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MARTIN LEMKE

## FIELDWORK AT NOVAE (BULGARIA) IN 2009 AND 2010 (PLS. 199–201)

Novae was a Roman legionary fortress and town, located in modern day Bulgaria, to the east of Svishtov on the banks of the Danube. The site has been continually excavated since 1960 by a joint Polish-Bulgarian team and the results have been published thoroughly.<sup>1</sup> Today, there are three Polish teams excavating at Novae, one of which is from the Antiquity of South-eastern Europe Research Centre.<sup>2</sup> The Centre<sup>3</sup> carries out fieldwork within Sector IV, mostly renowned for its military hospital (*valetudinarium*). Novae was the home and the headquarters for the 1<sup>st</sup> Italic legion (*Legio I Italica*) in the province of Moesia Inferior for nearly its entire period of occupation as an important Roman military base (as a military *castra*), but still underwent a number of significant changes through the years. With the *valetudinarium* having been completely excavated by 2006,<sup>4</sup> the Centre has since then worked on establishing the layout of the earlier structure below – the baths of the *castra legionis*. They functioned here approximately in 70–101 AD, until Trajan's Dacian wars required a large military hospital to be built and the *thermae* were moved towards the centre of the fortress, west of the *principia*. The location of the first *thermae* in the *praetentura* in the *scamnum* closest to the northern wall of the fortress (and hence the Danube) is somewhat peculiar but can be explained by logistical reasons. Heavy building material for the baths (in a time when most parts of the *castra*, excluding the *principia*, were made of wood) was predominantly transported on the Danube. Thus, the stones could be directly heaved onto the construction site. Additionally, huge amounts of sewage could easily be disposed of on the river bank. The *thermae* were explored by trial trenches; 2009 and 2010 were scheduled to be the final seasons.



### 2009 (3.08–4.09)

Altogether, a surface of c. 250 m<sup>2</sup> was uncovered in 2009 by trenching. The structural remains of the baths occur usually 2 m underneath the level of the *valetudinarium* but in some cases a depth of more than 8 m below the surface was reached. The main issues for this campaign were: the layout of the *caldaria*; to locate the wall between the *caldaria* and the *tepidarium*; to find the *praefurnia* of both installations and the entrance to the *basilica thermarum* itself; to define the nature of a structure with an *opus spicatum* floor first noticed in 2008 and the extent of the southern part of the *thermae* with its boundary wall and the *palestra*; lastly, to gain more information regarding the two chronological phases of the baths, which as we knew from previous fieldwork suffered destruction from fire after an earthquake and were subsequently remodelled.

<sup>1</sup> T. DERDA, P. DYCZEK, J. KOLENDO (eds.), *Novae. Legionary Fortress and Late Antique Town*, vol. I: *A Companion on the Study of Novae*, Warsaw 2009 (2008) – includes a complete bibliography for the years 1726–2008. Annual reports are published in “Archeologia” (Warsaw). See also: T. SARNOWSKI, *The Name of Novae in Lower Moesia*, “Archeologia” (Warsaw) LVIII (2007), 2009, 15–23; A. Biernacki (ed.), *Novae. Studies and Materials*, I–III, Poznań 1995–2008.

<sup>2</sup> Our research is kindly supported by the University of Warsaw and the Ministry of Science and Higher Education.

<sup>3</sup> Under the direction of Prof. Piotr Dyczek.

<sup>4</sup> For this and the first trial trenches see: P. DYCZEK, *Novae – Western Sector (section IV), 2002–2006. Preliminary Report on the Excavations of the Center for Research on the Antiquity of Southeastern Europe, Warsaw University*, “Archeologia” (Warsaw) LVII (2006), 2007, 129–142; P. DYCZEK, *Archaeological Excavations at Novae. A History of Research with Special Consideration of Sector IV (Legionary Baths, valetudinarium, Late Architecture)*, (in:) T. Derda, P. Dyczek, J. Kolendo (eds.), *Novae...*, 31–70.

