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## PROJECTILE HEAD FINDS FROM ZÍTKOV CASTLE NEAR CHOCEŇ

Abstract:

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Metal detector survey of Zítkov Castle yielded about two hundred projectile heads, which attest that the castle was besieged approximately at the turn of the 14<sup>th</sup> and 15<sup>th</sup> centuries. For about two thirds of all these projectiles it was also possible to document the position in which a given artefact was found; in most cases it was perpendicular to the course of contour lines of the slope. A question remains whether this alignment follows the original shooting direction, or is a result of post-depositional processes. The analysis of finds from Zítkov rather indicates the former possibility, but it will be necessary to verify this at other sites.

Key words: High Middle Ages, Choceň, Zítkov castle conquest, arrowheads

### Introduction

The archaeology of battles, or a broadly conceived archaeology of conflicts has been a longomitted topic in archaeology, for various reasons (McNutt 2014, 1-2). East-Central European scholars have played an important role in the history of research into medieval battlefields since the 1950s, in which the use of modern technology, such as metal-detectors, has been an important part. Such research was initially undertaken by government directives on the occasion of significant anniversaries of important battles (Homann 2013, 206). Battlefields, in their narrow sense, however, represent only a proportion of the sites where military clashes took place. Other sites of military engagement include those connected with siege warfare (Carman, Carman 2006, 13-15).

Political needs also played their role in research into besieged High Medieval fortified sites, as exemplified by Sión Castle in the neighbourhood of Kutná Hora, in former Czechoslovakia (Janská 1961; 1963; 1965). Unfortunately in Czech Republic, the siege of High Medieval fortified sites is not yet one of the really popular research subjects (e.g. Fröhlich 1991; Měřínský, Plaček 1991; Meduna 1994; Frolík 2002). However, in recent times this has slowly begun to change, particularly with regard

to the examination of siege positions (Novobilský 2008; Mazáčková 2011; Koscelník, Kypta, Savková 2013; Kypta, Podliska 2014).

Excellent opportunities of providing an insight into medieval warfare are offered by the employment of metal detectors, and the recording of positions of individual finds. There is no doubt that among sites with considerable potential is Zítkov Castle in the Cadastral district of Choceň (Ústí nad Orlicí distr., Pardubice Region).

### Choceň in the High Middle Ages

Research into the High Medieval fortifications in the outskirts of Choceň, however, is particularly difficult due to the discrepancy between the various sources. It is only recently, with the aid of archaeological research, that knowledge is being gained of individual localities. This is also confirmed by the detector survey of Zítkov Castle.

The first, although very unclear, mention of the castle in Choceň is related to the end of the 13<sup>th</sup> century. From a letter by Burkhard Archbishop of Magdeburg, to Herman, a chaplain to King Wenceslas II we learn that the king intended to build a castle in Choceň (Loserth 1896, 77-78, No. 87). This was to be done after he had ceded this territory, together with other villages in the surroundings and other landed property, to the

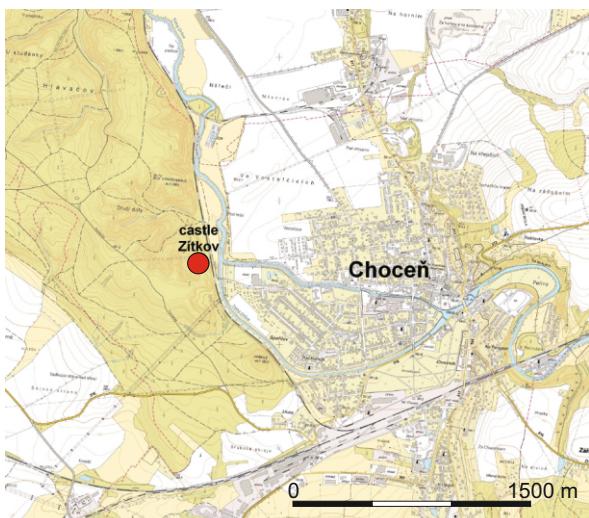


Fig. 1. Choceň. Location of Zítkov Castle.

Ryc. 1. Choceň. Lokalizacja zamku Zítkov.

newly founded monastery at Zbraslav in 1292 (RBM IV, 745, No. 1888). It is unknown whether Wenceslas II implemented his plan or not.

The existence of a castle is actually indicated by a letter from Nicholas of Potštejn to a barber in the township of Kostelec (1330). In this letter he mentions Hynek of Choceň ('Hinczici miles de Choczna') who is considered burgrave at the castle of Nicholas of Potštejn, the then holder of Choceň (Sedláček 1883, 248; Musil 1995, 36). Shortly thereafter, the castle at Choceň was also mentioned by Charles IV. In his biography the 'Vita Caroli' Charles states with regard to the year 1338: *In that summer I arrived at Vysoké Mýto and ruined the Choceň Castle and many castles of the Lord of Potštejn, because at that time I made war upon this lord (...)*<sup>1</sup> (Bláhová et al 1987, 38). In the course of the 14<sup>th</sup> century the town of Choceň was divided: one half went to the Lichtenburg family who held the Litice demesne, while the other half was property of the Lords of Potštejn who held Žampach Castle. While the Žampach part of Choceň was not associated with any castle or fortified house, Ješek Pykna of Lichtenburg is mentioned in 1388 as the Lord at Nový Hrad ('New Castle'). A fortified house is mentioned in Choceň under Sigismund Pykna of Lichtenburg at the beginning of the 15<sup>th</sup> century. The last mention comes from 1417, already under the Lords of Častolovice. In 1433, in the course of a dispute over bequests of the childless Sigismund Pykna of Lichtenburg,

Choceň was plundered by Jan Kolda of Žampach, Nicholas Trčka of Lípa and others (Sedláček 1883, 249-251; Musil 1995, 36). On the basis of these reports, the castle which is now referred to as Zítkov can be identified with Nový Hrad which was mentioned in 1388 (Musil 1995, 36; Durdík 2000, 211, 629). Our present knowledge shows that Zítkov Castle existed in the second half of the 14<sup>th</sup> century and survived possibly until the early 15<sup>th</sup> century.

### Zítkov Castle

At a distance of 1650 m to the west of the centre of Choceň, on a hill above the river Tichá Orlice in a height of about 330 m ASL there is a castle which is currently named Zítkov after modern land owners (Fig. 1). Part of the hill was destroyed during the construction of the Choceň – Hradec Králové railway line (around 1875). Fortunately, this does not concern the castle and its immediate neighbourhood.

The inner bailey is situated on a hill sloping down on the western side to a nameless small watercourse, with two platforms carved into the slope. The northern slope is protected by a rampart and a moat, while in the south the terrain slopes down to the river Tichá Orlice. On the southern side, the inner ward is separated from the outer bailey by a moat. The more or less flat inner bailey is divided by two terrain depressions, which are remnants of basements of two buildings. This layout was widely used in the late 14<sup>th</sup> century (Durdík 2000, 629). Archaeological finds also allow us to date the castle to the late 14<sup>th</sup> century or to the early part of the following century.

The outer bailey is also flat, and only the western part is more rugged. The outer bailey is separated from the foreground by another moat with a distinct elevation which has been regarded as a remnant of a tower defending the access to the castle. These features are usually considered as being all the remains of the castle. However, farther off to the south there is evidence of another moat. In this part, the hill is connected with the surrounding landscape to the west through an access neck (Fig. 2). Initially, we logically supposed that this moat remnant enclosed a second outer bailey and the access neck was piled up artificially after the decline of the castle, during the construction of a road passing through this neck. The presence of the access neck, which is illogical with regard to defensive properties of the castle, and possible

<sup>1</sup> *Estate eadem veniens prope Mutam fregi castrum Choczyn et alia quam plura castra domini de Potnsteyn, quia habui eodem tempore guerram cum eodem domino (...)* ([https://www.phil.muni.cz/german/projekty/hmb/e-text/fr\\_VitaCaroli\\_cz.html](https://www.phil.muni.cz/german/projekty/hmb/e-text/fr_VitaCaroli_cz.html) – access 25.09.2017).

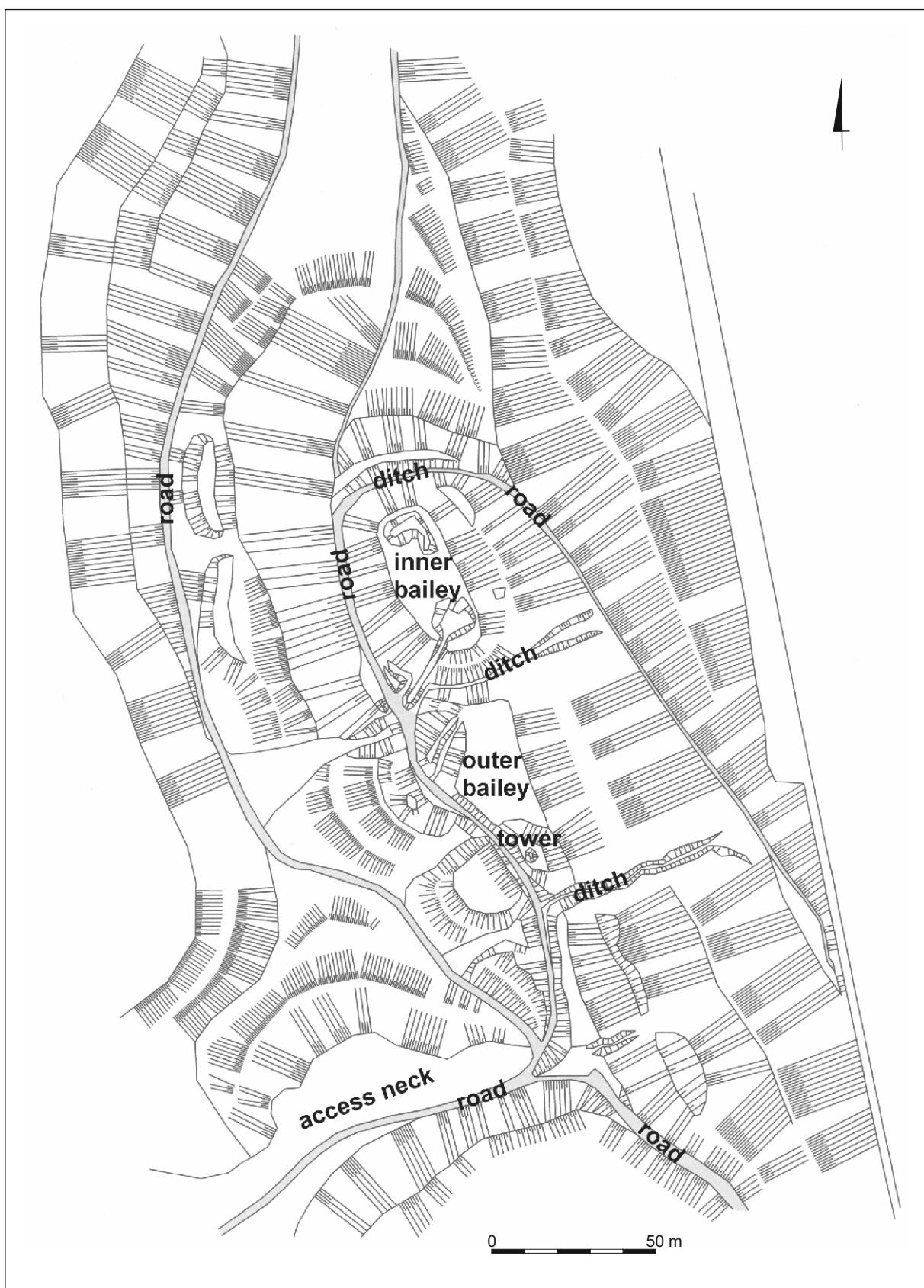


Fig. 2. Choceň, Zítkov Castle. Geodetic plan of the site (elaborated by Zeměměřická kancelář Kostelec nad Orlicí).

Ryc. 2. Choceň, zamek Zítkov. Plan geodezyjny stanowiska (oprac. Zeměměřická kancelář Kostelec nad Orlicí).

