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### PIOTR STRZYŻ\*

## FIREARMS IN MILITARY ACTIVITIES

# IN THE BORDERLAND OF BOHEMIA, SILESIA AND LESSER POLAND

# IN THE TIMES OF MATTHIAS CORVINUS

Abstract: Matthias Corvinus, the Hungarian ruler who was also called the "Warrior King", was carrying out very intensive policy in Central Europe. Having come to the throne of Hungary in 1458, he soon also seized Moravia, Silesia and Vienna. His wars for the throne in Prague, waged first against George of Poděbrady (1468-1471) and then against Casimir the Jagiellonian (1471-1474), led to devastating raids of Hungarian troops on, among others, Opavian Silesia and Lesser Poland. In retaliation, in the end of 1474 Jagiellonian troops invaded Silesia and for a short period of time besieged Wrocław. Furthermore, in Spring 1488 a conflict over the Duchy of Głogów broke out, which ended in a long siege of this town. An important role in the modern army of Matthias Corvinus was played by firearms. These are often mentioned by written sources from this period and numerous material traces of their use are revealed by archaeological examinations at sites which were affected by invasions.

Keywords: Matthias Corvinus, Lesser Poland, Bohemian Silesia, Głogów, Muszyna, firearms

The Hungarian Winter attack on Subcarpathia was a response to Polish military activities in Slovakia in the years 1472-1473. On 10-11 January 1474 6000 soldiers under the command of Tamás Tarczay of Lipany crossed the southern border of the Kingdom of Poland (Fig. 1). One detachment attacked the road from Bardejov via Zborov. It passed unnoticed through the Beskid Pass to Ożenna, and then, marching through the forest of the Beskidy Mountains. Already on 13 January both the town and the castle were captured. In the course of the following days a considerable part of the present-day Podkarpackie Voivodeship was devastated and such centres as Dukla and on 16 January Jasło were destroyed. Krosno was also besieged, but the attackers were forced back from the walls by fire of hand-held firearms. The Hungarians marched from Jasło to the north, reaching Pilzno. It was taken on 1 February, with numerous robberies having been done<sup>1</sup>. At the same time, another smaller detachment attacked Muszyna from Bardejov. In Muszyna, there existed a masonry castle of the bishops of Kraków. It was a rectangular premise with the dimensions of about 59x29 m, with an angular tower on the eastern side<sup>2</sup>. In the course of the first day of hostilities the castle tower was pulled down, and already on the second day the garrison surrendered<sup>3</sup>.

According to the peace made in 1474, Matthias Corvi-

nus pledged himself to return the castle in Muszyna and he was to support its reconstruction. Numerous militaria were found in the course of archaeological works carried at the castle. These can possibly be related to the afore-mentioned events. Many militaria were found in rubble layers in the foreground of the castle. Among the finds related to fire-arms, which are of interest for us here, there were three fragments of projectiles cut of sandstone, with their diameters being c. 13 cm, and iron ball with the diameter of 4,8 cm and iron bullets with their diameters being 2.1 cm (Fig. 2). The stone projectiles come from the foreground of the tower and in their vicinity, the iron projectile was deposited. Ammunition for hand-held firearms was found both in the interior of the castle, and in its external part<sup>4</sup>.

Kajzer et al. 2001, 314; Chudzińska 2009, 17; Chudzińska 2014, 53-54; Ginter and Przybyłok 2016, 227-228.

<sup>&</sup>lt;sup>3</sup> Baczkowski 1978, 132.

<sup>&</sup>lt;sup>4</sup> Chudzińska 2011, 205, 207, Fig. 3; Chudzińska 2014, 79-81, Fig. 7, 18; Strzyż 2011, 28, 101, Fig. VII: 2-6; Ginter and Przybyłok 2016, 230, Fig. 4:6.

<sup>\*</sup> Institute of Archaeology and Ethnology Polish Academy of Sciences, Łódź, piotr strzyz@wp.pl

Baczkowski 1978, 130-132; Plewczyński 2005, 71-72.