A stratigraphic analysis in the *caldarium* revealed that the baths possessed – apart from the *tepidarium* – three heated rooms with apses, one of those built along an east-west axis, and the other two with a north-south orientation. At least one of those rooms served as a *caldarium*. In one of the basins remains of hydraulic lime mortar<sup>5</sup> were found, while the bottom layer of *opus caementicium* revealed imprints of wooden beams used during its construction. While investigating the partition wall between the *caldaria* and the *tepidarium*, a heating system found in 2008 was further uncovered. The hypocaust was built with *pilae* of stacked up *bessales* measuring 23×23 cm or 28×28 cm. A crack in its western wall is a further proof for the earthquake which partially destroyed the *thermae*.

The entrance to the *basilica thermarum* was located on the eastern side of the building and approached from the *via praetoria*. The entrance was flanked by two short walls and provided with a high threshold to avoid flooding by rainwater. The adjacent room was adorned with wall painting. The construction with an *opus spicatum* floor (Fig. 1) first discovered in 2008 was identified to be a basin measuring 16×9 m. The floor consisted of small bricks laid on hydraulic mortar. Traces of calcite suggest that the floor was exposed to water over a long time. On the southern side, a wall limiting the floor was found, along with an aqueduct. One of the clay tubes bore a *planta pedis* stamp, stating the producer's name ARRIVS (Fig. 2). Obviously, the *opus spicatum* was the adorned floor of a *natatio* basin lying in the northern part of the *palestra*.

The southern boundary wall of the baths was found to be located merely half a meter north of the exterior wall of the later *valetudinarium*. Its foundations had a width of 120 cm, and the wall itself measured 90 cm. The shift in placement resulted from technical requirements during the construction of the *valetudinarium*, where a number of small rooms was built, taking up additional space towards the south. It would have been difficult to merge the partition walls with the existing exterior boundary wall and too dangerous to just lean them against it.

Analysing the architecture, the changes undertaken after the earthquake become visible. The hypocaust of the *tepidarium* was remodelled, resulting in a partial deconstruction of the entire system. The tile floor in the *basilica thermarum* was repaired, the layout of the *caldaria* was shaped anew, a number of *praefurnia* was closed, and

the course of some sewage channels changed. During the excavations a number of significant finds was unearthed, among them a series of early 1<sup>st</sup> c. coins (Augustus, Tiberius, Claudius), retrieved from the destruction layer after the earthquake, pottery including *terra sigillata* and glass vessels from the *thermae*. From the hospital level, an interestingly shaped clay altar (Fig. 3) and a bone sheath pommel are noteworthy.

#### 2010 (2.08–9.09)

During the closing campaign, the eastern, the northern and the western wings of the baths were in the centre of attention. Also, attempts were made to distinguish the two phases of the building and to understand architectural details. In 2010, practical possibilities for investigating the *thermae* via probing trenches were exhausted. A number of walls of the *valetudinarium* stand on the earlier walls belonging to the baths and the general completeness of the hospital structures renders large parts below it inaccessible.

The baths required an entire *scannum* within the *praetentura* of the fortress. It was built by soldiers of the 1<sup>st</sup> Italic legion, whose brick stamps occur on many structural elements made of clay. There is a further proof that the *thermae* were damaged by an earthquake. More traces of the tectonic rupture, which ran through the hypocaust systems and the basin in the *frigidarium* were discovered. As a consequence of the catastrophe, the hypocaust ovens burst and the baths were partially burned down. The reconstruction was apparently done hastily, employing all sorts of substitute materials, such as clay tube sherds or *bessales* of varying size to serve as *pilae*. The mortar used for the new floor in the hypocaust cellars was of inferior quality and the wall paintings were repaired with little care.

The overall plan of the Flavian baths at Novae (Fig. 4) differs in some ways from other baths known within the provinces, including the succeeding *thermae* built at Novae west of the *principia*,<sup>6</sup> after their original location had been taken over by the *valetudinarium*. The Flavian baths were large (claiming a surface of almost one hectare). Their layout resembles elaborate civil bathhouses rather than modest and practical military installations and shows influences of Italic civilian architecture. The baths were uncommonly richly decorated with stucco and wall paintings; some door frames and wall adornments were made of white and polychromatic marble.

