent conquest,²² only to be driven out by the Pisan and Genoese forces. Nonetheless, the Muslim raids and expansion in Central Mediterranean influenced the political and economic situation of Sardinia – after the fall of North Africa there is a notable increase in trade between the island and the Italian Peninsula, especially Campania, Apulia and Rome.²³ G. Meloni argues that the Arab incursions were an important factor that contributed to the eventual separation of Sardinia from the Byzantine empire and the emergence of independent kingdoms.²⁴

It is very difficult to establish the chronology and nature of the decline of Byzantine power in Sardinia. This is not only due to paucity of written sources, but also the relatively limited amount of archaeological material – as pointed out by D. Rovina, in northern Sardinia there are very few new finds from the 8th to 11th centuries.²⁵ The most plausible course of events seems to be a gradual disconnection of Sardinia from the Byzantine Empire after the Muslim conquests of North Africa and later Sicily (827–878).²⁶ Therefore, it is difficult to precisely date the end of Byzantine rule in Sardinia – P.G. Spanu argues that imperial control over the island “died a natural death”,²⁷ while R. Martorelli dates this decline very widely, between the 8th and 11th centuries,²⁸ which is in accordance with A. Boscolo’s conclusion that the “transition between Byzantine domination and autonomous rule of the *giudici* is a mystery”.²⁹ This process resulted in the emergence of four independent kingdoms (*giudicati*): Torres, Cagliari, Arborea and Gallura. The earliest source confirming the existence of all four of them simultaneously is the letter by Pope Gregory VII written in 1073 and

²² Bruce 2006: 134.

²³ Muresu 2024: 516.

²⁴ Meloni 2007: 143.

²⁵ Rovina 2002: 173.

²⁶ Rowland Jr. 2001: 151.

²⁷ Spanu 2002: 109.

²⁸ Martorelli 2006: 26.

²⁹ Boscolo 1985: 107.

addressed to *iudicibus Sardiniae*, namely Orzocco Torchitorio (*giudice* of Cagliari), Orzocco (*giudice* of Arborea), Constantine I (*giudice* of Gallura) and Mariano I (*giudice* of Torres).³⁰ However, the process of the emergence of the four *giudicati* and power of their rulers started earlier and was probably, as argued by M. Orru, “contingent on the administrative autonomy of their roles that were initiated by Byzantine law”.³¹ Orru also argues that the system of *curatorie*, administrative units in the four *giudicati*, likely derived from the Byzantine system of governance.³² Thus, one can confidently conclude that the Byzantine administration of Sardinia probably laid the groundwork for the political order of the island after the decline of the imperial control over it.

Byzantine fortifications in Sardinia and their distribution

The Byzantine fortified sites in Sardinia (fig. 1) include a wide variety of structures, such as fortifications of coastal city centres, large fortresses with architectural analogies in other parts of the Byzantine empire, relatively small military outposts in the central part of the island, as well as re-used prehistoric (especially the Bronze Age *nuraghes*, conical-shaped stone towers) and Roman structures, in many cases with the early medieval architectural phase. There is also a number of fortified sites of uncertain chronology that have sometimes been attributed to the Byzantine period. The distribution of fortifications reveals patterns that allow to identify different roles they played in the defensive systems that emerged in Sardinia under the Byzantine rule. Some of the larger fortresses are located in or relatively near the coastal areas of Sardinia (*castrum* in Sant’Antioco, fortress on Molara), clearly designed to protect the island from external threats. Many smaller fortified sites are located deeper in the mountainous areas of Sardinia such as Barbagia and Alta Gallura, likely serving as outposts protecting the areas under Byzantine control from the incursions of the *Barbaricini* who inhabited inland areas of the island – P.G. Spanu argues that this

³⁰ Ortu 2019: 45.

³¹ Orru 2021: 162.