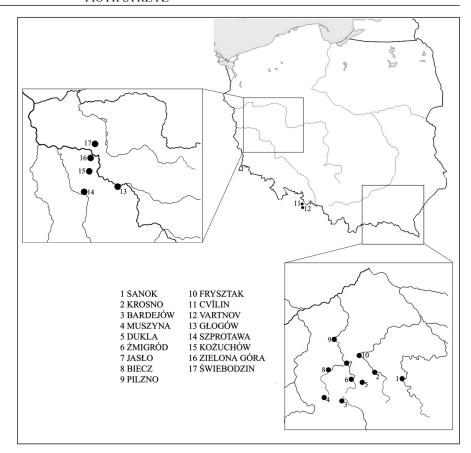


Fig. 1. Map with sites besieged by Hungarian troops in the years 1474-1488. P. Strzyż.



Fig. 2. Muszyna Castle: 1 – iron projectiles; 2 – iron ball. Photo P. Strzyż.

The sandstone projectiles with the diameters of 13 cm can be considered as ammunition coming from the artillery which was bombarding the castle. The iron projectile testifies to the use of terrace-guns (rather lighter types) in these activities.

Among remains of firearms one should mention five fragments of burst barrels of hackbuts, which deserve a thorough description (Fig. 3). The first one is an iron fragment with a calibre c. 3.0 cm (Fig. 3:1). The other find comes from a bronze cast barrel, whose calibre was c. 2.1 cm (Fig. 3:2). These fragments were found outside castle buildings. The newest research provided another two fragments of copper alloy barrels, which were polygonal in cross-sections, as well as a small hook, which was broken off (Fig. 3:3-5). These remains come from barrels of smaller calibres, which launched projectiles with calibres

of 2.1 and 1.5 cm respectively<sup>5</sup>. These finds come from the inside of the castle. Therefore, in this case we have an opportunity for a broad insight into the kinds of firearms which were used for the siege and for the defence. Concerning hand-held firearms, both the projectiles which were documented and the five fragments of hackbuts confirm the use of medium and heavy types of hackbuts, with the calibre of 2.1-3.0 cm. Regrettably, we are unable to define which specimens that were found belonged to the defenders and which ones – to the troops attacking the castle.

<sup>&</sup>lt;sup>5</sup> Chudzińska 2011, 205, Fig. 2; Chudzińska 2014, 77-79, Fig. 17; Strzyż 2011, 28, 101, Fig. VII: 2-6; Strzyż 2014, cat. Nos. 114-118, Fig. LXXI: 1-5; Ginter and Przybyłok 2016, 229-230, Fig. 4: 1, 4-5.



Fig. 3. Muszyna Castle: 1 - fragment of an iron barrel; 2-5 - fragments of bronze barrels. Photo P. Strzyż (1-2), A. Ginter (3-5).

The next stage of hostilities is the attack of Hungarian troops on Moravia and Silesia in Summer 1474 (Fig. 1). Instead of a planned expedition against the Turks, Matthias Corvinus decided to deal with his opponents in Moravia and Silesia. Firstly, in July 1474 Hungarian detachments marched to Uherské Hradiště. However, the siege of the town brought no success. In early August Matthias

Corvinus moved his forces to Olomouc and proceeded farther with his army to Bohemian Silesia. Within a month Matthias' troops captured several castles and burned a number of villages. The seized castles were, i.a., Bruntál, Cvilín, Dívčí Hrad near Krnov, Fulštejn, Fürstenwalde, Kylešovice, Medlice, Město Albrechtice, Vortnov and Vikštejn. Archaeological examinations of Cvilín and



Fig. 4. Cvilín Castle. Remains of an iron barrel. Photo P. Strzyż.



Fig. 5. Cvilín and Vortnov Castles. 1-2 – iron balls from Cvilín; 3 – iron ball from Vortnov. Photo P. Strzyż.

Vortnov provided numerous remains of firearms and ammunition related to these events<sup>6</sup>.