<sup>5</sup> *Opus signinum*; see: M. BIERNACKA-LUBAŃSKA, *Zaprawy hydrauliczne w wodociągach z Novae*, "Novensia" 7–8, 1995, 19–26.

<sup>6</sup> For the 2<sup>nd</sup> c. *thermae* at Novae see: A. BIERNACKI, *The Roman Legionary Bath of the 2<sup>nd</sup> century AD in Novae*, (in:) Ph. Freeman

et al. (eds.), *Proceedings of the XVIII<sup>th</sup> International Congress of Roman Frontier Studies, held in Amman, Jordan (September 2000)*, Limes 18, BAR International Series 1084, Oxford 2002, 649–662.

Each wing in the building had a distinct function. The southern part was occupied by the *palestra* surrounded on three sides by a portico, whose walls were painted with geometric and floral ornaments. On its northern side was the aforementioned *natatio* basin with its *opus spicatum* floor. The eastern part, running along the *via praetoria*, held a number of small rooms, probably for storage. A *taberna* was also located here. The northern wing was the most sophisticated, as it held the actual baths. The far east served as an *apodyterium* and *basilica thermarum*. This was also where the main entrance from the *via praetoria* was located. The roof was held by a number of stone pillars, while the walls of the *basilica* were also decorated with stucco. From here, the *sudatorium* to the south or the *frigidarium* with two cold water basins could be reached. Interestingly, constructional details became visible: the remains of wooden formwork where once the *opus caementicium* was filled in. The structure of the wood is well visible, and the planks had a width of 10–15 cm. The western wall of the *frigidarium* had niches for *labra*. The floor was made of interlaced terra cotta tiles and *opus spicatum*, and along the walls ran a stripe of white mosaic. The adjoining room was a *tepidarium*, which could also be accessed directly from the *palestra*.

Interesting features were discovered within the *caldarium* of the baths. Here, three basins for hot water were located: two in apses facing west and heated by a common, big *praefurnium* and a rectangular one, heated separately. To acquire a maximally large heated space, the architects had devised a single room with a surface of more than 400 m<sup>2</sup>. Such measurements required the use of structural pillars for the roof – not an easy task considering the suspended floor of the *caldarium*. Therefore, square brick pedestals (0,9×0,9 m) were erected on stone foundations among the *suspensura* (Fig. 5). On them, pillars (probably made of bricks) were set. The reconstructed diameter of

these pillars measured slightly above 30 cm, just as the columns in the *palestra*. The *suspensurae* were made solidly of standardised *bessales*. The height of the cellar was c. 1 m. Within the walls of the *tepidarium* and *caldarium*, various *tubulatio* heating systems were used.

In the western wing there seem to have been reception rooms, as deduced from finds of luxury glass vessels, *terra sigillata*, and fine lamps.

A number of clay pipe aqueducts ran up to the *thermae*. One filled the *natatio*, others the basins of the *frigidarium* and *caldarium*. The enormous amount of water<sup>7</sup> required by the *thermae* was disposed of by a complex sewage network (Fig. 6). A total of six channels were found, made of stone and mortar. The sewers ran below the western part of the building, as a result of the general layout as well as terrain properties. After the earthquake, the channels were not fixed, but instead equipped with bypasses to avoid the leaking parts.

During the 2010 campaign, traces of a brief presence of the 8<sup>th</sup> Augustan legion during the 1<sup>st</sup> c. AD were found.<sup>8</sup> Below the western wing, a series of wide but shallow pits filled with pottery sherds and charcoal were unearthed. Also a rare stone construction of this period was found (albeit dismantled) – probably a cistern or a basin, with a bottom laid out with small tiles and mortar.