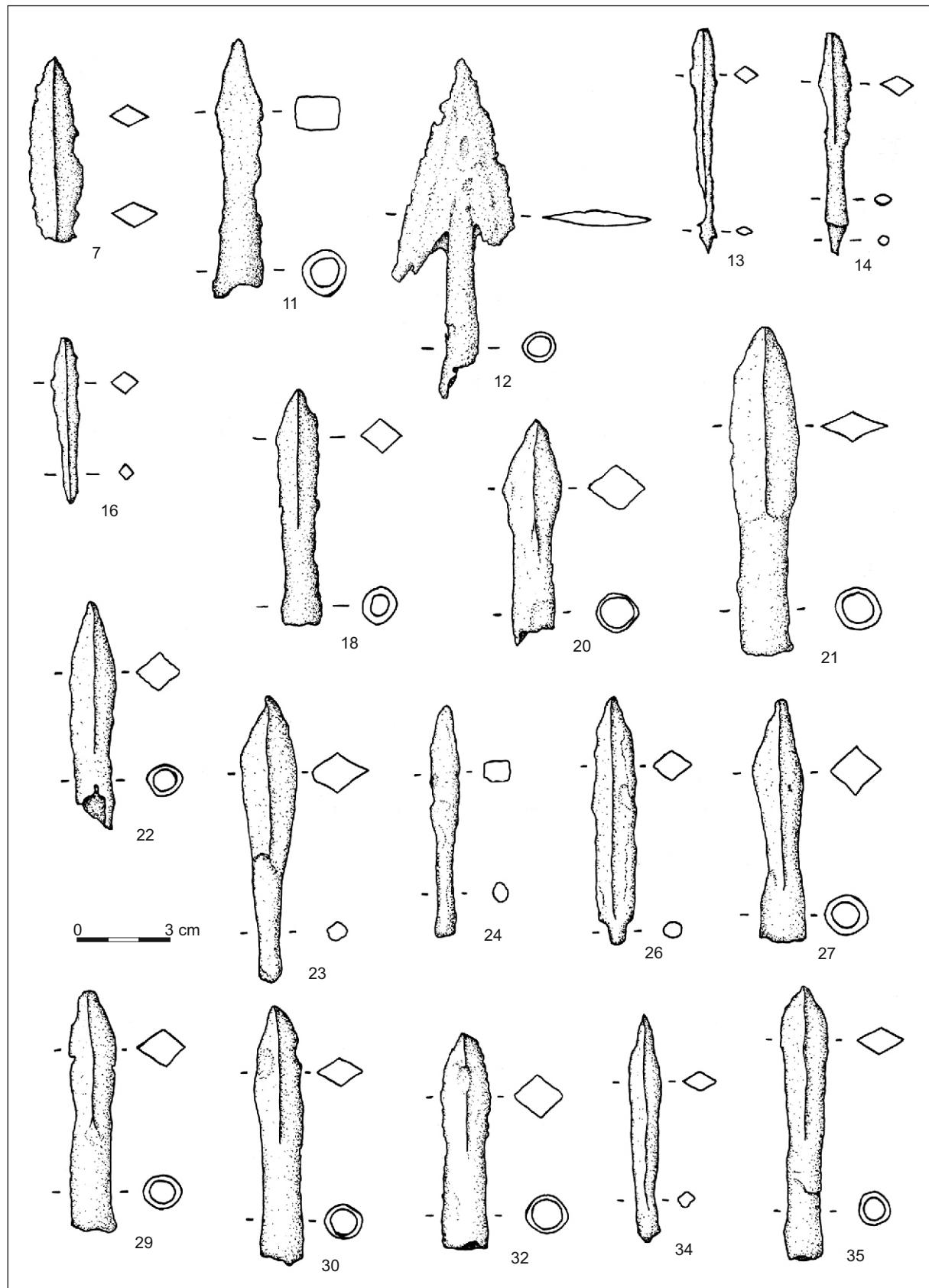


Fig. 3. Choceň, Zítkov Castle. Projectile heads from the site. Drawing by T. Záruba.

Ryc. 3. Choceň, zamek Zítkov. Groty broni strzelczej odkryte na stanowisku. Rys. T. Záruba.

later developments of the site will hopefully be clarified in the future by extensive archaeological excavations.

The collection of two hundred projectile heads discovered on the slopes of the castle hill represents unquestionable evidence of a siege of the castle.

### Methods of metal detector survey

As it is the case with all known archaeological sites, Zítkov has been plagued by the illegal use of metal detectors. This is demonstrated by finds held in private hands, which are most probably associated with such activity. Besides fragments of stirrups, which were later handed over to the Regional Museum in Vysoké Mýto, and a knife blade, we also documented an aristocratic seal which deserves a detailed specialist analysis (Vích 2011, 1006, obr. 8:1-4, 9). These objects were supplemented by three arrowheads handed over to the Regional Museum in Vysoké Mýto, which are also presented in this paper.

Detector survey at the site in 2007-2011 was carried out by the archaeologist from the Regional Museum in Vysoké Mýto (David Vích) and his co-workers. The majority of the more than 300 recovered artefacts are arrow- and bolt heads found at various places on the slopes of the castle hill. The detector survey was mainly targeted at these slopes and at the whole area of the hill with the access neck. Only the platform of the inner bailey

was not examined. This was because numerous ceramic fragments indicated more complicated intact contexts, for which we did not have a sufficiently detailed site plan nor financial means for a geodetic survey of the artefacts. As it happened, it was only during the final part of survey that financial means were obtained out of the budget of the Regional Museum in Vysoké Mýto for making a general geodetic plan of the site (Fig. 2).

Individual objects were surveyed with the help of Garmin Geko 201 and Garmin Oregon 550 handheld GPS device. Furthermore, descriptive documentation of simple stratigraphic conditions was also made. An MS Excel table was drawn up for every single find place within the studied site. Each artefact in this table is provided with a unique number in ascending order. The finds are then listed under these numbers both in the catalogue part of this work and in figures (for a detailed discussion on methods see Vích 2015). Concerning projectile heads, wherever possible, we followed up their alignment. It soon turned out that following up the alignment in relation to the castle only was not very fortunate. It was far more reasonable to follow up the alignment in relation to the cardinal points. However, in this case the alignment becomes rather schematised. Therefore it proved best (as well for the purpose of further evaluation in the Quantum GIS software) to follow up the azimuth. Basic data on the acquired projectile heads is given in tables<sup>2</sup> (Tab. 1-2).

Number	Coordinates (UTM, WGS 84): E, N	Description of context	Azimuth (degrees)	Length (mm)/Weight (g)
7.	0586056; 5539363	d. 22 cm, 5 cm in sandy gravel	U	68/23,4
11.	0586068; 5539383	d. 15 cm, 5 cm in sandy gravel	45	82/33,7
12.	0586105; 5539385	d. 22 cm, 10 cm in sandy gravel	45	111/33.3
16.	0586057; 5539377	d. 14 cm, 5 cm in subsoil	135	97/7,6*
18.	0586049; 5539432	from an uprooted oak	U	74/27,8
20.	0586102; 5539379	d. 7 cm at the boundary between humus layer and subsoil	225	76/38,2
21.	0586100; 5539373	d. 10 cm at the boundary between humus layer and subsoil	225	109/55,4
22.	0586124; 5539352	depth down to 20 cm, down to 15 cm in subsoil	U	78/32,3
23.	0586052; 5539349	d. 30 cm, 15 cm in subsoil	U	99/37,6
27.	0586113; 5539281	d. 15 cm	67,5	79/38,9
29.	0585998; 5539521	d. 15 cm, 7 cm in subsoil	157,5	86/29,8
30.	0586012; 5539530	d. 12 cm at the boundary between humus layer and subsoil	315	81/27,7
32.	0585963; 5539449	d. 8 cm on the surface of subsoil	157,5	71/38,4
34.	0585980; 5539398	depth down to 15 cm, down to 6 cm in subsoil	U	71/13,1
35.	0585962; 5539342	d. 8 cm at the base of humus layer	U	85/26,6
36.	0585995; 5539445	d. 15 cm, 10 cm in subsoil	180	89/32,0

<sup>2</sup> The length/weight index, as proposed by T. Durdík (1983, 18), is not given because it would be misleading due to serious damage of projectile heads points by corrosion.

37.	0585989; 5539408	d. 18 cm, 10 cm in subsoil	45	71/31,8
44.	0585958; 5539364	d. 12 cm, 6 cm in subsoil	90	70/27,8
45.	0585954; 5539419	d. 18 cm, 9 cm in subsoil	360	88/50,0
50.	0586056; 5539373	d. 14 cm, 5 cm in subsoil	135	77/25,0
51.	0586047; 5539338	d. 5 cm at the base of humus layer	22,5	63/32,1
62.	0586015; 5539485	d. 12 cm, 6 cm thereof in a grey sandy gravel layer	U	64/11,1
63.	0586018; 5539491	d. 10 cm, 8 cm in a grey clayey layer	180	80/50,4
69.	0585986; 5539530	d. 10 cm, 2-3 cm in subsoil	135	77/16,6
72.	0585951; 5539457	d. 18 cm, 10 cm in subsoil	270	65/24,9
75.	0585967; 5539455	d. 10 cm at the boundary between humus layer and subsoil	22,5	92/26,6
87.	0586047; 5539377	d. ca. 20 cm, 5 cm in a grey sandy gravel layer below the root	U	90/23,1
91.	0586034; 5539346	at the boundary between humus layer and subsoil	U	97/43,7
92.	0586063; 5539315	d. 14 cm, 7 cm in subsoil	U	84/29,0
93.	0586046; 5539361	d. 20 cm, 5 cm in subsoil	180	93/23,4
96.	0586022; 5539308	d. 20 cm, 10 cm in fine sand	180	85/23,7
97.	0585979; 5539285	d. 22 cm, 12 cm in subsoil	180	76/29,5
103.	0585969; 5539362	d. 22 cm, 14 cm in underlying clay	360	83/42,5
105.	0585962; 5539500	d. 6 cm at the boundary between humus layer and subsoil	45	85/56,0
106.	0585942; 5539494	d. 14 cm, 5 cm in subsoil	45	85/44,5
109.	0585995; 5539324	d. 8 cm in humus layer	22,5	78/26,5
111.	0586020; 55393032	d. 20 cm, 10 cm in subsoil	202,5	91/24,5
112.	0586007; 5539337	d. cca 4 cm	X	83/20,0
116.	0585972; 5539440	d. 10 cm, 2 cm in sandy gravel	U	78/48,5
117.	0585985; 5539450	d. 22 cm, 12 cm in subsoil	90	73/35,3
118.	0585982; 5539457	d. 28 cm, 18 cm in subsoil	292,5	76/33,9
119.	0586052; 5539367	d. 14 cm, 10 cm in subsoil	337,5	62/22,2
120.	0586010; 5539345	d. 10 cm at the boundary between humus layer and subsoil	U	87/38,0
121.	0586036; 5539318	d. 3 cm in humus layer	U	95/33,0
123.	0586097; 5539396	d. 12 cm at the boundary between humus layer and subsoil	225	65/26,1
127.	0586060; 5539352	d. 20 cm in humus layer	U	84/12,0
128.	0586011; 5539282	d. 12 cm, 4 cm in subsoil	180	77/14,9
137.	0585974; 5539309	d. 15 cm, 5 cm in subsoil	180	90/23,8
140.	0586017; 5539338	d. 13 cm	180	97/23,2
141.	0585981; 5539255	d. 9 cm at the boundary between humus layer and subsoil	180	101/23,1
143.	0586011; 5539351	d. 15 cm, 8 cm in subsoil	270	87/65,9
144.	0586080; 5539281	d. 12 cm at the boundary between humus layer and subsoil	360	97/28,0
145.	0585969; 5539533	d. 8 cm at the boundary between humus layer and subsoil	U	99/31,6
146.	0586007; 5539291	d. 15 cm, 4 cm in subsoil	22,5	86/17,3
147.	0585985; 5539502	d. 10 cm at the boundary between humus layer and subsoil	337,5	80/45,3
149.	0585947; 5539480	d. 12 cm at the boundary between humus layer and subsoil	X	85/54,1
150.	0586074; 5539296	d. 11 cm at the boundary between humus layer and subsoil	U	89/26,8
151.	0585977; 5539536	d. 12 cm	X	108/31,3
152.	0585980; 5539543	d. 10 cm at the boundary between humus layer and subsoil	45	101/30,5
153.	0585960; 5539427	d. 8 cm in humus layer	U	89/26,3
154.	0585989; 5539487	d. 17 cm, 10 cm in subsoil	90	83/28,3
155.	0585978; 5539486	d. 14 cm, 2 cm in subsoil	135	83/26,2
156.	0585970; 5539459	d. 16 cm, 6 cm in subsoil	112,5	93/28,9
157.	0585964; 5539545	d. 20 cm, 4 cm in subsoil	337,5	89/25,4
158.	0586000; 5539331	d. 24 cm, 17 cm in subsoil	180	96/53,0
159.	0585969; 5539535	d. 18 cm, 6 cm in subsoil	157,5	82/20,2
160.	0585979; 5539385	d. 12 cm, 10 cm in subsoil	180	51/5,8*
161.	0585937; 5539535	d. 10 cm at the boundary between humus layer and subsoil	135	87/17,1