The garrison of the castle of Cvilín was commanded by Voivode Jan Krnovský the Elder. The most interesting find is a muzzle part of an iron hackbut, which was torn apart by an explosion (Fig. 4). The fragment of the barrel has an octagonal cross-section, and the muzzle was reinforced with an octagonal ring. The hook is located near the muzzle. The length of the surviving fragment is 17.8 cm and its calibre is 2.8 cm. The weight of the preserved part of the weapon is about 2 kg. An iron spherical projectile with a calibre of 2.7 cm may be related to this hackbut<sup>7</sup>. On the other hand, two spherical projectiles with calibres of 4.3 and 5.5 cm were rather meant for light artillery (Fig. 5:1-2). The former was forged from iron, while the other was cast from iron, which is clearly demonstrated by a notable parting line. Their weight is 0.32 and 0.56 kg respectively8. They were perhaps meant for terrace-gun type cannons. The castle of Cvilín also yielded an assemblage of 17 stone cannonballs of larger calibres, which oscillate between 11.5 and 20 cm (11.5; 11.6; 11.8; 12.0; 12.3; 12.5; 13.0; 13.2; 13.5; 14.0; 14.5; 17.2; 20.0 cm) (Fig. 6:1-3).

The weight of these cannonballs is between c. 1 and c. 4.6 kg. These projectiles were made from various kinds of local sandstone, mainly those from the vicinity of Razov near Bruntál. This area was seized in the initial stage of the Hungarian campaign, which is why one can suppose that readily available local raw material was used for the manufacture of ammunition in the further course of hostilities<sup>9</sup>.

The castle of Vortnov also yielded numerous finds evidencing the use of firearms in 1474. One of more interesting ones is a fragment of a barrel of a hand-held gun, cast from copper alloy. Its cross-section is octagonal, and the surviving fragment is 6 cm long. Its calibre is about 2.0-2.2 cm<sup>10</sup> (Fig. 7:1).

Ammunition, i.e., two lead cylinders with a calibre of 3.1 cm, can also be ranked to very interesting discoveries (Fig. 7:2-3). Their weight is 211 and 237 g respectively<sup>11</sup>. Cylinder-shaped projectiles are especially widespread in the territory of Bohemia. These are both artefacts made from lead only, as well as those with iron cores sunk in lead. It is believed that the earliest Bohemian missiles of this kind are finds from the castle of Tepenec near

<sup>&</sup>lt;sup>6</sup> Turek and Jisl 1953, 8-23, Fig. 4; Kalous 2009, 150-151.

<sup>&</sup>lt;sup>7</sup> Turek and Jisl 1953, 22, Fig. 11; Strzyż 2014, cat. No. 74, Fig. LXII: 4-5.

<sup>8</sup> Turek and Jisl 1953, 20; Strzyż 2014, cat. Nos. 130, 144, Fig. CVIII:1,2.

 $<sup>^9</sup>$  Turek and Jisl 1953, 22; Strzyż 2014, 128, cat. Nos. 126-129, 131-143, Fig. CXIV:11-14.

Turek and Jisl 1953, 16-17, Fig. 10; Kouřil et. al. 2000, 366, Fig. 265:1; Strzyż 2014, cat. No 91, Fig. LXXII:6.

<sup>&</sup>lt;sup>11</sup> Turek and Jisl 1953, 16, Fig. 5; Kouřil et al. 2000, 366, 261: 1, 3; Strzyż 2014, cat. Nos. 282-283, Fig. CIV: 7-8.

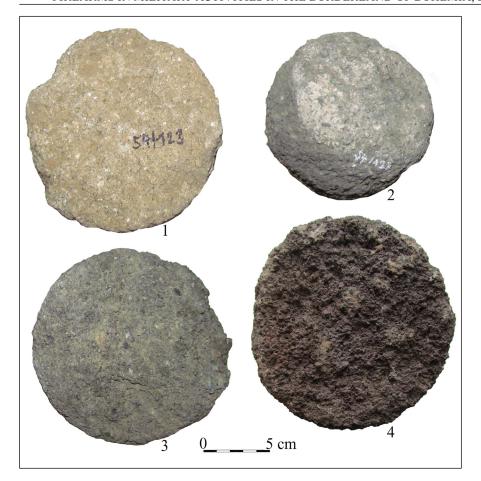


Fig. 6. Cvilín and Vortnov Castles. 1-3 – stone balls from Cvilín; 4 – stone ball from Vartnov. Photo P. Strzyż.

