CONSIDERATIONS REGARDING ÂTHE STRATIGRAPHY OF THE FORTRESS OF HÂRŞOVA IN LIGHT OF THE NEW RESEARCH

CRISTINA PARASCHIV-TALMATCHI1

Abstract. After an introduction, in which the construction phases of the fortifications of the Hârşova fortress, a few landmarks regarding the archaeological research of the site, and the context that led to the undertaking of new large-scale archaeological investigations are mentioned, the author brings to attention stratigraphic sequences recorded on this occasion inside the Byzantine enclosure, in the harbor area, and on the eastern side, extra muros. The investigations, carried out in 2020, confirmed that the small enclosure was built after the return of the Byzantine administration to Dobruja (post-971), and that the wall and the tower on the northern side were constructed on the bedrock, after a prior leveling of the terrain. In the harbor area, a landing stage was identified for which there are indications that it was arranged in the 10th century, probably at the same time or not long after the construction of the Byzantine enclosure. It shows similarities with the port installations of the fortresses from Nufăru and Păcuiul lui Soare. On the eastern side, the excavation reached the bedrock, revealing an area where some materials used for the construction of the enclosure were prepared and the presence of craft-related structures.

Keywords: fortress, Byzantine enclosure, port, stratigraphy, 10th–11th centuries, Hârșova, Danube

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1. Introduction

Dobruja, a region in southeastern Romania bordered by the waters of the Danube to the west and north and the Black Sea to the east, holds an invaluable hoard of archaeological sites that preserve evidence of the evolution of human habitats, as well as ethnic and cultural changes that took place over millennia, from the Paleolithic era to the modern period. Among these is the fortress of Hârşova, a category A site, listed in the 2015 List of Historical Monuments under code CT-Is-A-02676, at positions 251–253. The ruins of the fortress, located in the town situated 86 km northwest of the municipality of Constanța (Figure 1) and near the most important Danube crossing point from Muntenia into Dobruja, the Giurgeni – Vadu Oii bridge, preserve ancient and medieval enclosure walls that serve as

¹ PhD, Senior Researcher: Museum of National History and Archaeology Constanța, Romania; e-mail: ctalmatchi@gmail.com.

evidence of the importance granted to the fortification by the successive administrations in the area over time.

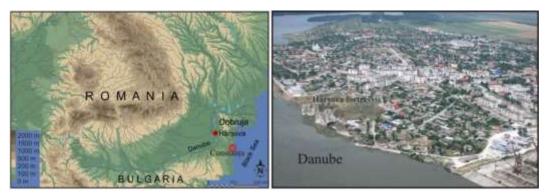


Fig. 1, 2 – The administrative location of the city of Hârşova and the positioning of the fortress in the town plan.

In the last two decades, systematic archaeological research at Hârşova has focused on two important objectives: the Neo-Eneolithic settlement², located on the southeastern outskirts of the town, and the fortress³, situated on a rocky peak

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² Bernard Randoin, Dragomir Popovici, Rialland Yannick, Metoda de săpătură şi înregistrarea datelor stratigrafice într-un sit pluristratificat: tell-ul neo-eneolitic de la Hârşova, in Cercetări arheologice, 11, 1998–2000, 1, pp. 199–230; Dragomir Popovici, Bernard Randoin, Yannick Rialland, Valentina Voinea, Florin Vlad, Valentin Parnic, Hârşova, jud. Constanța. Punct: Hârşova Tell, in Cronica cercetărilor arheologice din România. Campania 2001, Buziaş, 2002, p. 152; Dragomir Popovici, Bernard Randoin, Cătălina Cernea, Ioan Cernău, Ana Ilie, Valentin Parnic, Constantin Haită, Adrian Bălășescu, Valentin Radu, Hârşova, jud. Constanța. Punct: Tell, in Cronica cercetărilor arheologice din România. Campania 2010, Sibiu, 2011, pp. 42–46, etc.

³ Panait I. Panait, Tudor Papasima, Aristide Ștefănescu, Daniel Flaut, *Hârşova. "Cetate", jud. Constanța*, in Cronica cercetărilor arheologice din România. Campania 1993, Satu Mare, 1994, p. 31; Panait I. Panait, Adrian Rădulescu, Aristide Ștefănescu, Daniel Flaut, Constantin Nicolae, Gabriel Talmatchi, Hârşova, jud. Constanța, Fortificația medievală, in Cronica cercetărilor arheologice din România. Campania 1994, Cluj-Napoca, 1995, p. 42; Panait I. Panait, Adrian Rădulescu, Aristide Stefănescu, Daniel Flaut, Cercetările arheologice de la cetatea Hârșova. Campania 1995, in Pontica, 28-29, 1995-1996, pp. 121-134; Oana Damian, Paul Damian, Date preliminare despre un edificiu romano-bizantin descoperit la Hârșova (campanile 1990, 1992), in Cercetări arheologice, 10, 1997, pp. 231-239; Tudor Papasima, Constantin Nicolae, Gabriel Talmațchi, Hârșova, jud. Constanța. I. Cetatea Carsium, in Cronica cercetărilor arheologice din România. Campania 1997, Călărași, 1998, pp. 27–28; Constantin Nicolae, Daniela Bănoiu, Vlad Nicolae, Aspecte noi privind topografia cetății de la Hârșova (jud. Constanța), in Pontica, 41, 2008, pp. 313–343; Cristina Paraschiv-Talmatchi, Early Middle Ages in Dobrudja. Different data concerning the state of the research at Hârsova (Constanta County), in Dan Aparaschivei (ed.), Studia Antiqua et Medievalia. Miscellanea in honorem annos LXXV peragentis Professoris Dan Gh. Teodor oblata, Editura Academiei Române, București, 2009, pp. 421-438; Eadem, Aspects regarding the early medieval habitation in the small enclosure of Hârşova fortress, in Ivo Topalilov, Svetlana Nedelcheva (eds.), History and aecheology of southeast Europe in the Middle Ages - dedicated to 80 anniversary of prof. Rasho Rashev (1943–2008), Studia Academica Šumenensia, 11, 2024, 1, pp. 241–263, etc.

overlooking the right bank of the Danube (Figure 2). At a third site, the open settlement from the early medieval period (from the end of the 8th century to the 10th century), located about 1.2 km downstream from the fortress and nearly 200 m from the Danube, in the southwestern part of the town, preventive archaeological research was carried out between September 2013 and May 2014, on the occasion of the construction of the new wastewater treatment plant, but only within its perimeter⁴.