³² Orru 2016: 364.

was probably the main objective of the Byzantine military policy in Sardinia.³³

The archaeological research has demonstrated that in the 6th and 7th centuries all the major coastal city centres in Sardinia (Carales, Nora, Tharros, Sulcis, Cornus, Turris Libisonis and Fausania) were protected by fortifications.³⁴ In Turris Libisonis the city walls were rebuilt or strengthened during the Byzantine period.³⁵ In the case of Carales, an early medieval *castrum* probably stood in the site of Castello di Cagliari (historic heart of the current city of Cagliari), a Pisan fortress constructed after the hill was ceded to the Republic of Pisa by *giudicessa* Benedetta Massa of Cagliari in 1217. E. Putzolu argued that the Byzantine fortress had disappeared by then,³⁶ but the current state of research indicates that at least remains of the early medieval fortifications were still visible when Pisans constructed their fortifications in the 13th century.³⁷ It has been suggested that the ancient city of Cornus in western Sardinia was located on a lowland plain in the Roman period, to be moved to the highland location and fortified only during the Byzantine period.³⁸

One of the largest Byzantine fortresses in Sardinia is *castrum* Sa Paulazza (fig. 2) that occupies a rocky hill south-west of Olbia. This significant fortification, mentioned by the 16th century chronicler Giovanni Fara (*castrumque Texti*³⁹), covers 13.000 square metres, with an enclosing wall filling gaps between natural rocks in its northern and western parts, while the eastern part of the wall is reinforced with two well-preserved towers. At most of its perimeter the wall is 2.20–2.40 m thick, except for the northern side, where it is only 1.60–1.80 m thick (likely due to better natural protection of this part of the fortress).⁴⁰ The analysis of surface material led M.A. Amucano to conclude that the *castrum* was built likely in the 6th century BC, shortly after the Byzantine

³³ Spanu 1998: 173.

³⁴ Cosentino 2002: 2.

³⁵ Martorelli 2011: 136.

³⁶ Putzolu 1976: 106.

³⁷ Martorelli 2015: 195.

³⁸ Martorelli 2011: 135.

³⁹ *De Chorographia Sardiniae*, II, 191.

⁴⁰ Amucano 1996: 151.

conquest of Sardinia, as part of the fortification system built to protect the areas conquered by the Byzantine Empire under Justinian the Great.⁴¹ M. Rassu reports another, much smaller fortification on the nearby Punta Lu Lutagiu as not existing anymore⁴² – to the author's best knowledge its possible Byzantine origin has not been verified.

Another among the most significant Byzantine fortresses was located by the eastern coast of the Sant'Antioco island (fig. 3), within the current town of Sant'Antioco (ancient Sulcis). It was built likely during the reign of Justinian the Great to protect Sulci against the Moorish incursions after the Byzantine conquest of North Africa.⁴³ The *castrum* was trapezoidal in plan, the perimeter wall was reinforced with seven towers and enclosed by a moat, possibly water-filled. As pointed out by W. Massidda, this plan has parallels among the 6th century Byzantine fortresses in North Africa such as Ain Touna in Tunisia (a trapezoidal-shaped fortress with five towers⁴⁴) and Timgad in Algeria.⁴⁵ M. Muresu notes also analogies with the isolated Byzantine fortification at Ksar Bellezma (Algeria), which can likewise be dated to the reign of Justinian on the basis of epigraphic evidence.⁴⁶ R. Martorelli suggests that the *castrum* in Sant'Antioco was likely abandoned between the 8th and 10th centuries.⁴⁷ No visible remains of it survived – in 1866–1867 much of the remaining ruins were dismantled and material used for construction of a causeway between the Sant'Antioco island and Sardinia, and what was left was destroyed in the 1920s during construction of a stadium.

Molara is another island by the coast of Sardinia with a Byzantine fortified site on it. The fortress at Molara (fig. 4), never excavated but described in detail by M.A. Amucano, occupies a rocky hilltop (148 m altitude) in the north-eastern part of the island. The fortifications cover the area of 540 square metres and include three wards that form an irregular plan. The walls are best preserved in southern part of the structure, where they reach up to 2.20 m in height. They are made of partly

⁴¹ Amucano 1996: 153, 155.