Olomouc. Their calibres reach 3.5 cm and their weight is up to 0.25 kg. They are dated to as early as the 14<sup>th</sup>/15<sup>th</sup> c.<sup>12</sup> Other finds of this kind are dated to the time of Hussite wars (1419-1436), such as those from Dolany, Lopata, Nový Hrad near Kunratice, Rokštejn, Rýmařov or Sión. The afore-mentioned finds from the castle of Vortnov demonstrate that such projectiles were still in use in the late 15<sup>th</sup> c. The original function of cylinders with calibres between 2.5 and 3.5 cm and with the weight reaching 0.25 kg is not obvious. They may have been used not only for siege hackbuts, but also for light cannons, such as terrace-guns<sup>13</sup>.

Artillery ammunition is represented by two cannon-balls, made – as in the case of the finds from Cvilín – from Razov sandstone. Their diameters are about 15.5 and 11.4 cm respectively, which means that they were meant for light artillery – field cannons<sup>14</sup> (Fig. 6:4). On the other hand, one spherical projectile with calibre of 6.7 cm and its weight is 1.2 kg were perhaps meant for terrace-gun type cannons<sup>15</sup> (Fig. 5:3).

Remains of firearms from the incursions on Subcarpathia and Bohemian Silesia demonstrate that while besieging smaller fortresses, Hungarian troops used light artillery of high mobility and rate of fire more eagerly than heavy but not very efficient bombards. Of course, an important role was also played by hand-held firearms, with special reference to hackbuts.

Due to the end of the conflict for the Bohemian throne in 1474, and then to the involvement of Matthias Corvinus into the conquest of Austria in the years 1477-1486, it was only at the end of the 1480s that Matthias Corvinus was able to deal with the affairs of the Duchy of Głogów (Fig. 1). Its ruler, Duke Jan II of Żagań, intended to pass it to his sons-in-law (sons of Duke of Ziebice and Oława). These intentions caused the attack of Matthias Corvinus, who previously helped Jan II seize the Duchy of Głogów and received a liege homage from these territories. The hostilities commenced on 9 May 1488. The siege of Głogów is the main episode of the last military enterprise of Matthias Corvinus. The hostilities were carried out by Hungarian troops under the command of Wilhelm von Tettau. This army, about 4000 strong, commenced preparations for the siege of the town on 19 May 1488. Głogów was well prepared for defence. It was well equipped with firearms, as a register from 1479 informs that the garrison had 25 hackbuts and 19 large cannons, including a new large gun cast from red brass, as well as a number of older "steynbuchsen". It was only part of the town's artillery,

<sup>&</sup>lt;sup>12</sup> Vránova and Vrána 2008, 459, Fig. 2, 3; Strzyż 2014, 116, cat. Nos. 363-370, Fig. CV: 1-2, CVI:1-4.

<sup>&</sup>lt;sup>13</sup> Strzyż 2014, 116-117.

Turek and Jisl 1953, 16; Strzyż 2014, 128, cat. Nos. 1015, Fig. CXIV:10.

Turek and Jisl 1953, 16; Strzyż 2014, 132, cat. Nos. 1016, Fig. CVIII:3.