The beginnings of the fortification on the rocky peak in the southern part of the present-day town are attributed to the Roman period, when, during the reign of Emperor Vespasian $(69-79)^5$ or by order of Trajan $(98-117)^6$, a *castrum*⁷ was built, probably by the Ala (Gallorum) Flaviana⁸, whose presence at Hârşova is suggested by the discovery of several stamped *tegulae*⁹. During the reign of Emperor Constantine the Great (306-337), a fortress with a much-expanded surface was built, which would later be affected by the attacks of the Huns and

⁴ Cristina Paraschiv-Talmaţchi, Gabriel Talmaţchi, Vitalie Bodolică, *O nouă aşezare medievală timpurie la Hârşova (jud. Constanţa)*, in Bogdan Ciupercă (ed.), *Arheologia mileniului I p.Chr.*, vol. IV, *Nomazi şi autohtoni în mileniul I p.Chr.*, Editura Istros, Brăila, 2015, pp. 397–423; Eadem, *An changing image. The early medieval landscape at Lower Danube. Case study: Hârşova*, in Ioan Marian Țiplic (ed.), *Les espaces frontaliers en Europe de l'Antiquité au XVè siècle. Les travaux des colloque international organisé par l'Université d'Artois / France en collaboration avec l'Université "Lucian Blaga" de Sibiu / Roumanie á <i>Arras, 15–17 octobre 2014*, Studia Universitatis Cibiniensis. Series Historica, XIII, Supplementum, 2016, pp. 121–142.

⁵ Mihail Zahariade, Crișan Mușețeanu, Costel Chiriac, *Noi descoperiri epigrafice pe limesul Dunării de Jos*, in Pontica, 14, 1981, p. 259; Constantin Nicolae, *Descoperiri de epocă romană și bizantină la Carsium*, in Pontica, 28–29, 1995–1996, p. 137–138; Zaharia Covacef, Constantin Nicolae, *Hârșova, jud. Constanța [Carsium]. Punctul: Cetate (sector Incinte – Vest)*, in Cronica cercetărilor arheologice din România. Campania 2006, București, 2007, p. 178.

⁶ Vasile Pârvan, *Începuturile vieții romane la gurile Dunării*, București, 1933, p. 162; Andrei Aricescu, *Noi date despre cetatea de la Hârșova*, in Pontica, 4, 1971, p. 354; Idem, *Armata în Dobrogea romană*, Editura Militară, București, 1977, pp. 55, 87, fig. 21.

⁷ Carsium, the toponym of the castrum and later the fortress from the Roman period, is either of Thracian or Celtic origin. Under this name or in various forms, it is mentioned by *Ptolemaeus* in *Geographia*, in the *Tabula Peutingeriana*, the *Itinerarium Antonini*, by *Procopius of Caesarea*, and other sources. At different times, the presence of military units is recorded here, such as: *Ala II Hispanorum et Ar(a)uacorum* (attested by a milestone from the year 200 AD, indicating that it was repairing the nearby road), *Legio I Italica* at *Carsium* (its presence inferred from a stamped brick), and *Milites Scythici Carso* (soldiers recruited from provincial populations, attested in the *Notitia Dignitatum*), see Andrei Aricescu, *Armata...*, pp. 55–56, 80, 98, 117, 135, 174–175; Ion Barnea, *Carsium* (*Hîrşova, jud. Constanța*), in Constantin Preda (ed.), *Enciclopedia arheologiei și istoriei vechi a României*, vol. I (*A–C*), Editura Enciclopedică, București, 1994, p. 258.

⁸ Costel Chiriac, Constantin Nicolae, Gabriel Talmaţchi, *Noutăţi epigrafice de epocă romană la Carsium (Hârşova, jud. Constanţa)*, in Pontica, 31, 1998, pp. 140, 145–149.

⁹ Mihail Zahariade, Crişan Muşeţeanu, Costel Chiriac, *loc.cit.*, pp. 255, 259–260 and fig. 2; Costel Chiriac, Constantin Nicolae, Gabriel Talmaţchi, *loc.cit.*, pp. 140, 147, note 14, pl. I/1–4 and pl. II/1.

probably come under their control in the year 434¹⁰. Under Emperor Justinian (527–565), the fortress was substantially rebuilt¹¹, and in 536 it was included among the 14 episcopal sees subordinated to the metropolitan see of Tomis ¹².

Starting with the second half of the 6th century, the fortress of Carsium was affected by the attacks of migratory populations on the Danubian frontier of the empire and the neighboring territories, causing its development to undergo alternating upward and downward trends for several decades. Sporadic coin finds seem to indicate that the fortification was impacted by the Avar-Slavic attacks of 593-594. Later, likely as a consequence of the peace treaty concluded in 598, through which the Avars recognized the Danube as the frontier line between themselves and the empire with its capital at Constantinople 13, the fortress appears to have found the necessary resources to recover and experience a certain continuity of economic life¹⁴, as suggested by the discovery of two hemifolles of Phocas (602-610). Overcoming the instability at the frontier during the first decades of the 7th century¹⁵, habitation in the fortress of Carsium seems to have lasted until the end of the third decade, as evidenced by the discovery of a ½ follis from the year 629-630, also indicating continued contact with the Byzantine Empire¹⁶.

A new enclosure was built at the highest point of the rocky promontory on which the fortress stands at the end of the 10th century, by the Byzantine Empire, in the context of the restoration of its borders along the Danube and the need to defend the new frontiers¹⁷. Archaeological data, supported by written sources, outline

¹⁰ Andrei Aricescu, Armata..., p. 169; Ion Barnea, Imperiul roman în fața hunilor, in Radu Vulpe, Ion Barnea, Din istoria Dobrogei, vol. I, Romanii la Dunărea de Jos, Editura Academiei RSR, București, 1968, p. 407; Idem, Organizarea administrativă, in Dumitru Protase, Alexandru Suceveanu (eds.), Istoria românilor, vol. II, Daco-romani, romanici, alogeni, Editura Enciclopedică, București, 2010, p. 525.

¹¹ Andrei Aricescu, *Noi date...*, pp. 352–354; Aurel Daniel Stănică, Constantin Nicolae, Mihai Anatolii Ciobanu, Planurile și prospectele cetății Hârșova în arhive străine / Plans and prospects of Hârșova fortress in foreign archives, Mega Publishing House, Cluj-Napoca, 2021, p. 11.

¹² Ionut Holubeanu, *Monahismul în Dobrogea de la origini până în zilele noastre*, Editura Universitară, București, 2020, pp. 39-40.

¹³ Alexandru Madgearu, The end of the Lower Danube limes: a violent or a peaceful process?, in Studia Antiqua et Archaeologica, 12, 2006, p. 154.

¹⁴ Gabriel Custurea, Circulatia monedei bizantine în Dobrogea (sec. VI–VIII), Ex Ponto, Constanta, 2019,

p. 29.