⁴² Rassu 2007: 113.

⁴³ Muresu 2020: 178.

⁴⁴ Carcopino 1907: 25.

⁴⁵ Massidda 2011: 96–97, 100.

⁴⁶ Muresu 2012: 452.

⁴⁷ Martorelli 2011: 134.

worked blocks of granite, evidently obtained from the nearby quarry that is still visible.⁴⁸ Notably, in the southern part of the *castrum* the natural rocks were skilfully incorporated into the structure as part of walls. Amucano cautiously dates the monument to the 8th–10th centuries, suggesting it may belong to the late phase of the Byzantine period in Sardinia.⁴⁹

Another coastal fortress of the Byzantine period was Mar'e Pontis in Cabras, located east of the ancient city of Tharros. It was built likely in the 8th century as part of a defensive system protecting the Sardinian coast from Arab incursions, its use continued at least till the 12th century under the region of the Arborean *giudici*. Little is known about architecture of the fortress – its remains were visible in the 19th century, but after the 1917 fire that consumed nearby houses, most of the remaining ruins were dismantled for building material.⁵⁰

5,5 km south of Samugheo, on a rocky promontory over Riu Araxisi, there is *castrum* Medusa, a multi-period fortified site with significant Byzantine architectural phase (fig. 5). A study of this *castrum* was published by G. Cavallo who described it in detail but noticed that the underground spaces described in the 19th century by A. Lamarmora are not visible anymore.⁵¹ The *castrum* was subsequently studied by M. Perra, who distinguished four construction phases: the first one dates to the 4th or early 5th century, the second and most substantial one to first half of the 6th century (it was likely built shortly after the Byzantine conquest of Sardinia), the third one (limited to minor architectural changes) cannot be dated precisely and took place some time between the 6th and 9th/10th centuries, while the final one dates to the 12th–13th centuries⁵² when the area was under the rule of the Arborean *giudici*. M. Perra offered also several observations regarding analogies to certain elements of *castrum* Medusa in other parts of the Byzantine Empire: a massive pentagonal tower in the northern part of the *castrum* is similar to the towers from Dyrrhachium (current Durres in Albania,

⁴⁸ Amucano 2007: 435–437.

⁴⁹ Amucano 2007: 444.

⁵⁰ Rassu 2007: 39.

⁵¹ Cavallo 1981: 67.

⁵² Perra 1991: 363.

built during the reign of Anastasius I, 491–518) and Sadovsko Kale (Bulgaria, constructed under Justinian the Great).⁵³ *Castrum* Medusa may be an example of a fortification constituting part of the Byzantine *limes* in Sardinia.

A Byzantine phase is clearly distinguishable among the ruins of the Barumele castle in Ales (fig. 6). This fortified site is best known for its 13th century hexagonal tower built during the reign of *giudice* Mariano II of Arborea (1264–1297).⁵⁴ However, it is clear that the castle of the Arborean *giudici* stands on the pre-existing Byzantine fortification – parts of the perimeter wall made of large, partly worked stone blocks of rectangular and irregular shapes are still distinguishable. At the foot of the castle hill a significant amount of the Byzantine-period material was discovered, which may indicate existence of an early medieval settlement associated with the fortress.⁵⁵

Another example of a Byzantine *castrum* is located near Anela in the central part of the island, known under the name San Giorgio di Aneletto. This quadrangular structure had four rectangular towers at its corners, and was built of large granite blocks without the use of mortar. The excavations conducted near the only gate located in the northern part of the complex and by the north-eastern tower unearthed pottery typical for the early medieval period.⁵⁶ The position of this *castrum* indicates that its purpose was to maintain control over the valley of the Tirso river.⁵⁷ However, recently M. Muresu has proposed an alternative interpretation of this site – due to the large amount of later medieval and some early modern material he considers the possibility that San Giorgio di Aneletto may be not so much a typical Byzantine *castrum*, but rather a later defensive settlement, not necessarily of primarily military purpose.⁵⁸

The Byzantine *castrum* of Cuccuru Casteddu (fig. 7) occupies a prominent hill 2.7 km east of Villamar. It was certainly a military outpost that was occupied in the 6th to 8th centuries (surface pottery

⁵³ Perra 1991: 359.