162.	0585963; 5539505	d. 23 cm, 10 cm in subsoil	X	96/25,0
163.	0585948; 5539465	d. 13 cm, 2 cm in subsoil	112,5	91/29,7
164.	0585952; 5539523	d. 11 cm, 2 cm in subsoil	U	79/40,4
165.	0585972; 5539419	d. 8 cm in humus layer	45	98/28,3
166.	0585944; 5539538	d. 14 cm, 2 cm in subsoil	135	76/17,3
167.	0586007; 5539277	d. 11 cm, 4 cm in subsoil	180	85/22,5*
168.	0585955; 5539476	d. 10 cm at the boundary between humus layer and subsoil	315	77/31,4
205.	0585996; 5539253	d. 20 cm, 16 cm in subsoil	U	51/12,6
206.	0585960; 5539237	d. 20 cm, 16 cm in subsoil	U	51/7,9*
226.	0586090; 5539400	d. 14 cm, 2 cm in underlying sandy gravel	45	87/22,1
231.	0586054; 5539368	d. 28 cm, 15 cm in sandy gravel with an isolated piece of charcoal	360	88/36,2
232.	0586055; 5539368	d. 33 cm, 13 cm in sandy gravel	180	80/40,9
236.	0586006; 5539371	d. 13 cm in gray sand	45	88/35,7
237.	0586072; 5539358	d. 5 cm at the boundary between humus layer and gray sandy gravel	360	87/9,3*
238.	0586082; 5539312	d. 17 cm, 4 cm in sandy gravel	180	69/8,2*
239.	0586037; 5539369	d. 13 cm at the boundary between humus layer and subsoil	U	91/24,7
240.	0586065; 5539351	d. 28 cm, 8 cm in subsoil	225	101/33,1
242.	0586015; 5539251	d. 8 cm, 2 cm in underlying sandy gravel	270	105/27,2
244.	0586004; 5539390	d. 5 cm at the boundary between humus layer and subsoil	225	80/33,2
246.	0586085; 5539294	d. 5 cm in gray sandy gravel	135	93/15,1
248.	0586078; 5539315	d. 20 cm in gray sandy gravel	135	88/12,1
250.	0586069; 5539312	d. 20 cm, 4 cm in sandy gravel	180	91/19,8
253.	0586074; 5539373	d. 22 cm in black-grey runoff layer	90	85/36,6
255.	0586066; 5539428	d. 23 cm, 17 cm in grey clayey gravel	270	68/22,1
256.	0586090; 5539401	d. 18 cm, 5 cm in sandy gravel	180	83/25,7
258.	0586107; 5539344	d. 2 cm in humus layer	45	75/24,6
262.	0585985; 5539293	d. 12 cm at the boundary between humus layer and subsoil	U	87/13,2
263.	0586033; 5539312	d. 9 cm at the boundary between humus layer and sandy gravel	U	71/12,3
280.	0586074; 5539216	d. 12 cm at the boundary between humus layer and subsoil	U	80/33,6
293.	0585976; 5539464	d. 2 cm in humus layer	U	71/7,8
307.	0586025; 5539331	d. 12 cm, 6 cm in sandy gravel	360	91/14,9
308.	0586016; 5539269	d. 18 cm, 8 cm in subsoil	X	93/14,9
309.	0586076; 5539314	d. 13 cm at the boundary between humus layer and subsoil	315	94/19,8
310.	0586019; 5539468	d. 5 cm in runoff layer	U	66/20,9
311.	0586010; 5539515	d. 12 cm, 7 cm in yellowish clay	270	87/29,9
312.	0586012; 5539370	d. 10 cm, 5 cm in grey sand	225	65/11,2
313.	0586010; 5539372	?	90	73/19,8
314.	0585972; 5539372	in underlying clay	315	75/31,8

Tab. 1. An overview of basic data on socketed arrowheads. The coordinates are given in UTM, unless otherwise stated. X – orientation with tip or base turned down to the ground, U – orientation undetermined. The length is given before conservation, the weight after conservation or re-conservation. If preserved, the extremely damaged artefact is marked with an asterisk.

Tab. 1. Podstawowe informacje o grotach z tulejką. Współrzędne, o ile nie zaznaczono inaczej, podano w systemie UTM. X – ostrze lub zakończenie tulejki ułożone w kierunku ziemi, U – orientacja nieokreślona. Długość podawana jest przed konserwacją, waga po konserwacji lub rekonservacji. Silnie zniszczony artefakt oznaczono gwiazdką.

### Interpretation of the find context

R. Prihoda (1932) was the first scholar who paid special attention to High Medieval projectile heads. Later studies have also encompassed projectile heads, but these have featured in works which focused more widely on medieval weaponry (e.g. Nadolski 1954, 60-66, 188-194, tabl. XXIX-XXXII; Ruttkay 1976, 325-333; Slivka 1980, 233-241; Durdík 1983, 18; Wachowski 1984;

Maik 1997; Mäesalu 2001; Krajíc 2003, 183-190; Świątkiewicz 2010, 29-47; Krauskopf 2012, 190-193; Chudzińska 2014, 57-77, ryc. 6). However, a number of specialist monographs have been written specifically concerning projectile heads (e.g. Медведев 1966; Durdík 1972; Wachowski 1982; Krenn 1985; Jessop 1996; Zimmermann 2000; Serdon 2005; Rackevičius 2007; Štukl 2007). More specialist investigations

Number	Coordinates E, N	Description of context	Azimuth (degrees)	Length (mm)/Weight (g)
13.	0586050; 5539404	d. 13 cm, 7 cm in sandy gravel	45	87/6,9*
14.	0586059; 5539357	d. 20 cm, 10 cm in sandy gravel	135	102/10,7
24.	0586052; 5539349	d. 25 cm, 9 cm in subsoil	U	82/13,7
26.	0586074; 5539232	d. 14 cm, 11 cm in subsoil	337,5	82/21,6
40.	0585990; 5539417	d. 12 cm, 6 cm in subsoil	X	103/15,1
41.	0585973; 5539404	d. 18 cm, 12 cm in sandy gravel mixed with small charcoal pieces	45	75/12,6
42.	0585954; 5539331	d. 10 cm, 2 cm in subsoil	U	73/13,8
64.	0585993; 5539495	d. 40 cm at the boundary between a grey sandy gravel layer and subsoil, the uppermost 8 cm consisted of a surface humus layer	U	77/10,8
73.	0585961; 5539468	d. 6 cm at the base of humus layer	U	87/15,6
79.	0586083; 5539391	d. 20 cm, 6 cm in subsoil	360	77/19,3
80.	0586084; 5539364	d. 20 cm, 2-3 cm in subsoil	U	81/19,9
81.	0586088; 5539354	d. 16 cm in humus layer	225	72/18,6
89.	0586047; 5539381	d. cca 15 cm, cca 7 cm in subsoil	U	80/11,3*
90.	0586048; 5539338	d. 14 cm, 4 cm in subsoil	360	84/15,9
94.	0586051; 5539347	d. 4 cm in subsoil	U	80/10,8
95.	0586041; 5539357	d. 16 cm, 8 cm in subsoil	U	87/14,6
98.	0586003; 5539290	d. 20 cm, 10 cm in sandy gravel	360	84/19,0
99.	0586135; 5539278	d. 11 cm at the boundary between humus layer and subsoil	90	75/9,2
100.	0585962; 5539386	d. 13 cm, 2 cm in subsoil	315	87/14,6
101.	0586006; 5539366	d. 6 cm at the boundary between humus layer and subsoil	270	103/19,9
102.	0586010; 5539248	d. 5 cm at the boundary between humus layer and subsoil	270	89/14,7
104.	0586006; 5539365	d. 10 cm at the boundary between humus layer and subsoil	U	104/22,6
113.	0585991; 5539311	d. 5 cm at the boundary between humus layer and subsoil	270	80/16,6
129.	0585993; 5539278	d. 13 cm, 8 cm in subsoil	135	67/8,9
130.	0586077; 5539280	d. 12 cm at the boundary between humus layer and subsoil	U	74/12,0
131.	0586002; 5539265	d. 18 cm, 8 cm in subsoil	45	111/13,3
132.	0585993; 5539276	d. 13 cm, 6 cm in subsoil	45	78/8,1*
133.	0586056; 5539355	d. 18 cm in humus layer	U	75/9,6
134.	0585991; 5539260	d. 16 cm, 6 cm in subsoil	135	76/5,6*
135.	0586007; 5539288	d. 15 cm, 7 cm in subsoil	U	98/19,2
136.	0586065; 5539272	d. 26 cm, 15 cm in subsoil	360	116/43,9
138.	0586017; 5539279	d. 16 cm, 4 cm in subsoil	180	73/21,9
139.	0586064; 5539274	d. 20 cm at the boundary between humus layer and subsoil	45	87/12,7
142.	0586064; 5539276	d. 13 cm, 8 cm in subsoil	U	78/10,6
148.	0586084; 5539274	d. 12 cm, 4 cm in subsoil	U	77/12,5
169.	0586086; 5539293	d. 28 cm, 14 cm in subsoil	U	85/11,3
170.	0585925; 5539547	d. 10 cm at the boundary between humus layer and subsoil	135	88/9,4
171.	0585963; 5539506	d. 12 cm at the boundary between humus layer and subsoil	337,5	78/5,7*
172.	0585943; 5539589	d. 14 cm	90	77/15,5
173.	0585969; 5539544	d. 18 cm, 5 cm in subsoil	157,5	84/16,5
174.	0585969; 5539539	d. 12 cm at the boundary between humus layer and subsoil	U	76/11,9
175.	0585935; 5539546	d. 18 cm, 10 cm in subsoil	360	75/14,9
176.	0586011; 5539307	d. 20 cm, 12 cm in subsoil	225	82/16,8
177.	0585932; 5539553	d. 8 cm at the base of humus layer	180	76/9,2
178.	0585944; 5539234	d. 8 cm, 4 cm in subsoil	U	67/12,1
179.	0586073; 5539289	at the boundary between humus layer and subsoil	U	81/11,6
180.	0586056; 5539272	d. 8 cm at the boundary between humus layer and subsoil	U	66/7,5*
181.	0585946; 5539533	d. 24 cm, 12 cm in subsoil	U	75/7,6
182.	0586003; 5539265	d. 20 cm, 10 cm in subsoil	U	90/33,4
183.	0585994; 5539358	d. 28 cm, 17 cm in subsoil	U	73/116,8
184.	0585977; 5539480	at the boundary between humus layer and subsoil	135	77/8,6*
185.	0586001; 5539328	d. 10 cm, 7 cm in subsoil	180	84/15,1
186.	0585934; 5539525	d. 10 cm at the boundary between humus layer and subsoil	U	79/10,3
187.	0586077; 5539309	d. 10 cm at the boundary between humus layer and subsoil	U	77/23,8
188.	0586078; 5539270	d. 9 cm, 7 cm in subsoil	U	75/15,0
189.	0586070; 5539267	d. 13 cm, 10 cm in subsoil	U	78/11,1