15 Alexandru Madgearu, Continuitate și discontinuitate culturală la Dunărea de Jos în secolele VII–VIII,

1607 140. Cristina Paraschiv-Talmatchi, Migratsii v Dunaysko-Pontiyskoy zone yugo-vostoka Rumynii po arkheologicheskim dannym, in Stratum plus, 5, 2020, pp. 253-254.

¹⁶ Alexandru Madgearu, *The end of the Lower Danube...*, p. 157; Gabriel Custurea, op.cit., p. 29; Aurel Daniel Stănică, Constantin Nicolae, Mihai Anatolii Ciobanu, op.cit., p. 10.

¹⁷ Panait I. Panait, Adrian Rădulescu, Aristide Ștefănescu, Daniel Flaut, *loc.cit.*, p. 121; Cristina Paraschiv-Talmatchi, Early middle ages..., pp. 423-424.

for the following period a possible Genoese presence in the 13th century; a rule by Ivanco, the son of Dobrotici, despot of Dobruja (around 1386–1388)¹⁸; a period of decline in 1388, according to the information provided by Sa'adeddin¹⁹; followed by a brief rule by the Basarab voivodes²⁰ at the end of the 14th century.

Starting with the 15th century, following a campaign undertaken during the time of Sultan Mehmed I Celebi, in 1419 or the spring of 1420, Dobruja came under Ottoman rule for several centuries (until 1878), a period during which a fortress with a much-expanded area, encompassing a circumference of 3000 steps²¹, was erected in Hârşova, which would become an important fortified center of the Ottoman Empire.

2. Highlights regarding the archaeological research of the fortress

The first systematic archaeological excavations at the Hârşova fortress were conducted by Victor Brătulescu in 1939. Together with Grigore Florescu, he returned to the site in 1943. After the 1939 excavation, V. Brătulescu conducted a study on Hârşova²², however, this study was based on older fortuitous discoveries, information from foreign travelers' accounts, and general historical information about Dobruja, leaving the presentation of the archaeological research results from the summer of 1939 for future work, but the announced study did not see the light of day. The results of the second campaign in 1943 were presented in a limited report²³. There is information about stratigraphy, concluding with a brief recommendation, probably addressed to those who wished to undertake the challenge of researching this site: "...systematic excavations in Hârşova cannot be carried out without the necessary equipment, especially wagons and Decauville railway lines"²⁴.

The archaeologists from Constanța, Andrei Aricescu and Mihai Bucovală, resumed research in Hârşova, but two decades later, in 1963. There was only one campaign and one dedicated study, mostly focused on the archaeological material from the

¹⁸ Radu Ciobanu, *Un monument istoric puțin cunoscut: cetatea feudală de la Hârșova*, in Buletinul Monumentelor Istorice, 39, 1970, 1, pp. 25–30.

¹⁹ Mihail Guboglu, Mehmet Mustafa, *Cronici turcești privind Țările Române*, vol. I, Editura Academiei RSR, București, 1966, pp. 297–332.

²⁰ Panait I. Panait, Adrian Rădulescu, Aristide Ștefănescu, Daniel Flaut, *loc.cit.*, p. 121.

²¹ Aurel Daniel Stănică, Constantin Nicolae, Mihai Anatolii Ciobanu, *op.cit.*, p. 11.

²² Victor Brătulescu, *Cetatea Hârşova în legătură cu Dobrogea și cu ținuturile înconjurătoare*, in Buletinul Comisiunii Monumentelor Istorice, 33, 1940, 105, pp. 3–24.

²³ Grigore Florescu, *Raport asupra activității arheologice de la Hârşova în 1943*, in Anuarul Comisiunii Monumentelor Istorice, 1946, pp.179–180.

²⁴ *Ibidem*, p. 180.

early Middle Ages (10th–12th centuries), which was the best-represented period in the discoveries made that year²⁵.

Two other campaigns, carried out in 1988 and 1989 by Gheorghe I. Cantacuzino, targeted the enclosure walls preserved in a perimeter delimited by Carsium and Unirii streets²⁶, located today near the apartment buildings.

Almost a decade and a half passed before the next archaeological interventions targeted the fortress of Hârşova. In 1993, a new stage of research was initiated, starting as a student experimental excavation under the coordination of medieval archaeologist Panait I. Panait²⁷. With relatively frequent changes in the team members, archaeological excavations continue to this day, accumulating consecutive campaigns of varying scale and numerous studies²⁸.

3. The context of new large-scale archaeological research

In the second half of 2020, over the course of about six months, preventive archaeological research was carried out at the fortress of Hârşova, in the context of a project for the restoration, conservation, and cultural-touristic development of the site. The project, completed in May 2025, when the fortress was reopened to the tourist circuit, focused on the tower located on the northern side of the smallest enclosure (called the "Commander's Tower"), the harbor area and the walls on the western side of the promontory, as well as the construction of a tourist information point on the eastern side, outside the small enclosure, which gave us the opportunity to investigate several areas (Figure 3).

²⁵ Andrei Aricescu, *Noi date...*, pp. 351–70.

²⁶ Gheorghe I. Cantacuzino, *Cercetări arheologice la fortificațiile de la Hârșova*, in Buletinul Comisiunii Monumentelor Istorice, 3, 1992, pp. 58–67;

²⁷ Panait I. Panait, Tudor Papasima, Aristide Ștefănescu, Daniel Flaut, *Hârșova. "Cetate", jud. Constanța*, in Cronica cercetărilor arheologice din România. Campania 1993, Satu Mare, 1994, p. 31; Panait I. Panait, Adrian Rădulescu, Aristide Ștefănescu, Daniel Flaut, *loc.cit.*, pp. 121–134.

²⁸ Cristina Paraschiv-Talmaţchi, *Despre câteva piese ceramice de import descoperite la Hârşova (secolul al XI-lea p.Chr.)*, in Gh. Mănucu-Adameşteanu (ed.), *O jumătate de veac în slujba istoriei Bucureştilor. Omagiu Profesorului Panait Ion Panait la 80 de ani*, vol. II, Mistral Info Media, Bucureşti, 2011, pp. 102–115; Roxana Bugoi, Cristina Talmaţchi, Constantin Haitā, Daniele Ceccato, *Archaeometric studies of Byzantine pottery from Hârşova-Carsium, Romania*, in Nuclear Instruments and Methods in Physics Research. Section B. Beam Interactions with Materials and Atoms, 348, 2015, pp. 296–301; Cristina Paraschiv-Talmaţchi, *Early Medieval Glazed Ceramics Discovered in the Fortifications from Hârşova and Oltina (south-east of Romania)*, in Sergei Bocharov, Véronique François, Ayrat Sitdikov (eds.), *Polivnaya keramika Sredizemnomor'ya i Prichernomor'ya X–XVIII vv. / Glazed Pottery of the Mediterranean and the Black Sea Region, 10th-18th Centuries*, vol. II, Stratum plus, Kazan-Kishinev, 2017, pp. 271–285; Eadem, *Researches of byzantine amphorae discovered in Southern Dobrudja (10th–14th century)*, in Russkij Sbornik, 8, 2016, 1, pp. 130–143; Constantin Nicolae, *Noi date despre fortificația otomană de la Hârșova*, in Aurel-Daniel Stănică, Gabriel Custurea, Daniela Stănică, Emanuel Plopeanu (eds.), *Dobrogea. Coordonate istorice și arheologice*, Editura StudIS, Iași, 2016, pp. 49–84.