⁵⁴ Rassu 2007: 14.

⁵⁵ Spanu 1998: 179, 181.

⁵⁶ Sanciu 2002: 191.

⁵⁷ Muresu 2012: 452.

⁵⁸ Muresu 2022: 88.

reveals continuity of occupation from the 3rd to the 8th century).⁵⁹ The site has also been used during the 13th and first half of the 14th centuries, possibly also in earlier centuries,⁶⁰ likely constituting part of the fortification system near the border between *giudicati* Arborea and Cagliari. The main ward of the *castrum* is almost square in its plan – as pointed out by M. Perra, it resembles many late Roman and Byzantine fortifications in the Mediterranean, while remains of the adjacent tower-like structure bear similarity to the pentagonal tower of *castrum* Medusa and some triangular and pentagonal towers found in eastern Mediterranean (e.g. fortifications of Kyrenia in Cyprus).⁶¹ Only remains of the walls survived, but they are visible on most of the structure's perimeter, revealing a clear outline of the fortifications.

Several much smaller fortified sites of likely Byzantine origin are known from northern regions of Sardinia. At Monte Bianchinu in Sassari there are remains of a fortification that include two stretches of a wall (25 m long in total, up to 2.5 m of height) with an entrance in the northern part. M.A. Amucano identifies this site as a Byzantine fortification, mainly on the basis of masonry similar to that from the *castrum* at Molaria island.⁶² This dating is supported by the close proximity of the early medieval rock-cut church of Funtana Gutierrez.⁶³ Of similar age may be a small fortification located on an inaccessible rock summit of Punta Giolzia north of Berchidda – Amucano argues that it is unlikely to be a late medieval site and can be dated to the Byzantine period on the basis of masonry structure.⁶⁴

In some cases the Byzantines have re-used the pre-existing Roman fortified sites.⁶⁵ The site of Castro in Oschiri represents an example of a Roman *castrum* that was also in use during the Byzantine period. The presence of the Roman army units is epigraphically attested by the 1st century AD epitaph of a veteran from *III cohors Aquitanorum*.⁶⁶

⁵⁹ Lai et al. 2019: 21, 23.

⁶⁰ Lai et al. 2019: 24.

⁶¹ Lai et al. 2019: 15.

⁶² Amucano 2007: 444.

⁶³ Castia 1998: 31–33.

⁶⁴ Amucano 2010: 275–276.

⁶⁵ More about the Roman fortifications in Sardinia in Colavitti 2003: 125–135.

⁶⁶ AE 1988: 652; Mastino, Spanu, Zucca 2004: 83.

This fortified site is often identified with the *Luguidune* (*Lugudunec*) Roman fort mentioned in *Itinerarium Antonini*⁶⁷ and one of the *Castra Felicia* mentioned in the 7th century anonymous *Ravennatis Anonymi Cosmographia*.⁶⁸ The fort is irregular in plan, its line of fortifications follows the outline of the plateau on which it is located. The best-preserved part of the defensive wall survived in the south-eastern part of the site, while in the highest point of the hill, inside the fort, there is a Bronze Age *nuraghe*. During the excavations directed by L.E. Pani, numerous elements of infrastructure, including a large cistern, were unearthed in the north-eastern part of the fort. The Byzantine use of the site is clearly attested by finds of pottery, including ornamented sherds dating to the 7th century.⁶⁹ However, the notable lack of early medieval military artefacts caused M. Muresu to doubt whether the primary purpose of the *castrum*'s occupation in the Byzantine period was still a primarily defensive one.⁷⁰