225.	0586083; 5539277	d. 20 cm, 12 cm in sandy gravel	360	86/8,6*
227.	0586022; 5539306	d. 6 cm in humus layer	180	59/3,0*
228.	0586102; 5539236	d. 7 cm, 4 cm in subsoil	180	80/10,9
229.	0586080; 5539293	d. 12 cm, 4 cm in sandy gravel	157,5	91/8,2
230.	0586052; 5539271	d. 2 cm in humus layer	U	61/7,9*
233.	nezaměřeno	d. 30 cm, 15 cm in sandy gravel	U	80/8,5*
234.	05860032; 5539704	d. 20 cm, 7 cm in subsoil	360	62/6,2*
235.	0586052; 5539269	d. 19 cm, 3 cm in subsoil	90	97/12,3
241.	0586077; 5539341	d. 10 cm at the boundary between humus layer and subsoil	U	65/7,6
243.	0586045; 5539267	d. 12 cm, 2 cm in subsoil	360	67/12,8
245.	0585959; 5539262	d. 14 cm at the base of humus layer	U	64/5,4*
247.	0586015; 5539291	d. 12 cm, 7 cm in sand	180	84/5,7*
249.	0586036; 5539312	d. 16 cm, 8 cm in sand	180	113/24,4
251.	0586061; 5539403	d. 27 cm, 12 cm in subsoil	90	94/17,5
252.	0586089; 5539247	d. 14 cm, 2 cm in subsoil	180	90/14,5
254.	0586001; 5539249	d. 8 cm, 3 cm in sandy gravel	X	62/11,0
257.	0586082; 5539314	surface	U	83/30,3
259.	0586019; 5539291	d. 10 cm, the surface of grey sand	360	86/10,5
260.	0586059; 5539307	d. 6 cm, 2 cm in subsoil	U	107/19,5
261.	0586061; 5539274	d. 5 cm at the boundary between humus layer and subsoil	U	81/10,8
264.	0586072; 5539297	d. 20 cm, 10 cm in sandy gravel	157,5	72/9,1
265.	0586118; 5539219	d. 14 cm in subsoil	157,5	82/17,0
266.	0586062; 5539274	d. 20 cm, 4 cm in sandy gravel	360	115/40,2
267.	0586082; 5539302	d. 13 cm in black-grey sandy layer	157,5	86/10,0
268.	0586082; 5539315	d. 10 cm, 2 cm in grey sand	315	74/6,4*
269.	0585965; 5539285	d. 22 cm, 16 cm in sandy gravel	360	74/5,5*
270.	0586039; 5539309	d. 2 cm in humus layer	90	77/6,9*
294.	586074; 5559316	boundary between humus layer and ochre-grey sand	90	72/8,4
295.	0586075; 5539316	d. 5 cm in humus layer	U	71/7,3*
296.	0586092; 5539291	d. 5 cm at the boundary between humus layer and subsoil	22,5	90/8,4
297.	0586026; 5539338	d. 7 cm, 5 cm in subsoil	270	79/9,4
298.	0586071; 5539352	d. 15 cm at the boundary between humus layer and subsoil	U	64/5,4*
299.	0586068; 5539320	d. 7 cm at the boundary between humus layer and ochre-coloured sandy gravel	315	84/16,2
300.	0586076; 5539314	d. 12 cm at the boundary between humus layer and subsoil	337,5	86/10,0
301.	0586073; 5539313	d. 13 cm at the boundary between humus layer and subsoil	U	83/10,6
302.	0586002; 5539527	d. 15 cm, 9 cm in subsoil	90	69/8,4
303.	0586084; 5539336	d. 33 cm, 17 cm in sandy gravel	U	68/12,3
304.	0585990; 5539522	d. 3 cm in humus layer	180	58/7,8
305.	0586063; 5539279	d. 20 cm, 10 cm in sandy gravel	315	90/22,3
306.	0586076; 5539342	d. 25 cm, 12 cm in sandy gravel	112,5	78/9,3
315.	0586080; 5539288	d. 18 cm, 5 cm in sandy gravel	270	62/6,6

Tab. 2. An overview of basic data on tanged arrowheads. The coordinates are given in UTM, unless otherwise stated. X – orientation with tip or base turned down to the ground, U – orientation undetermined. The length is given before conservation, the weight after conservation or re-conservation. If preserved, the extremely damaged artefact is marked with an asterisk.

Tab. 2. Podstawowe informacje o grotach z trzpieniami. Współrzędne, o ile nie zaznaczono inaczej, podano w systemie UTM. X – ostrze lub zakończenie tulejki ułożone w kierunku ziemi, U – orientacja nieokreślona. Długość podawana jest przed konserwacją, waga po konserwacji lub rekonservacji. Silnie zniszczony artefakt oznaczono gwiazdką.

into the spatial distribution of these artefacts on a statistically larger sample in the area of a besieged castle have not been commonly undertaken (e.g. Kolno Castle – see Marek 2014).

The site of Zítkov near Choceň yielded a total of 206 projectile heads (including three finds without an accurate location, which were found during an amateur survey and were handed over to the Regional Museum in Vysoké Mýto – Tab. 3), as well as a lead cylindrical firearm projectile (No. 108, diameter 12.6 mm, height 20 mm, weight 111.2 g; Fig. 12:108). The collection of recovered projectile heads allows for a division into two traditional main categories according to

Number	Length (mm)/Weight (g)
1	84/17,4
2	81/30,7*
3	51/15,4*

Tab. 3. The data on socketed arrowheads handed over to the Regional Museum in Vysoké Mýto by an amateur treasure hunter; badly damaged artefact is marked with an asterisk.

Tab. 3. Informacje o grotach z tulejką przekazanych przez tzw. poszukiwaczy skarbów do Muzeum Regionalnego w miejscowości Vysoké Mýto; silnie uszkodzony zabytek oznaczono gwiazdką.

the hafting method, namely into tanged projectile heads and socketed ones.

Tanged projectile heads (wherever the state of preservation allows for the assessment, Nos. 13,

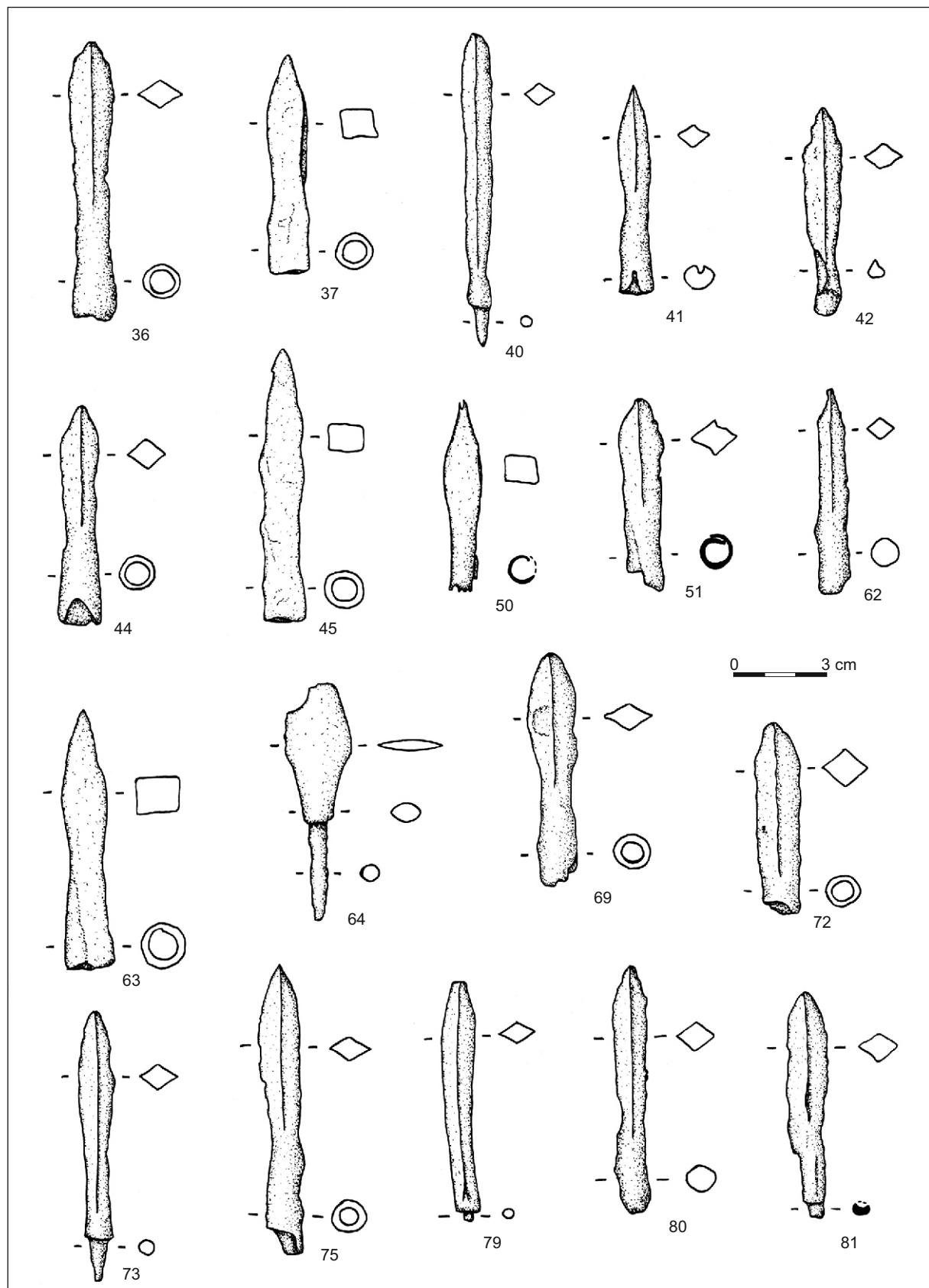


Fig. 4. Choceň, Zátkov Castle. Projectile heads from the site. Drawing by T. Záruba.

Ryc. 4. Choceň, zamek Zátkov. Groty broni strzelczej odkryte na stanowisku. Rys. T. Záruba.

14, 16, 23-26, 34, 40, 73, 79, 80, 81, 90, 94, 96, 98-102, 104, 113, 128-136, 138, 139, 142, 148, 167, 169-174, 177-179, 180-189, 205, 225, 228-230, 233-235, 237, 238, 241, 243, 245, 247, 249, 251, 252, 254, 257, 259-262, 264-266, 267-270, 294-306, 315) can be classified as one type, namely A1b after T. Durdík (1972, 5, obr. 2), A II after R. Krajíč (2003, 186, obr. 150), B 11 after A. Ruttkay (1976, 327, obr. 54), and D 2-4, or D 2-5 after B. Zimmermann (2000, 75-76, tab. 24-25; Nos. 13, 14, 16, 34, 40, 73, 79, 81, 96, 98-102, 104, 108, 109, 130-134, 138-139, 142, 148, 167, 169-174, 179, 180-182, 184-185, 189, 228-230, 233-235, 237, 238, 241, 243, 245, 247, 249, 251, 252, 254, 257, 259, 260, 261, 264-268, 270, 294, 298-306, 315). This type of projectile head probably came into use in Western Europe during the 10<sup>th</sup>-12<sup>th</sup> centuries, with their most frequent occurrence being in the 13<sup>th</sup>-14<sup>th</sup> centuries (*ibid.*, 75). Within the Czech Republic such projectile heads also mainly occur at sites dated to the 13<sup>th</sup>-14<sup>th</sup> centuries.<sup>3</sup> Such projectile heads, however, were still widely used in the early 15<sup>th</sup> century, as it is attested by, for example, finds from Javorník Castle which were associated with the Hussite Wars (Kouřil 2009, 223-224, obr. 6), or finds from Sezimovo Ústí (Krajíč 2003, 187). Considering their construction and weight, these projectile heads have been regarded as arrowheads intended for bow.

An exception from the above-mentioned category is represented by Arrowhead No. 64 (Fig. 4) with a flat leaf and a well-distinguished tang. Projectile heads of this shape have traditionally been associated with the arrival of the Old Magyars in the first half of the 10<sup>th</sup> century. Finds dated to the 13<sup>th</sup>-14<sup>th</sup> centuries can probably be related to the Hungarian army. This also concerns a recently published, stratigraphically well-dated projectile head from the castle in Veselí nad Moravou (Žákovský, Hošek 2015, 231-232, obr. 9:r with further literature). The arrowhead find from the area of Zítkov Castle, besieged approximately in the late 14<sup>th</sup> or the early 15<sup>th</sup> century, thus represents another very late evidence of using this type of projectiles.