Fig. 3. Aerial image of the Hârșova fortress, showing the Byzantine enclosure ("small precint") and the areas targeted by the project.

The objectives of the preventive archaeological research were determined by the requirements imposed by the works proposed within the project, while also yielding important data of archaeological interest. These objectives included: the stratigraphic identification of the moment when the tower and the small enclosure were built, to ensure historically accurate restoration; the documentation of the structure of the "Commander's Tower" and the wall of the small enclosure, as well as their foundations, in order to assess the state of preservation of elements that were not visible; the documentation of the substructure of the medieval wall in the harbor area and the tracing of its path in the section where it no longer appears on the current ground surface; and the identification of the fortress's possible port installation²⁹.

In the "Commander's Tower" area, inside the small enclosure, the preventive archaeological research gave us the opportunity to continue the systematic research in section SIA (measuring 14 x 5 m), which we have been investigating since 2007³⁰. SIA extends westward from the main section SI (oriented north-south), initiated by Andrei Aricescu and later continued by Panait I. Panait and Constantin Nicolae. It is bounded to the north by the small enclosure and to the south by a wall dating to the medieval period (post-11th century). The excavations carried out in

²⁹ Cristina Talmaţchi, Constantin Şova, Irina Sodoleanu, Aurel Mototolea, Niculina Dinu, *Hârşova, jud. Constanţa [Carsium]. Punct: Hârşova, Cetate, str. Cetăţii – str. Carsium*, in Cronica cercetărilor arheologice din România. Campania 2020, Sibiu, 2021, pp. 416–422.

³⁰ Cristina Talmaţchi, *Hârşova, jud. Constanţa [Carsium]. Punct: Cetate – Sector "Turnul Comandant"*, in Cronica cercetărilor arheologice din România. Campania 2007, Bucureşti, 2008, p. 151; Eadem, *Aspects regarding...*, p. 244.

this area between 2007 and 2012 had reached a depth of 1.75 m near the tower, and 2.50 m in the higher ground area, in square 6. From these levels, the preventive archaeological research was conducted, which, for the medieval period, revealed new early medieval dwellings and several pits with various functions, some from the Ottoman period, cutting through the levels from the beginning of the Middle Ages. The early medieval complexes add to similar ones³¹ recorded during the systematic excavations between 2007 and 2012, when the archaeological excavation mainly focused on levels from the Ottoman period.

Although the surface area of section SIA is smaller, it holds particular importance in the research of the fortress at Hârşova, as it is located within the small enclosure, in an area where the archaeological deposit reaches a height of 3.98 m. By comparison, in the southern part of the main section SI, the one facing the Danube, the bedrock appears at a depth of 0.40 m below the current walking level³². At the same time, its starting point near the small enclosure gave us the opportunity to study its foundations down to the bedrock.

In the harbor area, the research was initially carried out within three north-south oriented sections, with 3 m baulks between them. Two of these were shorter, being adapted to the conditions of the terrain occupied by a massive masonry block that had fallen from one of the medieval walls, which was later mechanically broken, and a trench was marked and investigated in its place. At the end of the research, the baulk between sections S2P and S3P was excavated, a situation we requested due to significant discoveries.

The area of the walls on the western side of the promontory was not investigated in 2020, as it had previously been the subject of several systematic archaeological research campaigns³³. During the implementation of the project, the enclosure walls on this side underwent specific conservation works.

On the eastern side, outside the small enclosure, where the tourist information point was built, an area of 120 square meters was excavated, located near the ceramic firing kilns investigated in 1995. Here, the excavation reached the bedrock, at -4.45

³¹ Eadem, *Hârşova, jud. Constanţa [Carsium]. Punct: str. Cetăţii – Sector "Turnul Comandant"*, Valachica, 21–22/2008–2009, in Cronica cercetărilor arheologice din România. Campania 2008, Târgovişte, 2009, p. 118; Eadem, *Hârşova, jud. Constanţa [Carsium]. Punct: str. Cetăţii, str. Carsium – Sector "Turnul Comandant"*, in Cronica cercetărilor arheologice din România. Campania 2010, Sibiu, 2011, p. 46; Eadem, *Aspects regarding...*, p. 245–249.

³² Panait I. Panait, Adrian Rădulescu, Aristide Ștefănescu, Daniel Flaut, *loc.cit.*, p. 127.

³³ Zaharia Covacef, Constantin Nicolae, Hârşova, jud. Constanţa [Carsium]. Punctul: Cetate (sector Incinte – Vest), in Cronica cercetărilor arheologice din România. Campania 2006, Bucureşti, 2007, p. 178; Gabriel Custurea, Constantin Nicolae, Gabriel Talmaţchi, Costel Chiriac, Hârşova, jud. Constanţa [Carsium]. Punct: Incinte V, in Cronica cercetărilor arheologice din România. Campania 2001, Buziaş, 2002, p. 153.

m, revealing a zone where certain materials used for the construction of the enclosure were prepared and the presence of craft-related structures.

4. New stratigraphic records

4.1. Regarding the Byzantine enclosure

The Byzantine enclosure (Figure 3), also known as the "small enclosure" due to its significantly smaller surface area compared to the Roman and late medieval enclosures, or the "upper fortress" because of its dominant position in contrast to the walls in the lower port area, referred to as the "lower fortress", represents the beginnings of the medieval phase of the fortress at Hârșova. This presents a quadrilateral plan with sides measuring approximately 76 m on the east, 86 m on the west, and 80 m on the north³⁴. Since the *intra muros* perimeter on the Danubefacing side was naturally protected by a very high and steep rock, the southern part of the Byzantine enclosure, about 90 m in length, appears to have remained open, on the rocky plateau as no traces of a wall have been recorded so far. On this side, access appeared to be blocked in the lower area, from the port, by a thick wall of approximately 3 m, preserved in a poor state and observed between the western peak and the Romano-Byzantine wall³⁵. The enclosure features massive towers at the corners and along the sides, the wall having a thickness that varies between 3.70–4.40 m and a height of about 7 m, in the best preserved areas. The outer surface of the walls was built using large, shaped parallelepiped blocks, separated by rows of bricks, while the *emplecton* consists of rocks of varying sizes mixed with hard mortar, combined with charcoal and fragments of broken brick. The walls and towers were reinforced with wooden ties placed both longitudinally and transversely, whose imprints are still visible in elevation.