Among more interesting finds of the campaign there are a number of volute lamps, various small elements of *lorica segmentata* armour, a cheek plate from an iron helm (Fig. 7), as well as *terra sigillata*, and glass vessels.

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<sup>7</sup> I. TSAROV, *Water Supply in the Legionary Camps Oescus, Novae and Durostorum (Moesia Inferior)*, (in:) L. Vagalinski (ed.), *The Lower Danube in Antiquity (the fifth century BC – the beginning*

*of the seventh century AD)*, Tutraikan 2007, 217–226.

<sup>8</sup> See: E. GENČEVA, *Le premier camp militaire à Novae*, “Novensia” 14, 2003, 21–37.

## BADANIA WYKOPALISKOWE W NOVAE (BUŁGARIA) W LATACH 2009–2010

Lata 2009 i 2010 to ostatnie sezony badań łaźni flawijskich obozu legionowego Novae w dzisiejszej Bułgarii, prowadzonych przez Ośrodek Badań nad Antykiem Europy Południowo-Wschodniej. Ustalono funkcje poszczególnych części budowli i zrekonstruowano jej plan (Ryc. 4). Część południową zajmowała *palestra* otoczona z trzech stron portykiem, wyposażona w basen *natatio*, którego dno wyłożono *opus spicatum* (Ryc. 1). W skrzydle wschodnim, biegnącym wzdłuż *via praetoria*, umieszczono szereg niewielkich magazynów. W skrzydle północnym znajdowały się właściwe pomieszczenia łaźiebne. Skrajnie wschodnie wnętrze pełniło funkcję *apodyterium* i *basilica thermarum*. Tutaj także znajdowało się główne wejście do łaźni od strony *via praetoria*. Dalsze pomieszczenia to *sudatorium* i *frigidarium*. Odkryto tutaj dwa baseny na zimną wodę. Najciekawsze rozwiązanie zastosowano w ostatnim z pomieszczeń łaźiebnych, *caldarium*. Znajdowały się tu trzy baseny na gorącą wodę. Aby uzyskać jak największą ogrzewaną przestrzeń, architekci zaplanowali jedno duże wnętrze o powierzchni ponad 400 m<sup>2</sup>. Takie rozwiązanie wymusiło zastosowanie podpór, utrudnione przez system

hypokaustyczny pod całym *caldarium*. Na kamiennym fundamencie znajdującym się poniżej podłogi piwnicy hypokaustycznej, wzniesiono z cegieł kwadratowe postumenty (Ryc. 5). Na nich ustawiono kolumny. W skrzydle zachodnim zlokalizowano prawdopodobnie pomieszczenia recepcyjne. Do łaźni prowadziło szereg wodociągów z rur ceramicznych, które niekiedy nosiły stemple producenta (Ryc. 2). Jedne zaopatrywały basen *natatio*, inne – basenowe *frigidarium* i *caldarium*. Wielkie ilości wody wpływające do łaźni były odprowadzane siecią kanałów (Ryc. 6). Odkryte pozostałości architektoniczne sugerują częściowe zniszczenie łaźni przez trzęsienie ziemi i jej późniejszą odbudowę. Podczas kampanii w 2009 i 2010 roku odsłonięto także kolejne pozostałości po budowlach związanych z pobytem w Novae, od 45 r. n.e., legionu *VIII Augusta*.

W czasie omawianych kampanii odkryto wiele ciekawych zabytków ruchomych, w tym zachowane w całości lampy wolutowe, ołtarzyk gliniany (Ryc. 3), elementy brązowe *lorica segmentata*, napolicznik hełmu (Ryc. 7), a także naczynia *terra sigillata* i szklane.

Fig. 1. Novae 2009. Basin with *opus spicatum* floor (Photo J. Reclaw).

Ryc. 1. Novae 2009. Basen z podłogą wyłożoną *opus spicatum*.