As already mentioned, a number of Bronze Age Nuragic sites were re-used in the Byzantine period for defensive purposes. At Punta Casteddu near Lula a Bronze Age Nuragic settlement with huts and defensive wall (*altura fortificata*) was subsequently occupied in the Roman and Byzantine periods, at least until the 7th century.⁷¹ The early medieval occupation is confirmed by presence of stamped pottery (*ceramica stampigliata*) analogous to finds from the site of Sorone in Lodine.⁷² At the site of Su Casteddu Ezzu (fig. 8) near Fordongianus (ancient *Forum Traiani*), at the culmination of a rocky ridge there is a Bronze Age *nuraghe* with three towers that was extended in the Byzantine period by the addition of further fortifications – the early medieval architectural phase is clearly distinguishable from the Nuragic cyclopean masonry. A.F. Vacca suggested that the early medieval fortifications of Su Castedu Ezzu may date to the reign of emperor Maurice (582–602), when the Byzantine limes in Sardinia were particularly endangered by the barbarians – this theory is supported by the finds of pot-

⁶⁷ *It. Ant.* 81.7.

⁶⁸ *Rav. Cosm.* V.26.

⁶⁹ Mastino, Spanu, Zucca 2004: 97.

⁷⁰ Muresu 2022: 87.

⁷¹ Moravetti 1993: 171.

⁷² Mele 2014: 345.

tery dating to the late 6th/early 7th century.⁷³ At the site of Su Casteddu de Funtana Menta near Senis there is a Bronze Age *nuraghe* with remains of a Byzantine fortification phase – M. Rassu identifies it with *castrum Asonis* mentioned in 1189⁷⁴ (although M. Perra and E. Sanna argue that this name refers to *castrum Medusa* near Samugheo⁷⁵). Another example of a Nuragic site re-used for defense in early medieval period may be Casteddu Ghirtalu (known also as Papadosa) near Dorgali, where the early medieval *ceramica stampigliata* was found⁷⁶ at the site of a complex *nuraghe* located in a naturally defensive position overlooking the Cedrino river valley. Finally, a significant Nuragic settlement of Santa Vittoria on the edge of a plateau near Serri was refortified and adapted as a Byzantine military outpost.⁷⁷

There are also several fortified sites chronological attribution of which remains uncertain, but it has been suggested that they may be of Byzantine origin. Among those are the remains of La Turrutta (north of Luras), an enigmatic sub-rectangular tower-like structure (Fig. 9) – according to M.A. Amucano it may be a late medieval structure similar to the Sa Istrana tower near Olbia, or a Byzantine structure.⁷⁸ Another site in north-eastern Sardinia is Punta Casteddacciu located west of San Teodoro – on a rocky summit there is a defensive wall surviving up to 1.60 m of height with a 1.80 m wide entrance. Amucano dates it to the 7th century or later,⁷⁹ while P. Mancini argues that it is a prehistoric fortification dating to the Chalcolithic⁸⁰ (typologically it may be related to the tradition of fortifications of the Monte Claro culture). The site at Punta Casteddacciu is sometimes identified⁸¹ as the Orgheri castle mentioned by chronicler Francesco Angelo de Vico.⁸² An interesting fortified site that warrants further research is Su Casteddu near Osini,

⁷³ Vacca 2002: 197–198.

⁷⁴ Rassu 2007: 25.

⁷⁵ Perra 1991: 332; Sanna 2022: 91–92.

⁷⁶ Pinelli 2021: 93.

⁷⁷ Farris 2003: 20.

⁷⁸ Amucano 2020.

⁷⁹ Amucano 2010: 274.

⁸⁰ Mancini 2014: 24–25.

⁸¹ Rassu 2007: 140.