The 2020 investigations revealed that the Byzantine enclosure (Figure 4) has its northern wall and tower constructed on the bedrock, on the southern side, facing the Danube. The bedrock was encountered at a depth of 3.98 m near the tower (specified at the 2020 walking level), respectively at -2.70 m from the upper part of the plinth, and at -2.40 m from the upper part of the foundation³⁶ (Figure 5). On

³⁴ Radu Ciobanu, *loc.cit.*, p. 25; Panait I. Panait, Adrian Rădulescu, Aristide Ștefănescu, Daniel Flaut, *loc.cit.*, p. 124; Oana Damian, *Bizanțul la Dunărea de Jos în secolele VII–X*, Editura Istros, Brăila, 2015, p. 229.

³⁵ Constantin Nicolae, Aurel Mototolea, Irina Sodoleanu, Tiberiu Potârniche, *Hârşova [Carsium], jud. Constanța. Punct: Hârşova, Cetate, Port-debarcader*, in Cronica cercetărilor arheologice din România. Campania 2021, Oradea, 2022, pp. 155–159.

³⁶ Cristina Paraschiv-Talmaţchi, Constantin Şova, *A fortress at the gate of the Byzantine Empire. The small precinct from Hârşova*, in Cristina Paraschiv-Talmaţchi (ed.), *Fortresses, towns and settlements. Everyday life on the edge of empires (7th–13th centuries)*, Editura Mega, Cluj-Napoca, 2024, pp. 285–323.

the northern side, the archaeological excavation was stopped higher level, without revealing its presence.





Fig. 4, 5 – Aerial image of the investigated perimeters near the "Commander's Tower" and the tower's foundation on the bedrock.

To construct the enclosure and the tower, the terrain was prepared through levelling, observed in some excavation units up to approximately 2 m above the rock, which also incorporated and covered the walls of a Roman building. The levelling consists of well-compacted yellow-brown soil containing numerous Roman ceramic fragments (dating to the 4th-6th centuries), as well as a smaller quantity of early medieval ceramics, which are datable to the second half of the 10th century³⁷. This levelling was also documented on the northern side of the tower, between it and the enclosure located to its north, which is preserved in a poor state.

According to the stratigraphy of the investigated *intra muros* area, the construction of the northern wall and tower dates to the early medieval period (the last decades of the 10th century), what is consistent with the moment of Dobruja's reintegration into the borders of the Byzantine Empire. The data regarding the construction of the small enclosure, obtained during the preventive archaeological research, confirmed the assertions of researchers Andrei Aricescu and Mihai Bucovală, who, following an archaeological excavation conducted in the last century, specified that the wall that encompasses the smallest surface has its foundation in a level

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³⁷ Cristina Talmaţchi, Constantin Şova, Irina Sodoleanu, Aurel Mototolea, Niculina Dinu, *Hârşova, jud. Constanţa [Carsium]. Punct: Hârşova, Cetate, str. Cetăţii – str. Carsium*, in Cronica cercetărilor arheologice din România. Campania 2020, Sibiu, 2021, p. 416–422; Constantin Şova, *The Byzantine Frontier in Dobrudja. The Fortress of Hârşova, 10th–11th Centuries: A Case Study*, in Tsvetelin. Stepanov, Albena Milanova (eds.), *Granitsa, periferiya, voenna zona: prostranstveni i kulturni izmereniya* (Materiali ot Krŭgla masa s doktorantski seminar, SU "Sv. Kliment Okhridski", 30 – 31 mart 2023 g.), Godishnik na Sofiyskiya Universitet "Sv. Kliment Okhridski" Tsentar za Slavyano-Vizantiyski Prouchvaniya "Ivan Duychev", Tom 103 (22), Sofia, 2023, pp. 161–175.

containing 10th century material³⁸. It is not clear whether the levelling observed and recorded by us was noticed by them, because they do not report it. What is significant, however, is that this levelling includes ceramic material from the 10th century, more precisely from its second half, indicating the chronological moment when the terrain was prepared for constructing the small enclosure, that is, after the return of the Byzantine administration to Dobruja, post-971³⁹.

Regarding the construction technique of the walls, the 2020 research recorded the presence of holes at the lower part of the foundation, indicating the placement of wooden elements (square-section beams arranged longitudinally and transversally, measuring 0.15 x 0.15 m), similar to those observed in elevation, which served to reinforce the structure. In some of the remaining beam holes, evidence of additional strengthening measures was preserved, consisting of iron reinforcements (bars and nails) that penetrated the wooden beam while also being anchored at one end into the masonry⁴⁰. Both the northern tower and the wall exhibit the same construction technique and were built during the same period. Additionally, it was observed that the "Commander's Tower" preserves, on the Danube side (south), several steps made of large stone slabs and below the current walking level.

The stratigraphic analysis of the area we investigated inside the Byzantine fortification (Figure 6) shows that beneath the 18th century occupation level is the early medieval habitation. In this sense, the first dwelling that emerged beneath the Ottoman layer, Complex 1/2008⁴¹, is relevant. This structure was built at the medieval occupation level and became visible at a depth of 1.60 m (meaning about 0.25 m above the upper level of the plinth of the small enclosure wall), which is 0.20 m below the Ottoman layer. The inventory of the dwelling was quite rich, including numerous ceramic fragments, a millstone, a truncated clay weight, spindle whorls made of bone and clay, and a Byzantine coin from the reign of Emperor Romanos III Argyros (1028–1034), Class B⁴². Noteworthy among the ceramics are vessels with micaceous engobe (golden) and olive glaze, spheroidal and piriform amphorae with collar, and vessels decorated with impressions made by a toothed wheel on the outer surface. Based on its inventory, Complex 1/2008 can be dated to the second quarter of the 11th century, representing, as mentioned above, the first dwelling identified beneath the Ottoman level.

³⁸ Andrei Aricescu, *Noi date...*, pp. 351–356.

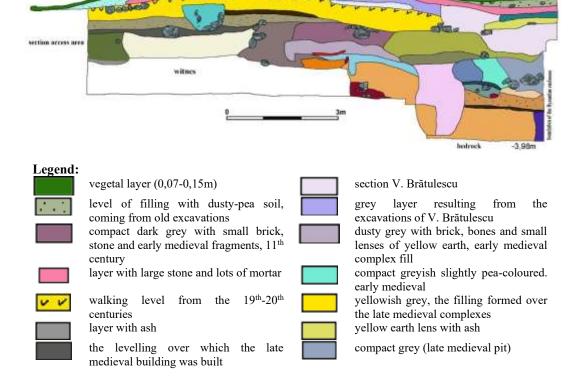
³⁹ Cristina Paraschiv-Talmatchi, Aspects regarding..., p. 242.