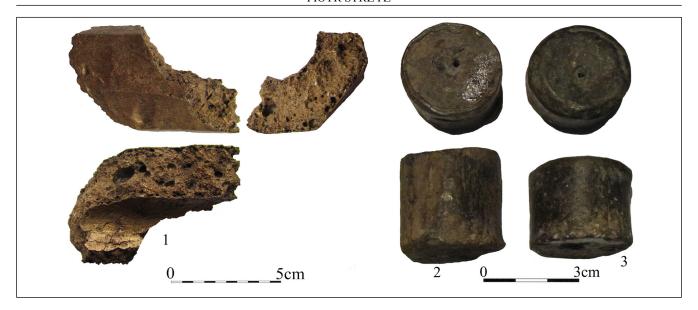


Fig. 7. Vortnov Castle. 1- fragment of a bronze barrel; 2-3 - lead projectiles. Photo P. Strzyż

and it was supplemented with own resources of the duke and of mercenary troops sent to the town<sup>16</sup>.

Initially, the hostilities focused on closing the siege line on the side of the River Odra. Burghers defended against these actions by firing at the attackers with firearms deployed in Tum Island and the bridge bastille of St George. It was only after the besieging troops had received reinforcements that it became possible to close the ring of siege in August. The ring consisted of two rows of palisade and two moats, as well as seven earth bastilles. As the fight lingered on, Matthias Corvinus was forced to send letters with requests for supplies. These letters often concerned mainly siege artillery. The king was especially interested in large bombards from Wrocław<sup>17</sup> and Świdnica<sup>18</sup>. These requests were repeated on 27 June, and Wrocław was asked to provide two cannons<sup>19</sup>.

and it was manufactured in Nürnberg in 1467. Its cannonball was believed to weigh 3 Zentners and 20 pounds, that

The large gun of the burghers from Świdnica was called Swine or Sow (Sau). It weighted about 6.5 or 8 tons is, approximately 160 kg. It was first used at Bolków in 1468, and the last data on its existence comes from as late as 1635. It was sporadically used in combat, due to the enormous weight of the cannon which caused difficulties with transportation<sup>20</sup>.

The Wrocław bombard arrived in the end of August on a wagon drawn by 24 horses, while the Świdnica one - drawn by 32 horses - arrived as late as 8 September. The number of horses used to transport these cannons allows for an assumption that the Świdnica cannon was 25% larger than the Wrocław one. Anyway, the Legnica bombard of Duke Fryderyk was believed to be the largest one. The huge cannons started the bombardment of the town walls on 15 September and continued to fire for two weeks. The Szprotawa (Brzostów) Gate was bombarded, and projectiles were believed to have destroyed the gate itself, two nearby towers and the wall between them<sup>21</sup>.

However, soon thereafter a detachment of defenders destroyed gabions which protected the cannons. Fearing that they may be lost, the attackers removed the cannons from their hitherto position and transferred them to Ostrów Tumski. The bombardment from this new position was renewed only after two weeks, and the fire was directed on

<sup>&</sup>lt;sup>16</sup> Goliński 1989, 46-47; Goliński 1995, 55; Strzyż 2014, 206.

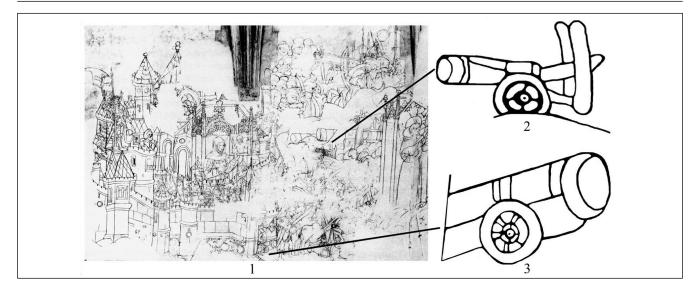
Politische Correspondenz 1894, 145, No. 491: "Da sein vor Grossglogau liegendes Heer nunmehr, nach Eroberung des dortigen Domes, die Stadt besser als bisher beschiessen könne, möchte ihm die Breslauer die Büchse mit Pulver und Steinen, welche sie früher zugesagt hätten, leihen. Ausserdem möchten sie aber noch eine Büchse, die grösste, die sie hätten, stellen und mit Steinen versehen. Die Pulver für diese werde er selbst lietern".