⁸² Francisco de Vico: XV, 165.

located close to the canyon of San Giorgio – F. Segni Pulvirenti and G. Spiga interpret it as a Byzantine military outpost constituting part of the *limes*,⁸³ but A. Mastino and P. Ruggeri report earlier Roman finds from this location.⁸⁴ The chronology of the completely destroyed Tului castle near Tratalias is uncertain, according to M. Rassu it may have been either a Byzantine fortification or a castle built in the early period of the *giudicato* of Cagliari.⁸⁵

Of particular importance for the study of possible Byzantine fortified sites was the verification survey done by M.A. Mele in the Barbagia di Ollolai region located in the mountainous heart of Sardinia. Three fortified sites reported there (Oladdu near Ovodda, Miriddè near Gavoi and Su Casteddu de Gulana near Olzai) were often confused with one another, although Mele's research indicates that each of them may be a Byzantine military outpost. The most interesting among the three is Su Casteddu de Gulana, reported by A. Taramelli as a possible Roman fortlet. Remains of walls revealed partly by robber trenches are clearly visible on a rocky hilltop dominating over large swaths of Barbagia di Ollolai. Unfortunately, pottery sherds found on the surface are not diagnostic enough to determine their chronology.⁸⁶ At the site of Miriddè there is a circular stone pavement of 13 m diameter, and sherds of late medieval pottery were found here.⁸⁷ At the site of Oladdu, originally reported by A. Taramelli as a *nuraghe*, no remains of structures were found, but finds of early medieval stamped pottery (*ceramica stampigliata*) and prominent hilltop location allowed M.A. Mele to suggest that it was a Byzantine military site, perhaps with timber fortifications that did not leave visible traces in the landscape.⁸⁸

There are also examples of later medieval castles that may have been constructed in sites of earlier unspecified Byzantine fortifications or settlements. P. Bartoloni suggested that the medieval tower of Sant'Isidoro, where Punic materials were also found, stands in the site

⁸³ Segni Pulvirenti, Spiga 2000: 267.

⁸⁴ Mastino, Ruggeri 1999: 34.

⁸⁵ Rassu 2007: 188.

⁸⁶ Mele 2017: 337–339.

⁸⁷ Mele 2017: 335–336.

⁸⁸ Mele 2017: 333–334.

of an earlier Byzantine *castrum*.⁸⁹ The early medieval finds were discovered at the site of Monte Zuighe near Ittireddu, where remains of a later medieval castle are located.⁹⁰ The excavations revealed 8th–10th century material at the site of the Aymerich castle in Laconi, which is interpreted as evidence for a pre-existing late Byzantine fortification.⁹¹

In some cases the Byzantine military presence is indicated by place names and burials. Near Norbello, Aidomaggiore and Sedilo there are places called Caddaris – this name may originate from the *Kaballaroi*, mounted soldiers of the Byzantine army who were tasked with protection of the *limes*.⁹² There are also numerous early medieval burials recorded in the rural countryside of Sardinia with the presence of weapons – for example, inside re-used complex *nuraghe* Domu Beccia in Uras 8th century weapons were found, including spear points, swords and daggers.⁹³ So far over 20 rural sites with early medieval weapons were discovered in Sardinia – many of them are re-used prehistoric sites, such as *domus de janas* (Late Neolithic rock-cut tombs).⁹⁴

Chronology of the Byzantine fortification systems

Even though many of the smaller early medieval fortified sites are not securely dated, there is little doubt that the early form of the Byzantine fortification system in Sardinia emerged during the reign of Justinian the Great and shortly thereafter – C. Farris considers the 6th and 7th centuries the first stage of the encastellation process in Sardinia.⁹⁵ Large fortresses such as the *castrum* in Sant’Antioco and the *castrum* Sa Paulazza belong to this early fortification system of Byzantine Sardinia, which was then threatened by Moorish, Ostrogothic and later also Longobardian incursions. S. Cosentino considers it probable that the prevailing shape of *castra* and other Byzantine fortifications emerged

⁸⁹ Bartoloni 2017: 90.

⁹⁰ Basoli 2002: 196.