⁴⁰ Constantin Şova, *loc.cit.*, p. 167, fig. 3/2–4.

⁴¹ Cristina Talmaţchi, *Hârşova, jud. Constanţa [Carsium]. Punct: str. Cetăţii – Sector ,,Turnul Comandant''*, Valachica, 21–22/2008–2009, in Cronica cercetărilor arheologice din România. Campania 2008, Târgovişte, 2009, p. 118; Eadem, *Aspects regarding*, pp. 245–248, fig. 3/2.

⁴² Cristina Paraschiv-Talmaţchi, *Despre câteva piese...*, pp. 103–107.

In support of our statement come the monetary discoveries from the habitation level, which fall into the first half of the 11th century. Within the approximately 0.35 m-thick layer located between 0.25 m above the plinth (corresponding to the contour level of Complex 1/2008) and 0.10 m below its upper limit, four other coins were found, as follows: 2 anonymous *folleis* of class A2-A3 (A2 according to Ivaniševic, dated to 1010/1015-1020/1025, or A3 according to Metcalf, placed between 1015/1020 and ca. 1030), issues from the reigns of Basil II and Constantine VIII; 1 anonymous *follis* of class C, put into circulation during the reign of Emperor Michael IV (1034–1041); 1 anonymous *follis* of class D, issued during the reign of Emperor Constantine IX (1042–1055)⁴³. They are added to the material specific to the period, including pottery decorated with impressions made by a toothed wheel, vessels with an olive glazed surface and applied decoration, piriform shaped amphorae with collar, and glass bracelets.



⁴³ David Michael Metcalf, *Coinage in South-Eastern Europe*, Second Edition, The Royal Numismatic, London, 1979, pp. 55–60; Vujadin Ivaniševic, *Interpretation and Dating of the Folles of Basil II and Constantine VIII – the Class A2*, Recueil des travaux de l'Institut d'études byzantines 27–28, 1989, pp. 36–39; Gheorghe Mănucu-Adameșteanu, *Monede bizantine descoperite în Dobrogea*, vol. 2. *Monede bizantine descoperite în nordul Dobrogei, secolele VII–XIII*, Mistral Info Media, București, 2017, p. 521.

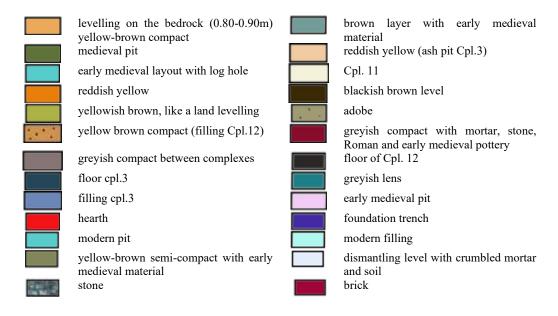


Fig. 6. Stratigraphic situation south of the Byzantine enclosure of the Hârsova fortification (SIA, western profile, 2020).

At approximately 0.60 m below the identification level of Complex 1/2008, Complex 1/2010 was discovered⁴⁴. According to the vertical stratigraphic analysis, this surface dwelling was identified approximately 0.15 m below the upper level of the foundation of the enclosure wall. Complex 1/2010 was in use around the years 1010/1015 to ca. 1030 (or shortly after), and among its inventory is an anonymous follis of class A2-A3, variant 2445, found embedded in the clay of the floor. Additionally, the finds include: a fragmentary iron knife, discovered in the fill of the oven; two 5th-century Roman coins, one of which was embedded in the clay of the oven wall; numerous ceramic fragments. From the fragments found within the layers on which the oven hearths were built, several vessels have been reconstructed. These were wheel-made at a slow speed, using common and kaolinitic clay, and were oxidation-fired. Their decorations include incised horizontal and wavy lines, as well as indentations made with a toothed wheel.

Important in the analysed context is Complex 12/2020, a deepened dwelling excavated along the foundation of the enclosure wall, immediately east of the "Commander's Tower". From the 2020 walking level, this feature was identified at a depth of 2.60 m, with its floor at 3.04–3.08 m. Compared to the upper part of the plinth of the wall, Complex 12/2020 was outlined at a depth of 1.32 m and has its

⁴⁴ Cristina Paraschiv-Talmaṭchi, *Aspects regarding...*, pp. 248–249, fig. 5–6. ⁴⁵ David Michael Metcalf, op.cit., pp. 55-60; Vujadin Ivaniševic, loc.cit., pp. 36-39; Gheorghe

Mănucu-Adameșteanu, op.cit., pp. 554–555.

floor at 1.76–1.80 m. It was dug into the compact levelling layer, which, as previously mentioned, was observed in some excavation units up to a height of approximately 2 m above the bedrock. Beneath the floor of the dwelling the levelling layer was maintained, measuring approximately 0.90 m down to the bedrock. A simple calculation shows that Complex 12/2020 was excavated approximately 1.10 m into this layer. At the time of investigation, the fill layer of the dwelling was preserved to a height slightly exceeding 0.40 m, with its upper portion completely destroyed when Complex 3/2020 was arranged, which overlapped it.

From its inventory we recall two fragments of a grinding stone, early medieval ceramic fragments and a circular stone with polished surfaces. Among the pottery fragments, there was the shoulder of a pot with an attached tubular handle and a rim with interior grooving. In Dobruja, these characteristics are found on pots from the last decades of the 10th century and the early decades of the 11th century⁴⁶, with these ceramic fragments providing a chronological indicator for dating the dwelling.

Unlike the Complex 1/2008 and Complex 1/2010, the Complex 12/2020 belongs to the early phase of habitation within the enclosure, with a key reference point being the ceramic material found in the ash layer on the floor. Although the quantity of ceramics was lower compared to Complex 1/2010, notable differences can still be observed between them, both in terms of composition (paste, decoration) and specific characteristics (tubular handle), which indicate an earlier phase. The stratigraphic position, including its overlap by Complex 3/2020, its excavation into the stable levelling layer and the ceramic inventory, suggest that it functioned before Complex 1/2010, meaning before the years 1010–1015, thus beginning in the last decades of the 10th century.

Immediately south of the Byzantine enclosure, where the project gave us the opportunity to delve down to the bedrock, beneath the early medieval complexes (respectively under Complex 12/2020), the stratigraphy is completed with the levelling in which the foundation of the enclosure was made, which incorporated and covered the walls of a Roman edifice (Figures 7, 8).

⁴⁶ Gheorghe Ștefan, Ion Barmea, Maria Comșa, Eugen Comșa, *Dinogetia*, vol. I, *Așezarea feudală timpurie de la Bisericuța-Garvăn*, Editura Academiei RSR, București, 1967, pp. 154–157, fig. 93/5, fig. 94/16.