Politische Correspondenz 1894, 152, No. 500: "Och schicket zuhant keyn der Sweydnitz, das sy dy grosse bochse fertig haben mit allir zugehorunge, mit schermen wnd mit steynem, pulvir zymmirlewthen wnd was derczu gehorth (...)".

<sup>&</sup>lt;sup>19</sup> Politische Correspondenz 1894, 157, No. 508: "Schliesslisch ermahnt er sie, den Tettauer bei der Belagerung Glogau's mit ihrem Geschütz, besonders mit den zwei Büchsen, zu unterstützen. Jeder an den Geschützen entstehende Schaden werde ersetzt werden"; Goliński 1995, 56.

<sup>&</sup>lt;sup>20</sup> Goliński 1990, 14-15; Goliński 1995, 54.

<sup>&</sup>lt;sup>21</sup> Goerlizter Rathsannalen 1841, 58: "Es hat auch der gemelte konigliche houbtmann der Bressler, Sweydnitzer, vnd Lignitzer grosse Buchssen, nach schaffunge komtat gefordert vnnd vor Glogaw furen lassen, dorawss denn vil schosse geschehn seint, also das das Brostische thor mitsampt dem thorme doselbst vnnd tzwee weigheuser auch dy Stadmawer dortzwischen gar sint zuschossen vnnd nydergeleget"; Marcus Kyntsch 1850, 15: "Ich solte geschrieben haben, in welcher Nacht und Stunde, so sie die Körbe, Littern und Schrimmen an das Sprottische Thor getrieben hätten, unter demselben lagen Schweidnitzer und Bressler Büchsen, mit disen ward die Stadtmauer sehr zuschossen"; Kaspar Borgeni 2013, 134, 135; Goliński 1995, 56.



Ryc. 8. 1 – painting from the Immaculate Conception Dominican Church in Olomouc, c. 1468. After Kalous 2009, 38; 2 – light field cannon (houfnice), afterdrawing; 3 – bombard, afterdrawing. Drawing P. Strzyż.

St George's Chapel. According to an eyewitness to these events, 120 large cannonballs fell on this building during one single day, excluding projectiles from smaller ordnances (field cannons) and hand-held firearms. The Świdnica bombard was believed to have fired 17 rounds, while the Legnica one – 14, until it was destroyed by an explosion. A medium-sized cannon from Wrocław met a similar fate on that day<sup>22</sup>. It is possible that a missile with a calibre of c. 50 cm which is stored in the courtyard of the castle in Głogów is related to these events. Regrettably, we do not known from which of the guns which were in use this projectile can possibly come. Anyway, the bombardment was not very efficient, as an attack which was launched shortly thereafter brought no results. Further military activities were limited to a blockade of the fortress and to harassing gunfire. The town surrendered only on 16 November, but Jerzy Podiebradowic, the son-in-law of Duke Jan II, had managed to leave Głogów before that. This fact demonstrates that the ring of the siege was not too tight<sup>23</sup>. Other centres of the Duchy of Głogów: Szprotawa, Korzuchów, Zielona Góra and Świebodzin were captured with no major difficulties and in a short time<sup>24</sup>.

Apart from the possible cannonball from Głogów, no material traces of the use of siege artillery remained from these activities. However, we can conclude on the course of the siege on the basis of a painting from the Immaculate Conception Dominican church in Olomouc. It depicts the siege of Belgrade by the Turks in 1456, but it was painted in the late 1460s. Among various kinds of troops attacking the city, artillery is depicted in some spots (Fig. 8:1). These are both light ordnances, such as field cannons (Fig. 8:2), but first of all heavy bombards, that is, battering cannons (Fig. 8:3). These cannons are provided with schematically depicted massive barrels with broad muzzles. In most cases only the muzzles can be seen; however, one cannon, located near the city wall, is provided with a quite accurately depicted carriage with spoked wheels (Fig. 8:2-3). Another important source which demonstrates the appearance of heavy siege artillery of those days is a depiction of a cannon called Elephant (stark Helfandt). It was used in expeditions of Matthias Corvinus against Vienna and remained for good in the Vienna arsenal<sup>25</sup>.