A far more diversified typological spectrum can be observed in the case of socketed projectile heads. Very frequent are the relatively massive projectile heads of rhombic cross-section – Type B2a after T. Durdík (1972, 5, obr. 3), Type B IIb after R. Krajíč (2003, 184, obr. 150), Type T 2-5

after B. Zimmermann (2000, 51-53; e.g. Fig. 3:18, 20-22, 29, 30, 32, 35; 4:41, 42, 44, 51, 62, 69, 72; 5:91, 92, 97, 103, 105, 106, 109; 6:111, 116-121; 7:143, 144, 146, 147, 153-157; 8:159, 163, 164, 166, 175, 176; 9:183, 231, 242; 10:244, 253, 255; 11:310; 12:311-313), or less frequently quadratic cross-section – Type B2c after T. Durdík (1972, 5, obr. 3), Type B III after R. Krajíč (2003, 185, obr. 151), Type T 1-5 after B. Zimmermann (2000, 46-48, e.g., Fig. 3:11; 4:37, 45, 50, 63; 8:168; 9:232; 12:314). Their most frequent occurrence in Central Europe can be observed during the 14<sup>th</sup>-15<sup>th</sup> centuries (e.g. Krajíč 2003, 187) in association with a mass spread of crossbows. This chronology is also documented by many finds from former Czechoslovakia, where they are associated with sites related to the Hussite Wars or the Bohemian-Hungarian Wars in the 60s and 70s of the 15<sup>th</sup> century (e.g. Polla 1962, 136; Frolík 2002, 406; Novobilský 2008, 74-84; Kouřil 2009, 223-224, obr. 6).

With regard to their slender shape and distinctly squeezed body, some projectile heads correspond (e.g. Fig. 4:36, 75; 5:87; 7:141, 145, 151, 152; 8:161, 162, 165; 9:226, 240; 10:246, 256; 11:307, 309) to Type T 2-4 after B. Zimmermann (2000, 49-50), or B IIa after R. Krajíč (2003, 184, obr. 150), with the same dating but a little earlier in the 12<sup>th</sup>-13<sup>th</sup> centuries (Zimmermann 2000, 50).

Projectile No. 293 (Fig. 11) corresponds to Type A2a after T. Durdík (1972, obr. 2), BIIa, or BIIc after R. Krajíč (2003, 184, obr. 150) and T 5-4 after B. Zimmermann (2000, 61-63). While west and south of Czech Republic these projectile heads mainly occur in the 11<sup>th</sup>-12<sup>th</sup> or the 13<sup>th</sup>-14<sup>th</sup> centuries (*ibid.*, 62), whilst in Czech Republic the majority date to the late 14<sup>th</sup> – early 15<sup>th</sup> century (Krajíč 2003, 186).

Two specimens represent socketed projectile heads with barbs (Fig. 3:12; 11:280) corresponding to Types B2d, or B2e after T. Durdík (1972, obr. 3), BIVa after R. Krajíč (2003, 185, obr. 151), A1d after A. Ruttkay (1976, Abb. 54) or T 5-8 after B. Zimmermann (2000, 64-66). They were mainly used for hunting (Harmuth 1975, 75, Abb. 49; Ruttkay 1976, 328; Zimmermann 2000, 26) and are dated to the 14<sup>th</sup> century and later (Ruttkay 1976, 328; Krajíč 2003, 187), with a possible earlier in the 11<sup>th</sup>-13<sup>th</sup> centuries (Zimmermann 2000, 65). This type of projectile heads is not mentioned very often in published materials. Two such artefacts

<sup>3</sup> E.g. Hradišťko u Davle (Richter 1982, 165), Angerbach Castle (Durdík 2007, 96), Freudenštejn Castle (Kouřil 1997, 389, obr. 4:1-6; Kouřil, Prix, Wihoda 2000, 88, obr. 53-55), Svratouch (Adámek 1909, 26-28; tab. IX; Durdík 1983, 8-11, 18-19; on dating of the site Frolík 1982, 17).

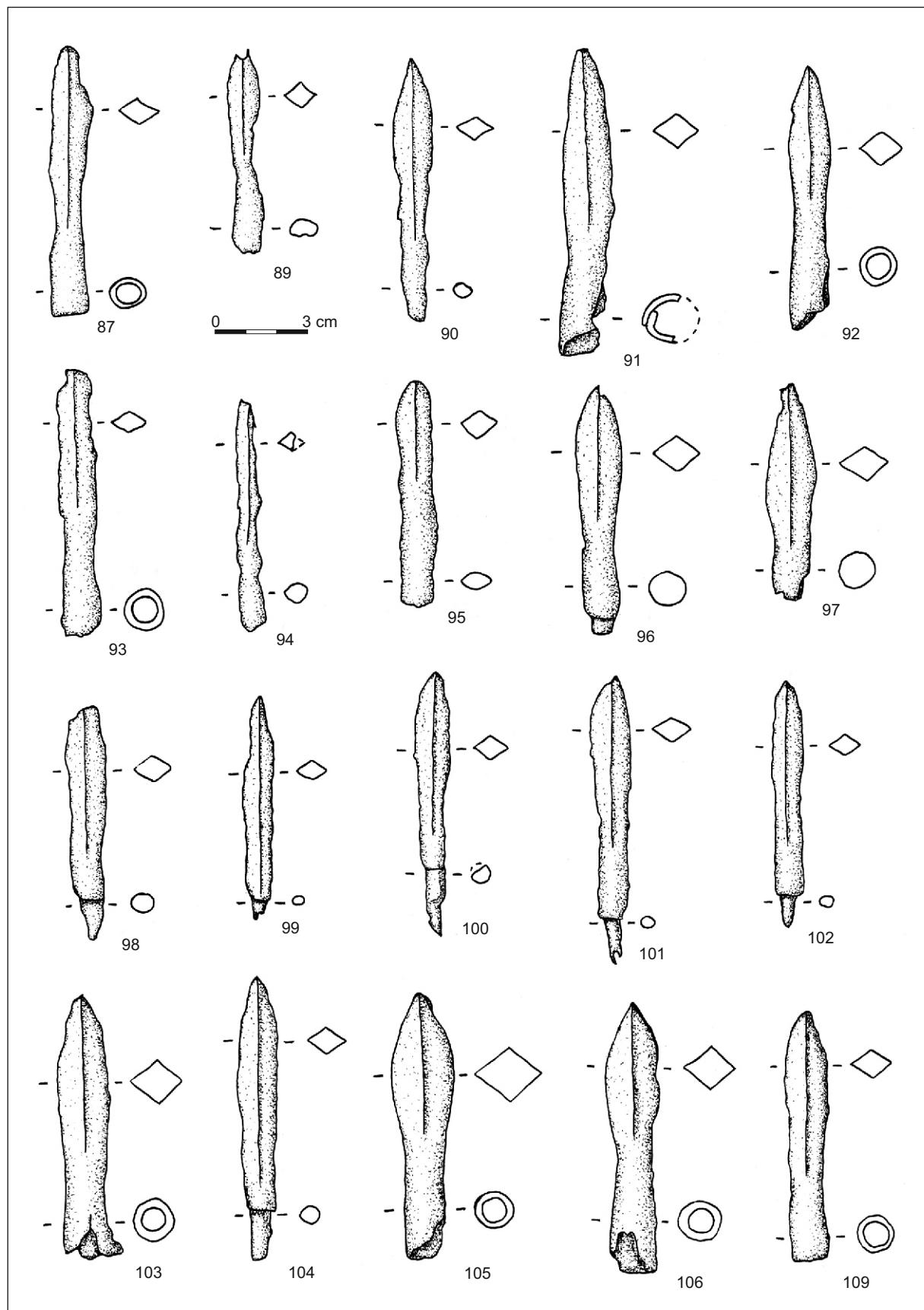


Fig. 5. Choceň, Zátkov Castle. Projectile heads from the site. Drawing by T. Záruba.

Ryc. 5. Choceň, zamek Zátkov. Groty broni strzelczej odkryte na stanowisku. Rys. T. Záruba.

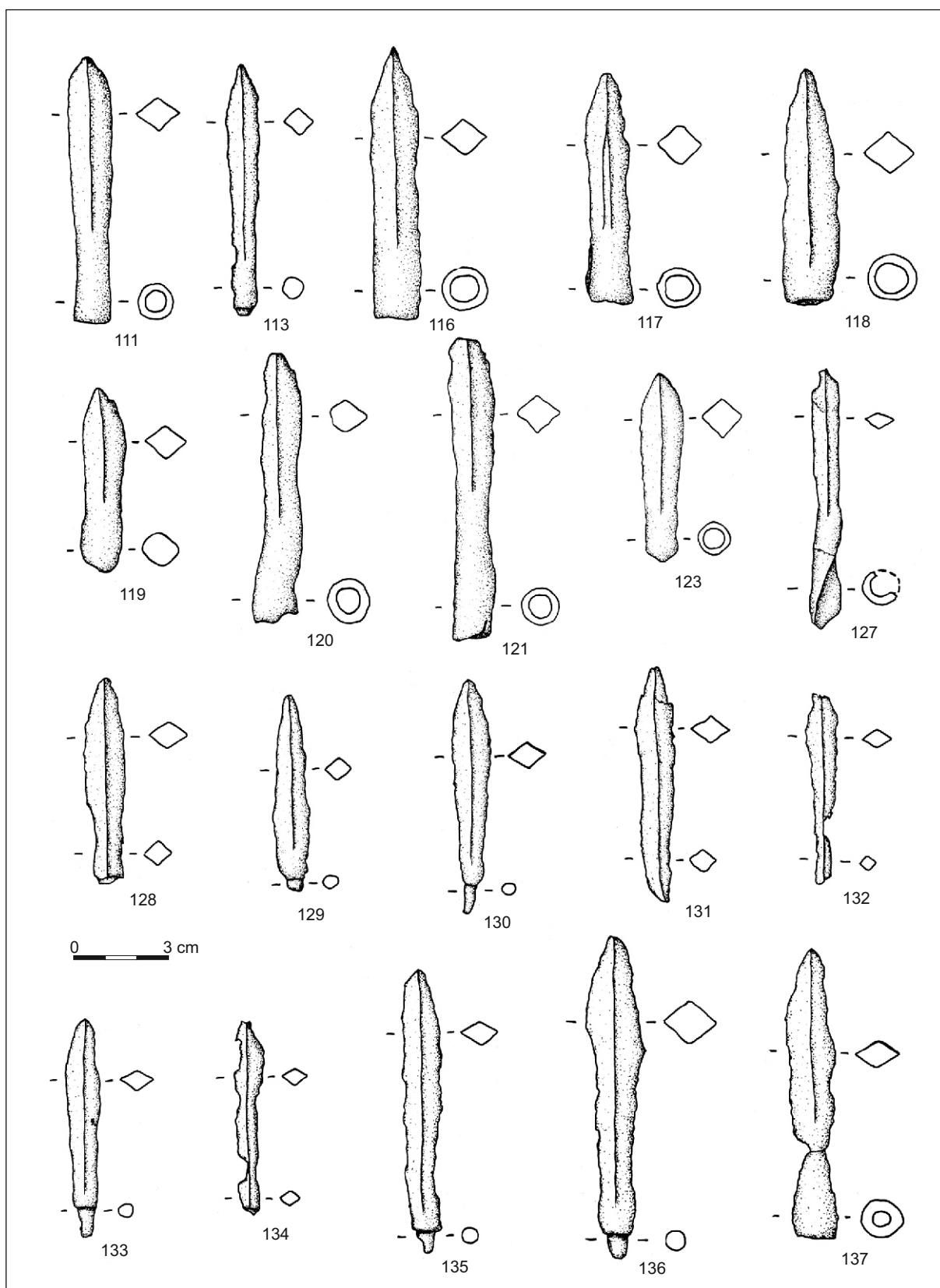


Fig. 6. Choceň, Zítkov Castle. Projectile heads from the site. Drawing by T. Záruba.

Ryc. 6. Choceň, zamek Zítkov. Groty broni strzelczej odkryte na stanowisku. Rys. T. Záruba.