Fig. 7, 8 – The "Commander's Tower" foundation which incorporated and covered the walls of a Roman edifice.

4.2. Regarding the harbor area of the fortress

Although attempts were made to identify the port facility during systematic research in the port area, located on the southern side, at the base of the promontory, between two rocky spurs (Figure 3), its confirmed was materialized during the preventive archaeological investigations in 2020. Following our recommendations and insistence, the investigated perimeter in the port area was extended westward, where a mooring platform was identified⁴⁷. Its construction method is reminiscent of the port installations of the fortresses at Nufăru and Păcuiul lui Soare⁴⁸.

The port installation was uncovered at -1.70 m from the current walking level. Rectangular limestone blocks (of varying dimensions, ranging from $0.40 \times 0.40 \times 0.10$ m to $0.60 \times 0.60 \times 0.10$ m), carefully worked on all visible faces and bonded with mortar, form the appearance of a platform, descending southward, towards the Danube, in multiple steps. The steps facing the river are clearly distinguishable and match the width of the stone blocks (Figure 9).



Fig. 9. The wharf of the Hârşova fortress discovered in 2020 and the stratigraphic situation.

⁴⁷ Cristina Talmaţchi, Constantin Şova, Irina Sodoleanu, Aurel Mototolea, Niculina Dinu, *loc.cit.*, p. 418.
⁴⁸ Petre Diaconu, Dumitru Vîlceanu, *Păcuiul lui Soare*, vol. I, *Aşezarea bizantină*, Editura Academiei RSR, Bucureşti, 1972, pp. 38–40; Oana Damian, *Despre prezenţa bizantină la Dunărea de Jos. Orașele-porturi*, in Letiţia Cosnean Nistor, Virgil Apostol, Mariana Cristina Popescu, Ştefan Bâlici, Natalia Toma (eds.), *Arhitectură – Restaurare – Arheologie. In honorem Monica Mărgineanu Cârstoiu*, Editura ARA, Bucureşti, 2021, pp. 103–154.

The stratigraphic sequence recorded in the harbor area in 2020 is as follows: at the top was a layer of modern deposits (which varied in thickness, reaching up to 1.50 m), containing household waste mixed with ancient and medieval material, carried down in the soil that had slid from beneath the medieval wall, with "windows"; beneath it, several layers of alluvial deposits were observed (yellowish, brownish, or gray, compact, without archaeological material, ranging in thickness from 0.22 to 0.35 m), which marked the periods of rising Danube waters, reaching up to the base of the bedrock; beneath the layers of alluvial deposits lay the landing stage.

Two subsequent systematic archaeological campaigns facilitated the uncovering of the mooring platform, revealing a width of 5–6 m and a length of 16–17 m (noting that, on the eastern side, it was partially dismantled in the modern era to reuse the stones for constructions). The construction method and materials found here indicate that the structure was arranged in the 10th century⁴⁹, probably at the same time as or shortly after the erection of the Byzantine enclosure.

4.3. Regarding the eastern extra muros area

In this sector, the preventive archaeological research carried out in 2020 covered an area of 120 square meters, bringing to light complexes from the Roman, early medieval, and Ottoman periods. These add to those already known from the investigations conducted in 1995, when the area was conventionally named "Anenajarea-taluz est" 50.

In the newly investigated area, where the excavation stopped at the bedrock, the stratigraphic situation was, in general terms, as follows⁵¹ (Figures 10, 11): the vegetal level, with a thickness varying between 0.05–0.15 m; a contemporary deposit follows, with stone and various materials, whose thickness varies between 0.45 and 1.55 m; below this is a contemporary layer, composed of brown earth, with small and medium stone, with Roman, medieval and Ottoman pottery, with a thickness ranging between 0.60 and 1.85 m, a layer that also fills the surface investigated in 1995, as was observed on the southern profile (this layer seems to have formed in the last decade and a half by storing the excavated earth when the

⁴⁹ Cristina Talmaţchi, Constantin Şova, Irina Sodoleanu, Aurel Mototolea, Niculina Dinu, *loc.cit.*, p. 418; Constantin Nicolae, Aurel Mototolea, Irina Sodoleanu, Tiberiu Potârniche, *Hârşova [Carsium], jud. Constanţa. Punct: Hârşova, Cetate, Port-debarcader*, in Cronica cercetărilor arheologice din România. Campania 2021, Oradea, 2022, pp. 155–159; Constantin Nicolae, Aurel Mototolea, Irina Sodoleanu, Tiberiu Potârniche, *Hârşova, jud. Constanţa [Carsium]. Punct: Cetate, Port-debarcader*, in Cronica cercetărilor arheologice din România. Campania 2022, Târgoviste, 2023, pp. 139–142.

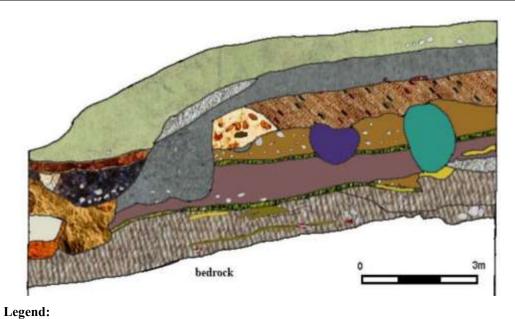
⁵⁰ Panait I. Panait, Adrian Rădulescu, Aristide Ștefănescu, Daniel Flaut, *loc.cit.*, p. 129.

⁵¹ Cristina Talmaţchi, Constantin Şova, Irina Sodoleanu, Aurel Mototolea, Niculina Dinu, *loc.cit.*, p. 416–422; Constantin Şova, *Hârşova – extra muros East. The craft district of the early medieval fortified*, in Ivo Topalilov, Svetlana Nedelcheva (eds.), *The Northern Balkans between East and West in 6th–15th century*, Studia Academica Šumenensia 8, 2021, p. 59.

houses near the fortress were built); follows a yellowish-brown level, with burnt wood pigment, rare lenses of yellow earth, stone, broken brick, bones, Ottoman pottery, early medieval and sporadically Roman, having a thickness ranging between 0.50 and 0.70 m (in the eastern part this level was not observed, between it and the archaeological excavation from 1995 was preserved a remnant from an Ottoman-era household pit, from the filling of which a grinder was recovered); a level with mortar and gravel follows, created by the evacuation of debris from the fortress, for straightening the ground, whose thickness varied between 0.25 and 0.85 m (characterized by the presence of sporadic archaeological materials from the early Byzantine and early medieval periods); a thin layer follows, representing the early medieval vegetable, seconded by the early medieval level, with a thickness of 0.40–1 m, in which materials from the Roman period are also involved; then ancient vegetable, followed by a grayish compacted level, which includes successive, random, yellowish or gray lenses, the thickness of which varies between 0.50 and 1.20 m; then there is the bedrock, which appears on the south side at 3.88 m, and on the north side at 4.45 m, without having a fixed elevation.