⁹¹ Murru 2001: 72.

⁹² Zaru 2005: 155.

⁹³ Muresu 2022: 90.

⁹⁴ Muresu 2022: 87.

⁹⁵ Farris 2003: 17.

already under Justinian.⁹⁶ It is possible that some of the smaller fortifications date back to that period as well, perhaps constituting a response to the revolt that broke out shortly after departure of Cyril from Sardinia. M. Perra argues that the re-use and re-fortification of some earlier fortified sites by the Byzantines may be explained by their rebuilding after the episode of their demolishing by the Vandals.⁹⁷ Procopius recorded that they were destroying fortifications in North Africa so those could not be used to resist their rule⁹⁸ – it is possible that the Vandals have done the same in Sardinia.

Conflicts with the *Barbaricini* can explain the emergence of Byzantine fortifications in inland locations, some of which may be later than the reign of Justinian the Great – as already mentioned, it has been suggested on the basis of pottery finds that the re-fortification of Su Casteddu Ezzu may have taken place during the reign of emperor Maurice (582–602),⁹⁹ when such conflicts took place, as attested by letters to Zabardas and Hospiton written by St. Gregory the Great. However, many of the smaller inland fortifications (such as the three sites in Barbagia di Ollolai and fortified sites of Punta Casteddaciu or La Turritta in Gallura region) are difficult to date without further research, and in some cases their Byzantine origin remains uncertain in first place. Therefore, the early phase of encastellation under Justinian the Great and later elements of fortification systems are sometimes difficult to distinguish.

The Muslim raids beginning in the early 8th century apparently provided a new impulse for the fortification effort in Sardinia and are the most likely explanation behind the emergence of the late Byzantine elements of the island's fortification system. This may be reflected in the relatively late dating proposed for the fortifications of Mar'e Pontis in Cabras and on the Molara island. Some of the smaller sites might be speculatively dated to the same period on the basis of architectural

⁹⁶ Cosentino 2002: 2.

⁹⁷ Perra 1991: 370.

⁹⁸ Procop. *Vand.* III.5.

⁹⁹ Vacca 2002: 198.

analogies – for example, the defensive wall at Monte Bianchinu displays a very similar construction as the one of the *castrum* on Molara.¹⁰⁰

Some of the fortified sites were in use also during the later medieval period – structures such as *castrum* Medusa in Samugheo and Cuccuru Casteddu in Villamar were occupied during the period of the independent *giudicati*, but this was not always the case – the large *castrum* of Sa Paulazza near Olbia produced no evidence of being occupied beyond the Byzantine period.¹⁰¹ Nonetheless, there is little doubt that some of the early medieval fortified sites were incorporated into the defensive systems of the borders of the four *giudicati*.

Conclusions

Over the years archaeological research has increased our knowledge about the Byzantine fortification systems of Sardinia. While it is possible to partly distinguish several phases of the process of encastellation of Sardinia in the early medieval period, as well as different functions of specific fortified sites, some of the structures remain without firm chronological attribution, a problem which can often be resolved only through excavation. Of particular interest is the phenomenon of re-use of Bronze Age and Roman structures for defensive purposes during the period of Byzantine rule over the island, as well as subsequent use of the early medieval sites during the period of the four *giudicati* – due to these phenomena the sites with Byzantine fortifications often display several architectural phases from different periods.

The Byzantine defensive architecture in Sardinia has parallels and analogies in other parts of the empire, including the Balkans and North Africa – such similarities of architectural features and plans are displayed by such fortified sites as *castrum* Medusa near Samugheo (similarity of the pentagonal structure to several Byzantine towers in the Balkans¹⁰²), the fortress in Sant'Antioco (similarity to the 6th century

¹⁰⁰ Amucano 2007: 444.

¹⁰¹ Amucano 1996: 153.