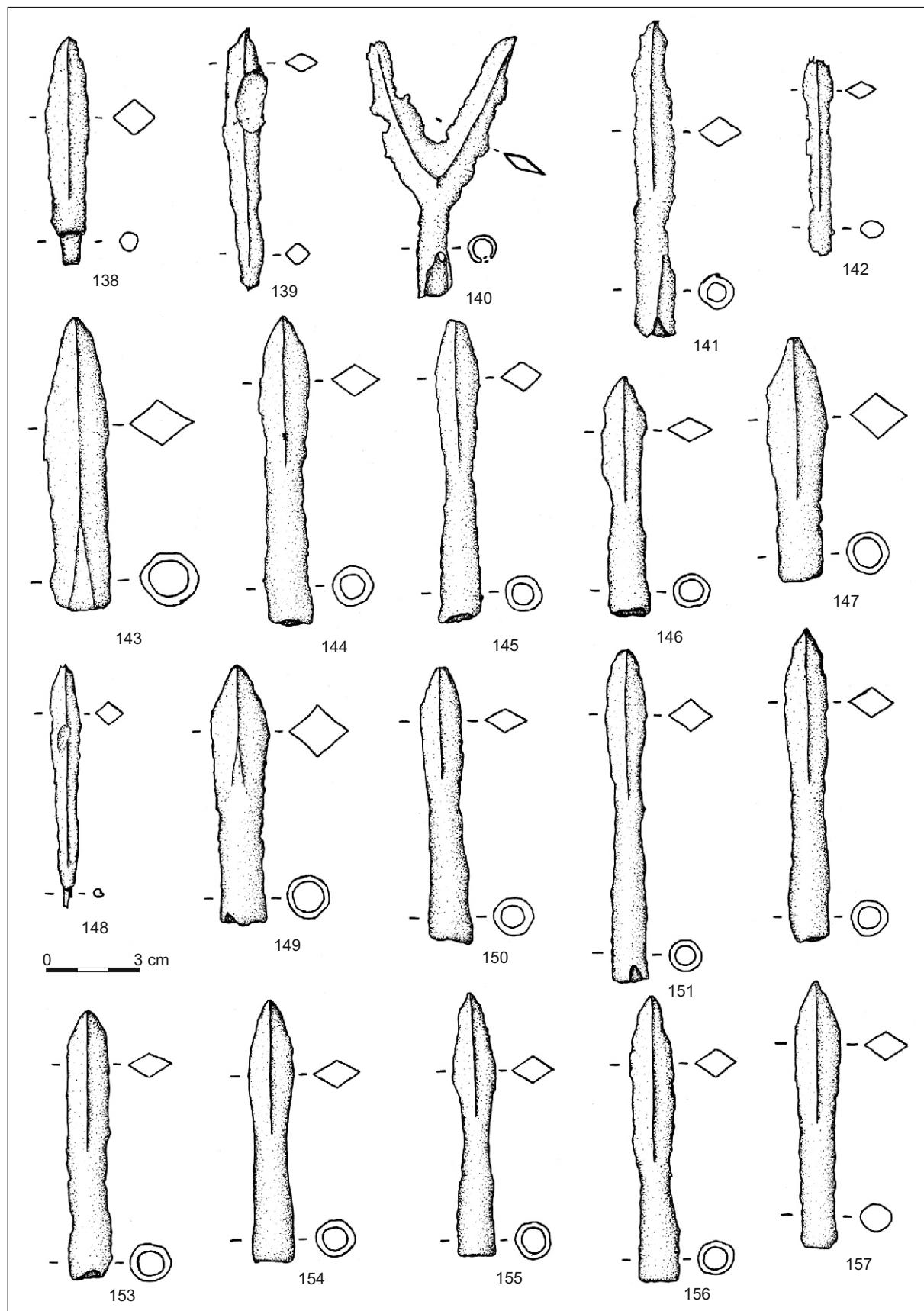


Fig. 7. Choceň, Zátkov Castle. Projectile heads from the site. Drawing by T. Záruba.

Ryc. 7. Choceň, zamek Zátkov. Groty broni strzelczej odkryte na stanowisku. Rys. T. Záruba.

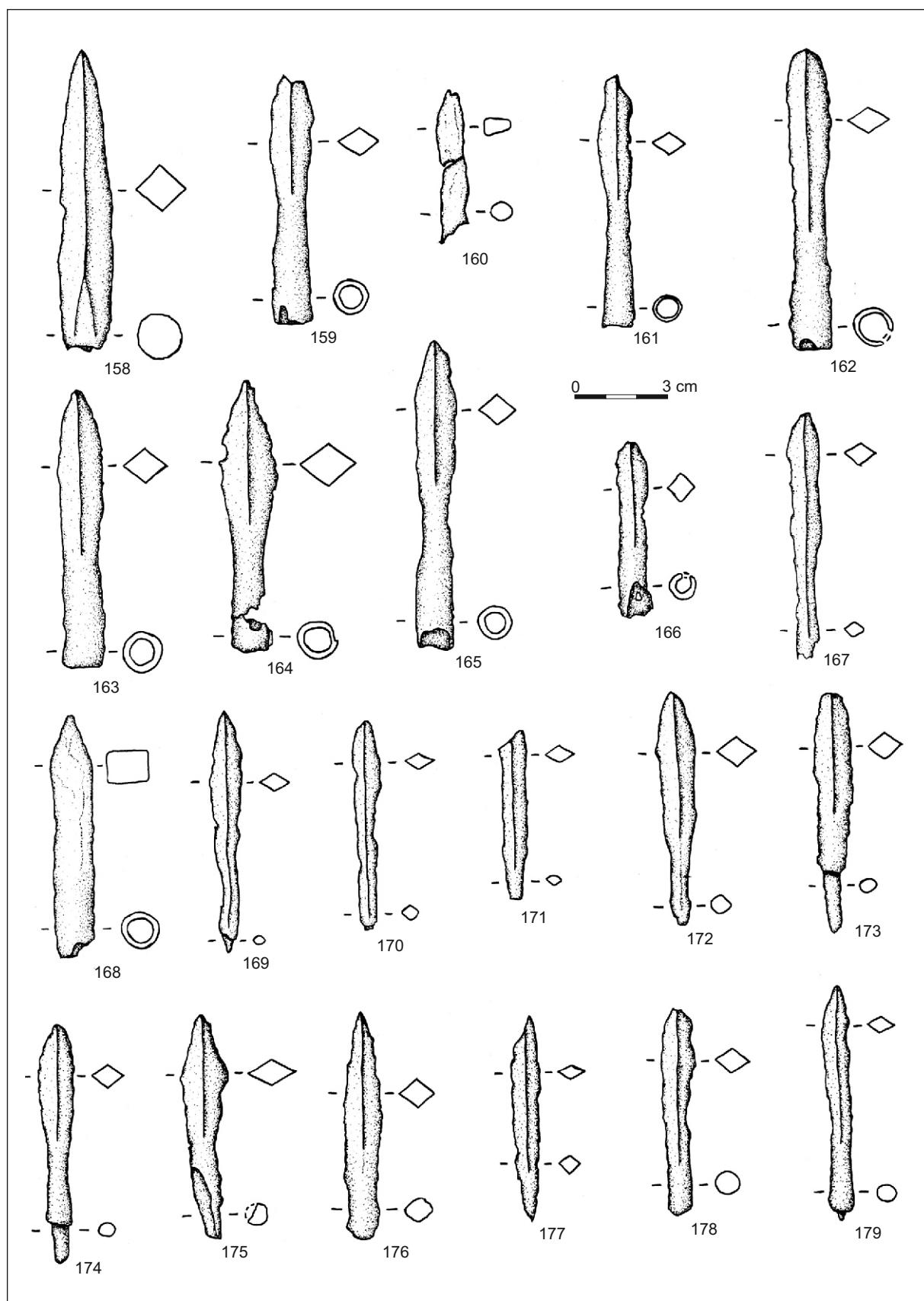


Fig. 8. Choceň, Zítkov Castle. Projectile heads from the site. Drawing by T. Záruba.

Ryc. 8. Choceň, zamek Zítkov. Groty broni strzelczej odkryte na stanowisku. Rys. T. Záruba.

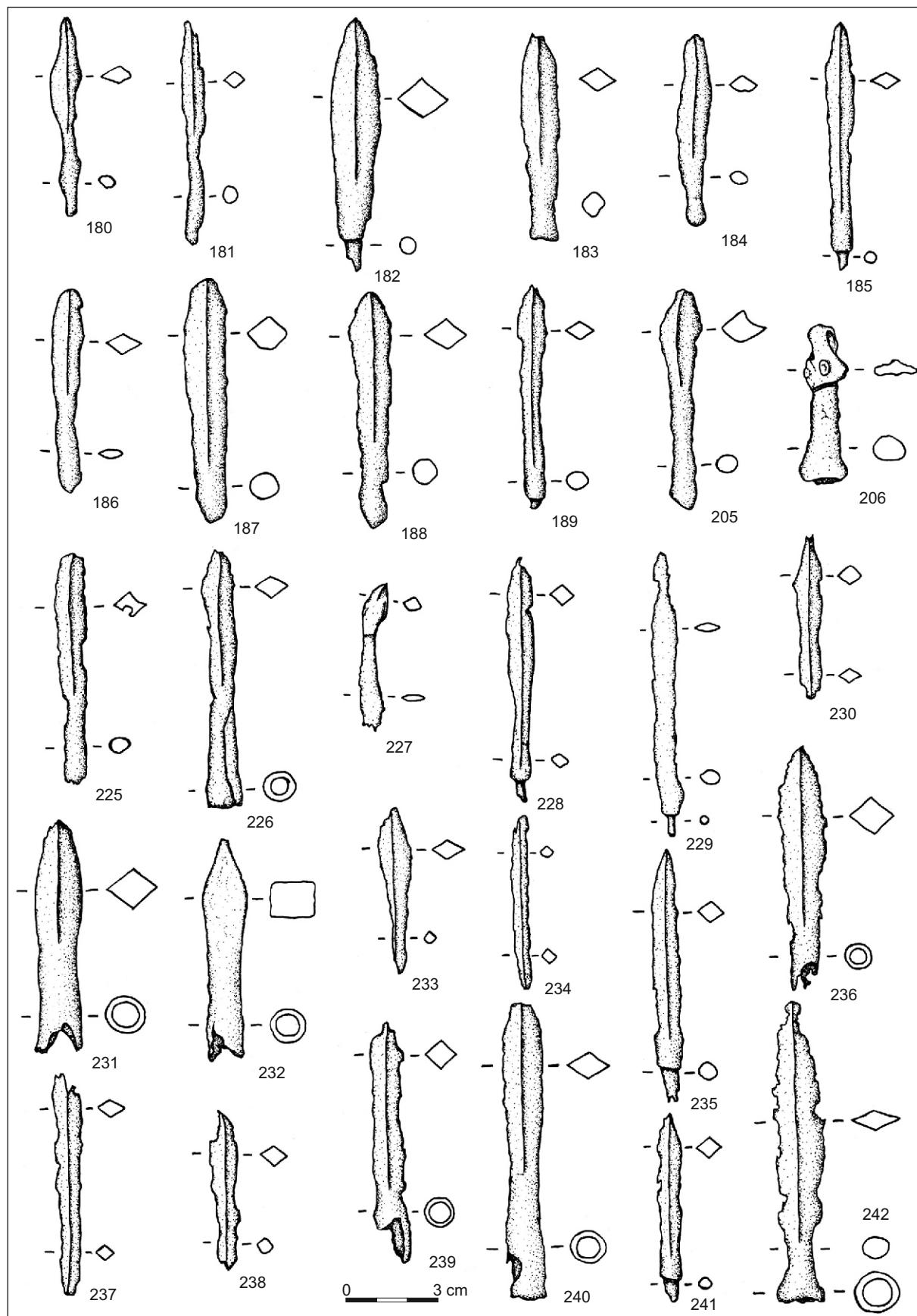


Fig. 9. Choceň, Zátkov Castle. Projectile heads from the site. Drawing by T. Záruba.

Ryc. 9. Choceň, zamek Zátkov. Groty broni strzelczej odkryte na stanowisku. Rys. T. Záruba.