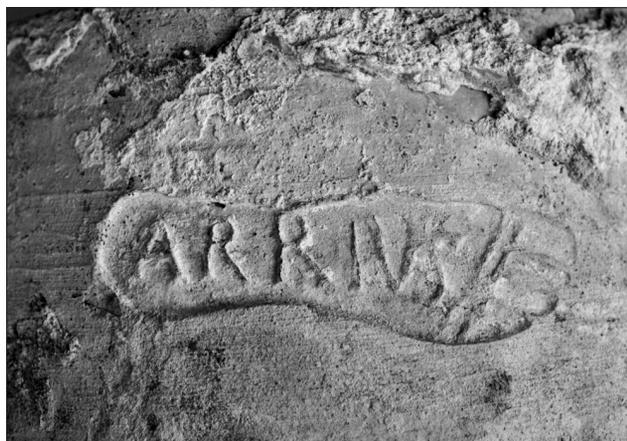
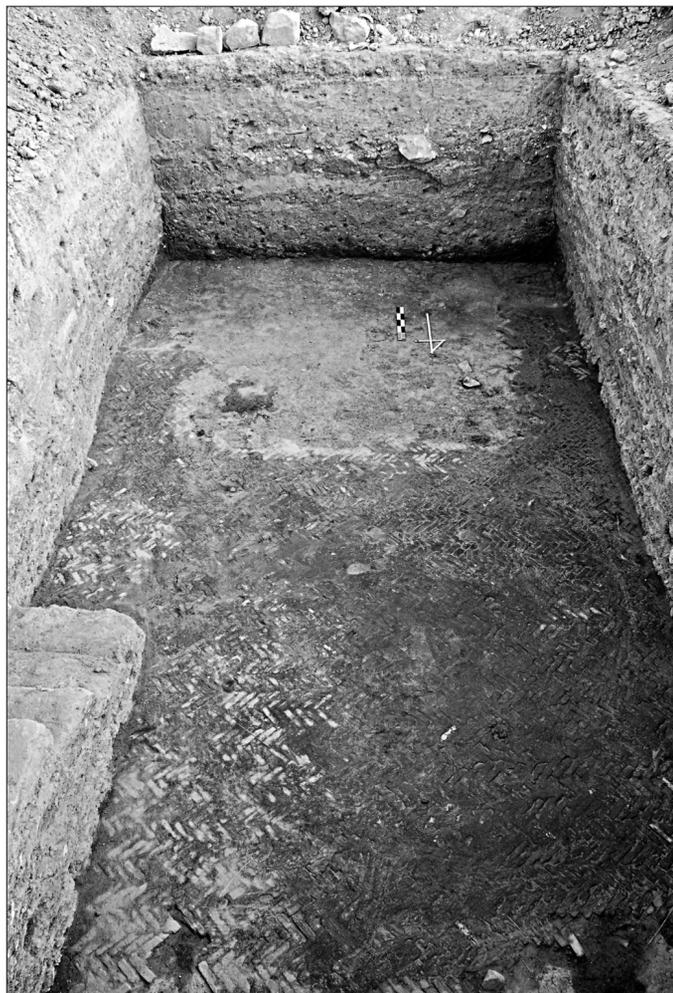


Fig. 2. Novae 2009. Potter's stamp *in planta pedis* on a terra cotta water pipe (Photo M. Bogacki).

Ryc. 2. Novae 2009. Stempel producenta *in planta pedis* na terakotowej rurze.

Fig. 3. Novae 2009. Clay altar (Photo J. Reclaw).

Ryc. 3. Novae 2009. Gliniany ołtarzyk.