The course of the hostilities at Głogów demonstrates that while besieging larger centres, in the late 15th c. it was difficult to achieve measurable success even with the use of the heaviest artillery. In this case, in spite of the fact that part of the fortifications was demolished (in the vicinity of the Szprotawa Gate), it was not possible to carry out a successful assault. The surrender of the town and the castle was mainly caused by fatigue of the garrison, hunger and the lack of prospects for relief rather than by actual destruction of the fortifications.

Marcus Kyntsch 1850: "Da die Hungern hin stürmen giengen, geschahe es, dass diesen Tag aus den Büchsen geschahen viel mancherley Schüssen, als zwantzig und hundert Schoss aus dem grossen, ohn alle kleine Büchsen, als Haufenetzigen und Handbüchsen aus der Schweidnitschen einen Tag XVII. Schoss, aus Hertzog Friedrich von Liegnitz vierzehn Schoss, diese zusprang densleben Tag"; see also Goerlizter Rathsannalen 1841, 58: "Vor sand Jorgenkirchen vffm thum dy hertzoge hans vorgraben vnnd zu einer pastey gemacht hat, sint zusprenget wurden, dy lignitsche grosse buchsse, dergleiche jn der Slezie nicht gewest ist, vnnd der Bresler mittelbuchssen eine, jdach hat man dieselbige pastey mit storme nich gewynnen mugen"; Kaspar Borgeni 2013, 137.

<sup>&</sup>lt;sup>23</sup> Goliński 1995, 56-57.

<sup>&</sup>lt;sup>24</sup> Techmańska 2014, 89-90.

<sup>&</sup>lt;sup>25</sup> Strzyż 2014, 108, Fig. 17.

#### Sources

Goerlizter Rathsannalen 1841 – *Goerlizter Rathsannalen*, vol. I, ed. J. L. Haupt, Scriptores Rerum Lusaticarum, Neue Folge, Bd. 2, Goerlitz 1841.

Kaspar Borgeni 2013 – Kaspar Borgeni Rocznik głogowski do roku 1493 (Annales Glogovienses bis z. J. 1493), ed. W. Mrozowicz, Głogów 2013.

Marcus Kyntsch 1850 – Marcus Kyntsch von Zobten, *Herzog Hans der Grausame von Sagan im Jahre 1488*, ed. G. A. Stenzel, Scriptores Rerum Silesiacarum, Bd. 4, Breslau 1850.

Politische Correspondenz 1894 – Politische Correspondenz Breslaus im Zeitalter des Königs Matthias Corvinus, zweite Abtheilung: 1479-1490, Scriptores Rerum Silesiacarum, Bd. 14, eds. B. Kronthal, H. Wendt, Breslau 1894.

### **Bibliography**

Baczkowski K. 1978. *Najazd węgierski na Podkarpacie w 1474 roku*. "Rocznik Województwa Rzeszowskiego" 9, 125-134. Chudzińska B. 2009. *Badania archeologiczne na zamku w Muszynie w roku 2008*. "Almanach Muszyny", 17-29.

Chudzińska B. 2014. *Militaria z zamku w Muszynie (badania w latach 2007-2010)*. "Acta Militaria Mediaevalia" 10, 53-118.

Ginter A., Przybyłok A. 2016. Wybrane militaria z badań archeologicznych zamku w Muszynie w 2013 roku. "Acta Militaria Mediaevalia" 12, pp. 227-242.

Goliński M. 1990. 1990A. *Uzbrojenie mieszczańskie na Śląsku od poł. XIV do końca XV w.* "Studia i Materiały do Historii Wojskowości" 33, 3-65.

Goliński M. 1995. Działania wojenne a modernizacja systemów obronnych na Śląsku w drugiej połowie XV wieku. "Kwartalnik Architektury i Urbanistyki" 40 (1), 51-58.

Kajzer L., Kołodziejski S., Salm J. 2001. Leksykon zamków w Polsce. Warszawa.

Kalous A. 2009. Matyáš Korvín (1443-1490). Uherský a Český král. České Budějovice.