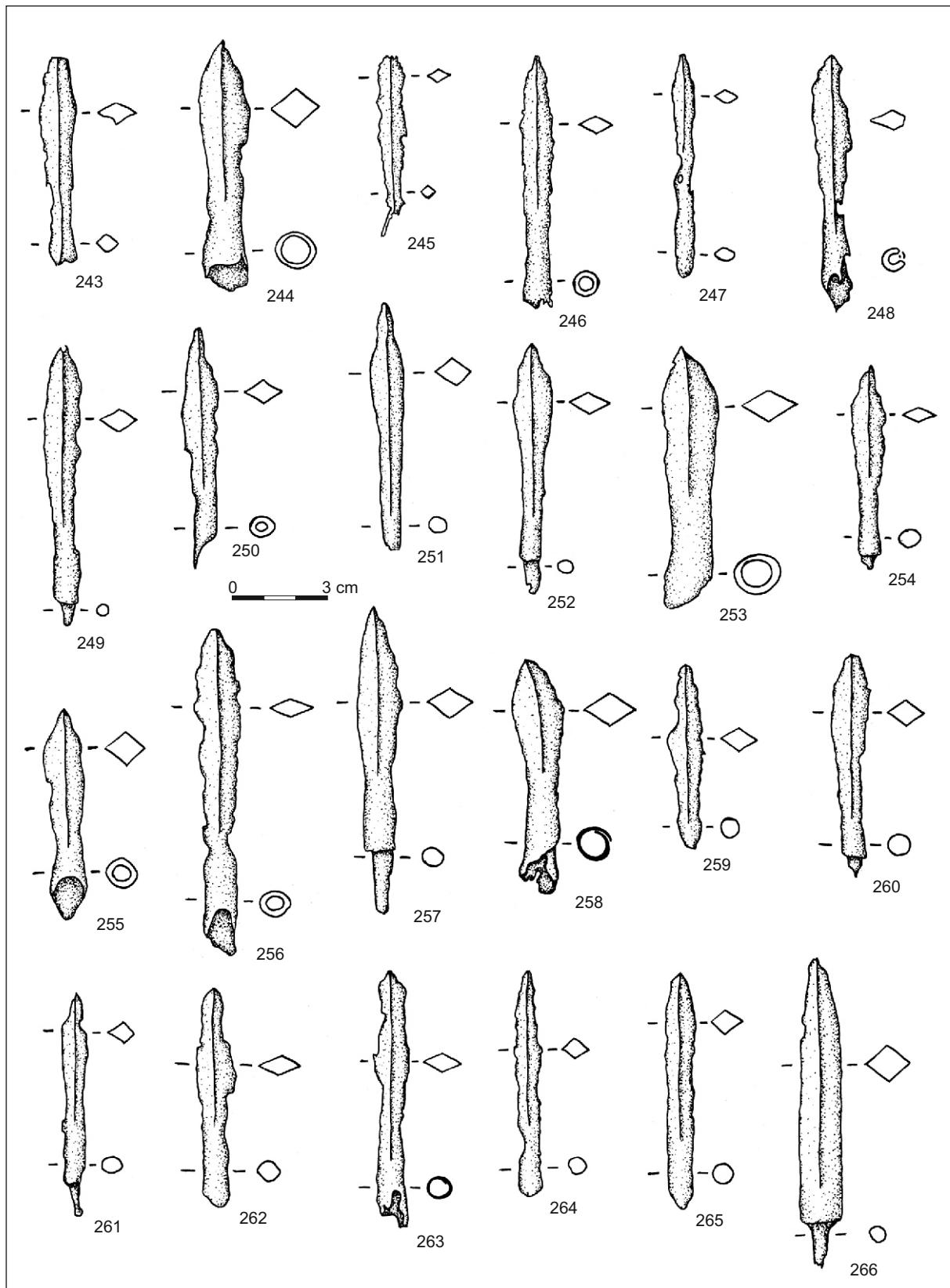


Fig. 10. Choceň, Zítkov Castle. Projectile heads from the site. Drawing by T. Záruba.

Ryc. 10. Choceň, zamek Zítkov. Groty broni strzelczej odkryte na stanowisku. Rys. T. Záruba.

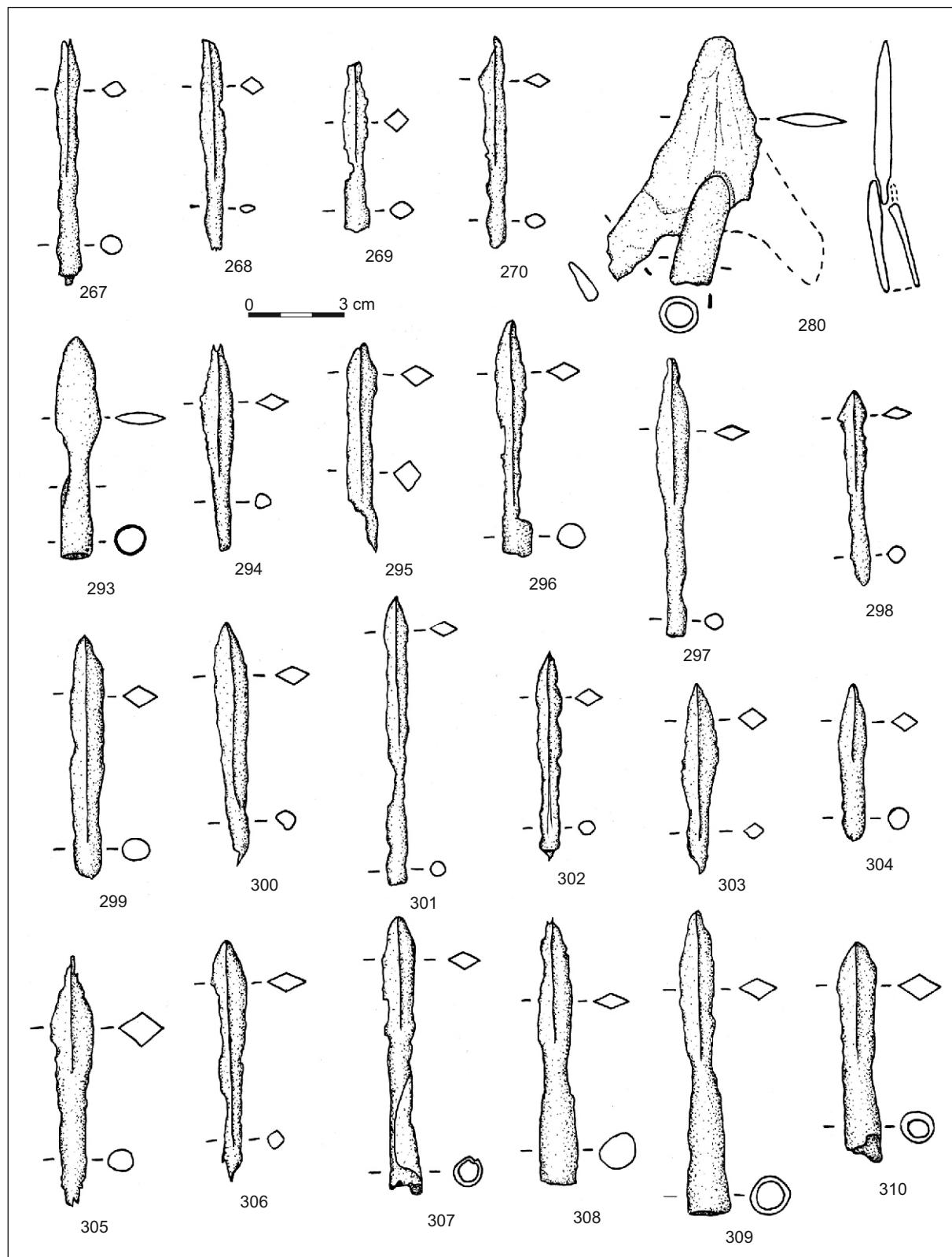


Fig. 11. Choceň, Zítkov Castle. Projectile heads from the site. Drawing by T. Záruba.

Ryc. 11. Choceň, zamek Zítkov. Groty broni strzelczej odkryte na stanowisku. Rys. T. Záruba.

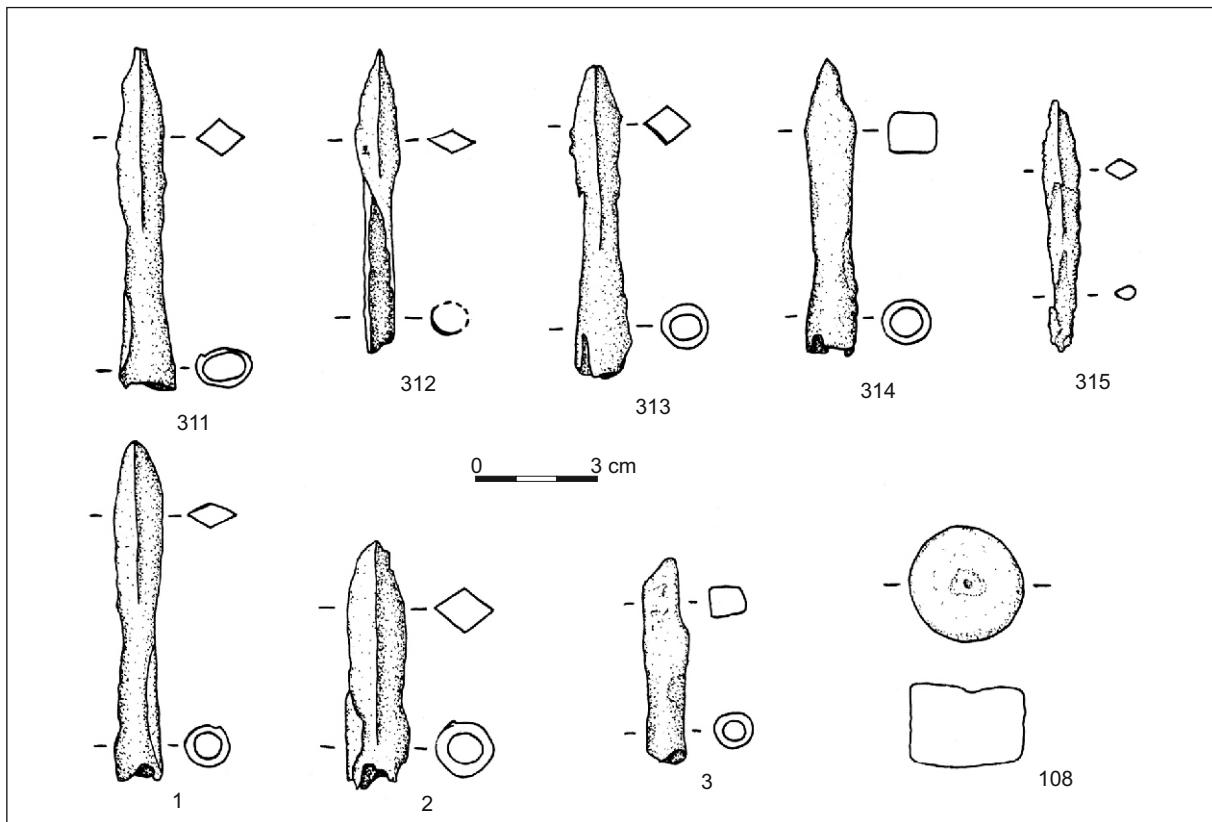


Fig. 12. Choceň, Zítkov Castle. Projectile heads and missile of fire gun from the site. Drawing by T. Záruba.

Ryc. 12. Choceň, zamek Zítkov. Groty broni strzelczej oraz pocisk od broni palnej odkryte na stanowisku. Rys. T. Záruba.

come from Konůvky (Měchurová 1995, tab. 155, VII:12, VIII:13; 1997, 95, tab. LVI:12) and from Kaltenštejn Castle (Brachtl 1995, obr. 3:10-11; Kouřil, Prix, Wihoda 2000, obr. 142:1, 3), while other specimens were found in Sezimovo Ústí (Krajíč 2003, tab. 145:50 282) or Týřov (Durdík 1982, tab. VII:1).