Fig. 10. Stratigraphic situation in the investigated perimeter in the extra muros east area (SCA, western profile, 2020).



burned wood brown-yellowish layer, with burnt wood pigment, occasional yellow lenses, stone, broken brick, bones, Ottoman pottery, medieval and sporadically Roman pottery gravel (contemporary filing) level with early medieval and Roman material, yellowish-gray, compact level with Roman material, composed of ash successive, random, yellowish or greyish lenses yellow ground lentil brown, clay rich soil, with small and medium-sized stones, with Roman, medieval and Ottoman ceramics limestone contemporary pit with bones, stones, brick and pottery Complex 1 contemporary reddish brown Complex 2 lens of black-brown burnt soil yellowish brown earth, compact, with level with mortar, gravel and medium-sized brick pigment, with mortar and burnt stones wood, stone, with contemporary material (iron, ceramics, glass), broken brick, Turkish tiles, animal bones

Fig. 11. Stratigraphic situation in the investigated perimeter in the extra muros east area (SCA, south profile, 2020).

stone

antic vegetal layer

grinding stone

various materials

contemporary filing, with stone and

The new investigations increased the information regarding the organization of the area located about 50 meters east of the Byzantine enclosure, as a craft district of the fortress at the beginning of the Middle Ages. To the two ceramic firing kilns discovered in 1995 was added a workshop for processing and repairing metal objects, probably contemporary with the construction of the small enclosure⁵².

Conclusions

A retrospective view of the stratigraphic situation recorded in the newly investigated areas shows that, in some sectors, inside the Byzantine enclosure, beneath the occupation level specific to the 18th century, there is one from the beginning of the Middle Ages. The early medieval habitation levels preserved in the SIA area date between the last decades of the 10th century and the middle of the 11th century. However, the discovery of sporadic monetary pieces⁵³ in the *extra muros* area, in other sections, or across the territory of the modern city, and a burned dwelling that preserved on its floor a hand-made pot without handles, presumed to belong to the final habitation level, suggests that habitation within and around the fortress persisted until the late 11th century. The latest coin found during archaeological research was an anonymous *follis* from Class I, issued during the reign of Emperor Nikephoros III (1078–1081)⁵⁴.

Based on the monetary discoveries, numerically reduced, the idea of a decline in habitation and a reduction in the importance of the center on the Danubian limes during the second half of the 11th century⁵⁵ has been proposed. However, considering the situation recorded in SIA, where beneath the 18th-century level, a habitation level from the first half of the 11th century was identified (despite evidence of continuous habitation indicated by sporadic artifacts and monetary pieces, but especially supported by written sources⁵⁶), we tend to believe that this "decline" was less influenced by historical factors and appears more pronounced

⁵³ Gheorghe Mănucu-Adameșteanu, *op.cit.*, pp. 539–540.

⁵² Ibidem, pp. 61–62.

⁵⁴ Tudor Papasima, Constantin Nicolae, Gabriel Talmaţchi, Daniel Flaut, *Hârşova, jud. Constanţa. II. Carsium*, in Cronica cercetărilor arheologice din România. Campania 1996, Bucureşti, 1997, p. 25; Tudor Papasima, Constantin Nicolae, Gabriel Talmaţchi, *Hârşova, jud. Constanţa. I. Cetatea Carsium*, in Cronica cercetărilor arheologice din România. Campania 1997, Călăraşi, 1998, pp. 27–28; Gheorghe Mănucu-Adameşteanu, *op.cit.*, p. 532.

⁵⁵ Gheorghe Mănucu-Adameșteanu, *op.cit.*, pp. 539–540.

⁵⁶ Radu Ciobanu, *Un monument istoric puțin cunoscut: cetatea feudală de la Hârșova*, in Buletinul Monumentelor Istorice, 39, 1970, 1, pp. 25–30; Panait I. Panait, Adrian Rădulescu, Aristide Ștefănescu, Daniel Flaut, *loc.cit.*, pp. 121–134; Cristina Paraschiv-Talmaţchi, Gabriel Talmaţchi, *Studiu statistic asupra monedelor greceşti, romane, romano-bizantine şi medievale aflate în colecția Ana Crăciun (MINA Constanța*), in Analele Dobrogei S.N. 5, 1999, 2, pp. 80–96; Gabriel Talmaţchi, Cristina Paraschiv-Talmaţchi, *Un fragment din istoria Hârșovei redat prin prisma mărturiilor documentare*, in Analele Dobrogei N.S. 5, 1999, 2, pp. 31–46; Gheorghe Mănucu-Adameșteanu, *op.cit.*, pp. 540–541.

due to the destruction of habitation levels from the second half of the century through land-clearing actions, up to a little above the base of the wall (approximately 0.30–0.50 m). In this case, the two dwellings found in the upper part of the early medieval habitation levels (Complex 1/2008 and Complex 1/2010) provide a chronological marker for the preservation of layers, not a real one regarding the end of early medieval habitation.

In the investigated areas, stratigraphically, no habitation levels were identified that could be attributed to the period between the mid-11th century and the 17th century, inclusive. For this chronological interval, at present, continuity of habitation, more or less developed, is evidenced by artifacts found in the fill of Ottoman-period pits, discovered in other previously researched areas⁵⁷ or found in outside the Byzantine enclosure, together with debris removed from the fortress, but especially by written sources. The absence of intermediate layers can be explained by probable clearing actions undertaken to prepare the ground for new constructions, which followed unfavorable periods or were initiated by new administrations. A similar situation was observed in the context of the construction of the Byzantine enclosure, as presented above.

In the harbor area, beneath a thick layer of modern household waste and successive alluvial deposition levels, a landing stage was identified, for which there are indications that it was arranged in the 10th century, probably at the same time or not long after the construction of the Byzantine enclosure. The arrangement of a landing stage at Hârşova places the new fortification among the objectives of importance for the empire, highlighting the significant role attributed to the fortress both militarily and economically.

The stratigraphy of the fortress could also be completed for the *extra muros* area on the east, where the entire investigated surface reached the level of the bedrock (– 4.45 m), revealing a complex stratigraphy. Layers were recorded that can be attributed to the Roman period, the early medieval and Ottoman periods, as well as a substantial modern deposit, as the area in question has undergone numerous anthropic activities over time.

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⁵⁷ Panait I. Panait, Adrian Rădulescu, Aristide Ștefănescu, Daniel Flaut, *loc.cit.*, p. 128.