PLATE 200

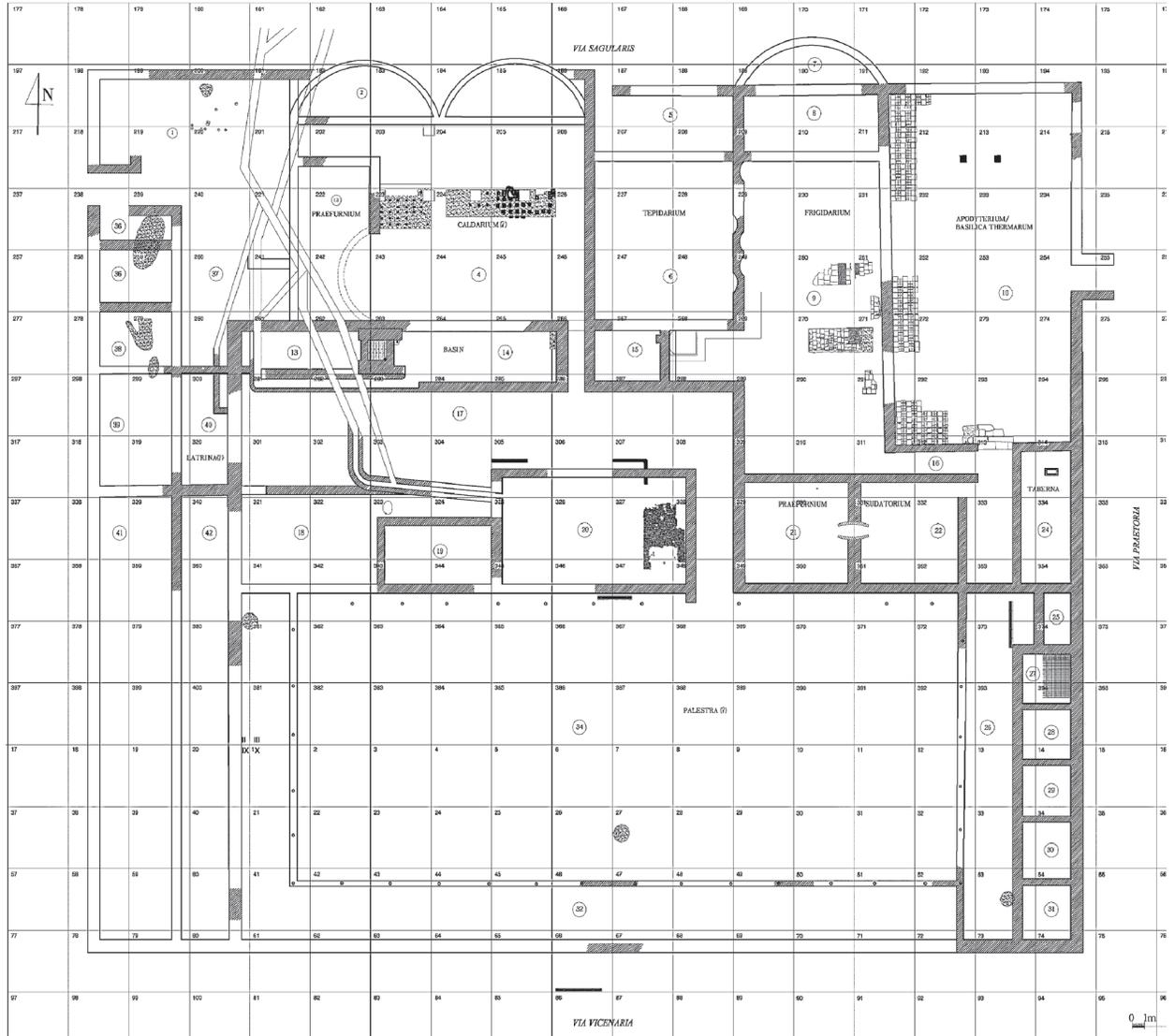


Fig. 4. Flavian baths, overall plan (by T. Słowik).

Ryc. 4. Łaźnie flawijskie, plan ogólny.