¹⁰² Perra 1991: 359.

north African fortresses such as Ain Tounga and Timgad¹⁰³) and *castrum* Sa Paulazza near Olbia (similarity of a polygonal tower A to that from Bordj Hallal in Tunisia¹⁰⁴). In some cases these similarities can be used to support the chronological attribution of specific fortified sites. Analogies can be drawn not only between early medieval fortifications in Sardinia and other parts of the Byzantine empire, but also between the sites within the island itself – M.A. Amucano has often used similarities in masonry structure to suggest chronology of several smaller fortified sites in northern Sardinia such as Monte Bianchinu in Sassari and Punta Giolzia near Berchidda.

The Byzantine military presence evidently was not limited to fortresses – it is attested to also by the presence of military burials (many of them in re-used Neolithic and Bronze Age monuments), rural sites with weapons and placenames. Therefore, it is likely that the full extent of the defensive systems of Byzantine Sardinia has not yet been uncovered.

Future archaeological research and excavations of Byzantine fortified sites may perhaps shed more light on the issue of the transition between imperial control over the island and the emergence of independent *giudicati*, a process which is very poorly documented in the written sources. Discovering the chronological timeframe of the use of specific fortifications and the nature of their occupation may allow us some degree to detect military and political changes in the situation of Sardinia in the early medieval period.

Acknowledgments

The author would like to thank Walter Massidda (Archivio Storico Comunale di Sant'Antioco) for access to materials regarding the Byzantine *castrum* in Sant'Antioco, dr Mauro Perra for reading draft of this article and Andrea Severino for securing permission and organizing a crossing to visit the *castrum* at Molaria island.

¹⁰³ Massidda 2011: 96–97, 100.

¹⁰⁴ Amucano 1996: 155.



Fig. 2. Southern tower (A) of *castrum* Sa Paulazza near Olbia. Photo by C. Namirski.

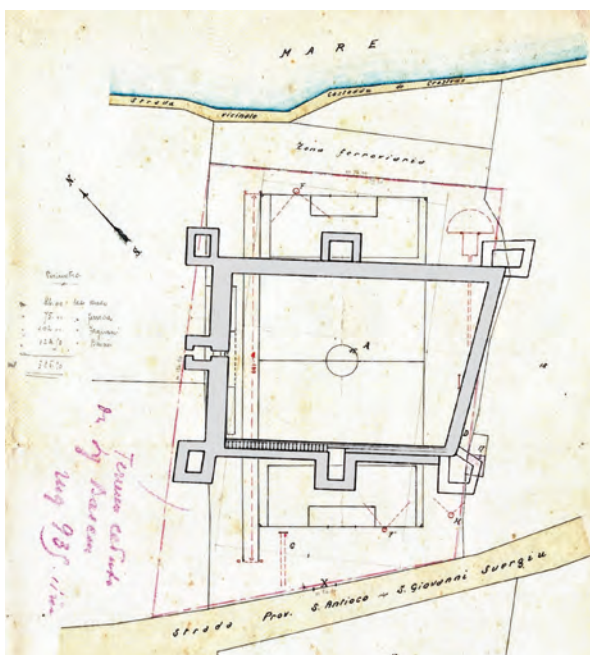


Fig. 3. Plan of *castrum* in Sant'Antioco superimposed on the 1927 plan of the area.
Courtesy of Walter Massidda.



Fig. 4. Defensive wall in the western part of the *castrum* at Molara island. Photo by C. Namirski.



Fig. 5. *Castrum* Medusa near Samugheo – view from the west. Photo by C. Namirski.



Fig. 6. Early medieval defensive wall in the Barumele castle in Ales. Photo by C. Namirski.



Fig. 7. Location of the *castrum* at Cuccuru Casteddu (Villamar). Photo by C. Namirski.



Fig. 8. Su Casteddu Ezzu (Fordongianus) – tower of the *nuraghe* with adjacent Byzantine wall. Photo by C. Namirski.



Fig. 9. La Turritta (Luras) – wall of the tower-like structure. Photo by C. Namirski.

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