Kouřil P., Prix D., Wihoda M. 2000. Hrady Českého Slezska. Brno, Opava.

Plewczyński M. 2005. Wojny Jagiellonów z wschodnimi i południowymi sąsiadami Królestwa Polskiego w XV wieku. Siedlce.

Strzyż P. 2011. Średniowieczna broń palna w Polsce. Studium archeologiczne. Łódź.

Strzyż P. 2014. Broń palna w Europie Środkowej w XIV-XV w. Łódź.

Techmańska B. 2014. Jan II Żagański niespokojny książę sojusznik króla husyty (16 VI 1435 – 22 IX 1504). Kraków.

Turek A., Jisl L. 1953. Ostravsko za česko-uherské války ve svěle písemných pramenů i archeologických nálezů. "Časopis Slezského Musea v Opavě, serie B – Historia" 3 (1), 1-24.

Vránova V., Vrána J. 2008. Olověné projektily z hradu Tepence. "Castellologica Bohemica" 11, 457-460.

## Streszczenie

# Broń palna w działaniach zbrojnych na pograniczu Czech, Śląska i Małopolski w czasach Macieja Korwina

Węgierski władca Maciej Korwin prowadził agresywną politykę w Europie Środkowej. Obejmując w 1458 r. tron Węgier w czasie trzech dekad opanował Morawy, Śląsk oraz Austrię. Wojny toczone przez niego najpierw z Jerzym z Podiebradu (1468-1471), a następnie z Władysławem Jagiellończykiem o tron w Pradze (1471-1474) doprowadziły do niszczących najazdów wojsk węgierskich m. in. na Śląsk Opawski oraz Małopolskę. Z kolei wiosną 1488 r. rozgorzał konflikt o Księstwo Głogowskie, zakończony długotrwałym oblężeniem samego miasta. Ważną rolę w nowoczesnej armii Macieja Korwina odgrywała broń palna, o której często wspominają źródła pisane z epoki, i której materialne ślady użytkowania ujawniają badania archeologiczne obiektów dotkniętych działaniami wojennymi.

W przypadku zamku w Muszynie prace archeologiczne dostarczyły pięciu fragmentów luf ręcznej broni palnej o kalibrze od około 1,5 cm do 3 cm, w tym zarówno pochodzące z luf wykutych z żelaza, jak i odlanych ze stopu miedzi. Zastosowanie artylerii dowodzą znaleziska kul: żelaznej, kalibru 4,8 cm oraz dwóch piaskowcowych, średnicy około 13 cm. Zbliżony asortyment odkryć związanych z bronią ogniową pochodzi z zamków Cvilín i Vortnov na Śląsku Opawskim. Z tego pierwszego obiektu znamy wylotową część lufy hakownicy żelaznej, dwa żelazne pociski artyleryjskie oraz kilkanaście dalszych okazów wykonanych z miejscowego piaskowca razovskiego. Podobnie, w ruinach zamku Vortnov odkryto niewielki fragment brązowej lufy broni ręcznej, kulę żelazną oraz nieco większe pociski z piaskowca razovskiego.

# FIREARMS IN MILITARY ACTIVITIES IN THE BORDERLAND OF BOHEMIA, SILESIA AND LESSER POLAND

Wymienione militaria dowodzą, że przy oblężeniach mniejszych fortyfikacji stawiano raczej na ostrzał z broni ręcznej oraz lekkiej artylerii. Natomiast odmienny charakter miały działania pod Głogowem w 1488 r. Przy oblężeniu tego miasta starano się wykorzystać przede wszystkim niszczącą siłę najcięższych bombard, które sprowadzono na rozkaz Macieja Korwina z Legnicy, Świdnicy oraz Wrocławia. Jednak zastosowanie nawet tak potężnej artylerii nie przyspieszyło kapitulacji ośrodka, który poddał się dopiero po dwumiesięcznym oblężeniu z powodu głodu i wycieńczenia załogi, a nie poczynionych zniszczeń.