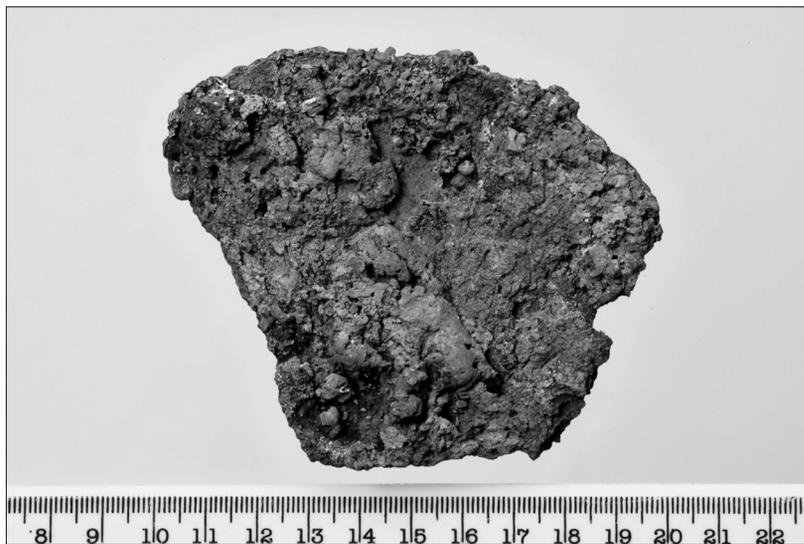


Fig. 7. Novae 2010. Iron helmet cheek plate (Photo J. Reclaw).

Ryc. 7. Novae 2010. Żelazny napolicznik hełmu.

Fig. 5. Novae 2010. Hypocaust with a structural pedestal (Photo J. Reclaw).

Ryc. 5. Novae 2010. Hypocaustum z ceglanym podestem.

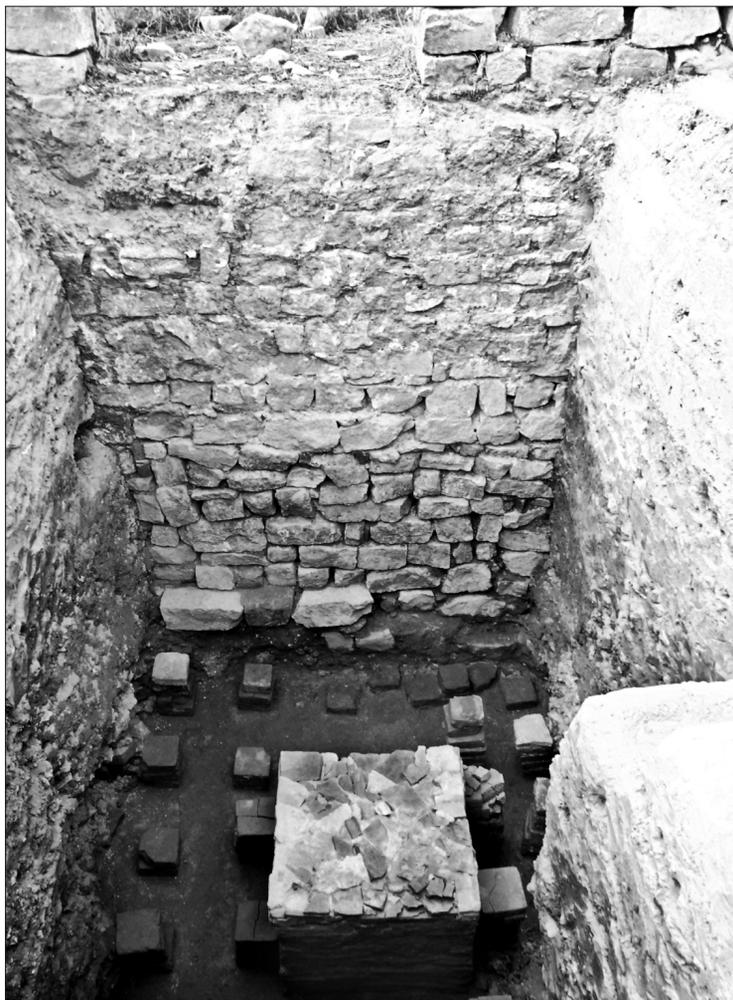


Fig. 6. Novae 2010. Sewage channels (Photo J. Reclaw).

Ryc. 6. Novae 2010. Kanały odpływowe.