Among the more infrequent finds (like Posádka pri Gajaroč - see Polla 1962, obr. 7:9, 17:5; Týřov - Durdík 1982, tab. VII:2) there is also a forked projectile head (Fig. 7:140). It belongs to Types B2h after T. Durdík (1972, obr. 3), A2 after A. Ruttakay (1976, Abb. 54) and BVa after R. Krajíč (2003, 185, obr. 151). The beginning of the occurrence of forked arrowheads in the archaeological record is usually connected with the arrival of the Old Magyars (Dostál 1966, 73; Durdík 1972, 5). These projectile heads are also supposed to have been used for hunting (Harmuth 1975, 78; Krenn 1985, 52; Zimmermann 2000, 29).

When following up the spatial distribution of projectile heads, we can generally observe their absence on the eastern slope (Fig. 13). This, however, is not a reflection of reality but a concurrence of several factors. From the available information

we know that this area (as well as the area of the northern slope below the inner bailey of the castle) has been exploited by illegal treasure hunters with metal detectors who also found projectile heads. The eastern slope below the inner bailey, moreover, is covered with many iron nails related to building structures in the inner bailey, which disguise many of the projectile heads. Moreover, due to the absence of written sources we cannot answer the question whether all projectile heads found their way to the ground in the course of a single armed conflict within a relatively short time, or they are result of repeated military actions within a longer period of time. However, it is necessary to take into consideration that other finds, provided that they enable us to propose a chronological evaluation, do not allow to date the founding of the castle before the mid-14<sup>th</sup> century. This, after all, is also confirmed by the layout of the castle.

From among 206 finds, 97 specimens (47.1%) are tanged projectile heads, while 109 specimens (52.9 %) are socketed ones. On the basis of general plans of distribution it can be said that while socketed projectile heads occur



Fig. 13. Choceň, Zátkov Castle. Projectile heads orientation (blue – tanged points, red – socketed points). *Elaborated by D. Vich.*

Ryc. 13. Choceň, zamek Zátkov. Sposób ułożenia odkrytych grotów broni strzelczej (kolor niebieski – groty z trzpieniem, kolor czerwony – groty z tulejką). *Oprac. D. Vich.*

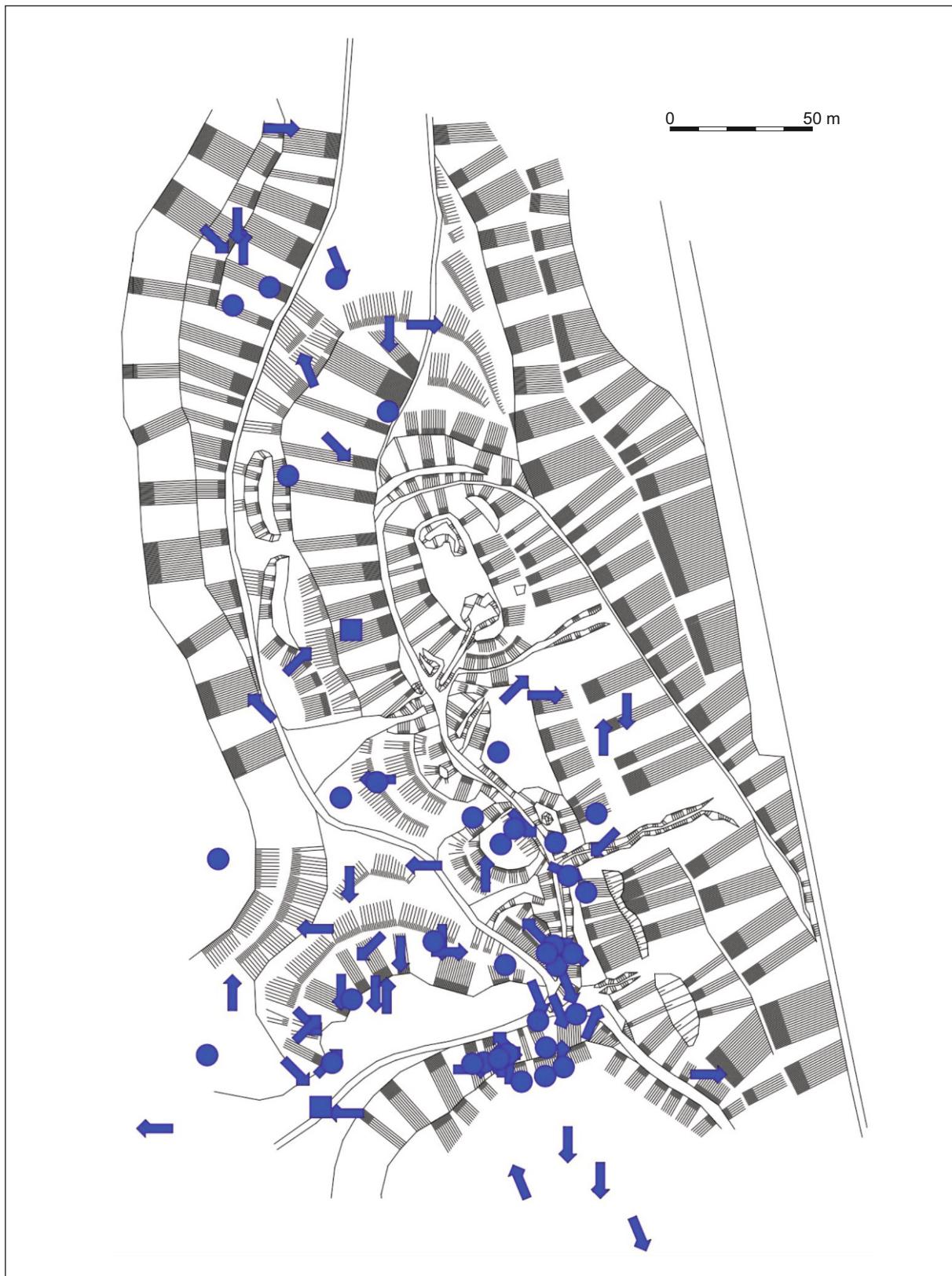


Fig. 14. Choceň, Zítkov Castle. Tanged projectile heads: arrow – oriented points, square – points with tip or base turned down to the ground, circle – points with undetermined orientation. *Elaborated by D. Vich.*

Ryc. 14. Choceň, zamek Zítkov. Sposób ułożenia odkrytych grotów z trzpieniem: strzałka – znaleziska grotów z orientacją, kwadrat – groty skierowane liściem bądź trzpieniem w kierunku ziemi, kółko – groty o nieokreślonej orientacji. *Oprac. D. Vich.*



Fig. 15. Choceň, Zítkov Castle. Socketed projectile heads: arrow – oriented points, square – points with tip or base turned down to the ground, circle – points with undetermined orientation. *Elaborated by D. Vích.*

Ryc. 15. Choceň, zamek Zítkov. Sposób ułożenia odkrytych grotów z tulejką: strzałka – znaleziska grotów z orientacją, kwadrat – groty skierowane liściem bądź tulejką w kierunku ziemi, kółko – groty o nieokreślonej orientacji. *Oprac. D. Vich.*

more or less evenly, except the eastern slope, we can observe a distinct concentration of tanged projectile heads in the southern part of the castle hill and in the area of the above-mentioned access neck. This fact is probably not accidental but reflects a specific historical event. In an effort to understand this situation, however, we encounter difficulties associated with the use of individual types in various time periods. Researchers have long debated a possibility of distinguishing bolt heads from arrowheads (e.g. Durdík 1983, 18; Krenn 1985, 47; Zimmermann 2000, 19-21), or a different use of bow and crossbow in combat (Měřinský 2007, 83).

Apart from a few exceptions, all projectile heads surveyed by a handheld GPS device enable us to carry out a spatial evaluation. For most artefacts, moreover, we also know the alignment in which they were found. The position at the time of discovery was recorded for 140 artefacts (68.0 %), out of which 80 specimens (38.8 % of the total) are socketed projectile heads, and 60 specimens (29.2 %) are tanged ones (Figs. 14-15). An important conclusion can be drawn from these observations. The projectile heads are mostly aligned with their longer axes downhill, perpendicular to the contour lines, with their tips turned either towards or away from the castle. A question remains whether this alignment is a result of post-depositional processes in the past centuries, or if the projectile heads have retained their original location and alignment at the time of deposition. Thus, they would provide information concerning the shooting direction of the defenders (direction away from the castle) and the invaders (direction towards the castle). An interesting clue is offered by a detail in the northern part of the access neck with the castle hill. Many projectiles in this area are aligned in the same direction, with their tips turned away from the inner bailey of the castle (those directed towards the inner bailey are much less frequent), which in this case, however, does not correspond to the slope declination. The projectiles thus are not deposited here perpendicular to the contour lines, but askew to them, and the same alignment is also observed for finds from the platform above the northern slope of the access neck. This fact indicates that this phenomenon is not accidental and does not depend on post-depositional processes only. These places thus can be interpreted as the impact area of projectiles shot by defenders of the castle. For finds which do not exhibit the uphill/downhill alignment we cannot identify any prevailing tendency. They

might represent isolated evidence of different shooting directions, but in fact we must rather take into consideration the impact of post-depositional processes on some finds. Provided that this interpretation is correct, we cannot identify any preferred directions of attack reflected by an increased number of projectiles. The shooting by invaders, according to distribution of discovered projectile heads, was targeted more or less evenly at the whole castle. Some of the arrowheads may have been deformed by hitting a hard surface. But we do not know to what extent their present-day appearance was influenced by the aggressive conditions in which they rested.

### Conclusions

Zítkov Castle became, at least in one case, a scene of military events associated with the capture of the castle. Based on the presence of a lead projectile (other pieces may have fallen prey to illegal detector activities which are mainly targeted at objects from non-ferrous metals) this event occurred at the end of the 14<sup>th</sup> – the early 15<sup>th</sup> centuries – the presence of projectiles from the earlier phases of the High Middle Ages is unclear. With regard to a two-palace layout of the castle and to other archaeological finds, the evidence does not suggest the presence of a castle until the late 14<sup>th</sup> century. If these projectile points are indeed earlier, they must refer to some event without a connection to the castle milieu. However, regarding the number of these projectiles (primarily slender tanged projectile heads of Type D 2-4 or D 2-5 after B. Zimmermann), it is much more likely that these finds are also associated with unsettled events at the end of the 14<sup>th</sup> or the beginning of the 15<sup>th</sup> century.

The concentration of archaeological finds, mainly projectile heads, on the access neck connecting the castle hill with the fore-field clearly confirms that it is the original medieval terrain, and not the result of any modern terrain modifications. The considerable accumulation of tanged projectile heads in this area is not accidental. On the other hand, we cannot interpret this without any extensive large-scale archaeological excavations which would identify possible light building structures in this area.

The analysis of the alignment of the finds, which is known in about two thirds of all cases, shows that these artefacts are mostly deposited with their longer axes turned downhill. It seems that despite the considerable impact

of post-depositional factors, the projectile heads can provide information on shooting direction, provided that a sufficient number of finds is available. This theory, however, must be verified at other sites with sufficient numbers of projectile

heads, where the alignment of artefacts must be followed up in detail with the help of azimuth. Nevertheless, it will not be easy to find such a site which has not fallen prey to illegal artefact collecting.

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## POCISKI BRONI STRZELCZEJ Z ZAMKU ZÍTKOV KOŁO CHOCEŃA

### Streszczenie

Jednym z ważniejszych stanowisk mogących istotnie poszerzyć naszą wiedzę o sposobach zdobywania średniowiecznych fortec jest zamek Zítkov zlokalizowany ok. 1650 m na zachód od centrum miasta Choceň (okres Ústí nad Orlicí, Pardubický kraj, Republika Czeska), na wzgórzu górującym nad rzeką Tichá Orlice, ok. 330 m n.p.m. (ryc. 1-2).

Studia nad późnośredniowiecznymi fortyfikacjami w okolicach Choceń są niezwykle trudne z uwagi

na rozbieżności między wymową źródeł pisanych a datowaniem zachowanych reliktów i odkrywanych artefaktów.

Najstarsze wzmianki zawierają informacje, iż w ciągu XIV stulecia doszło do rozdzielenia miasta Choceň pomiędzy ród Lichtenburgów, który dzierżył „państwo litickie”, a ród z Potštajna, siedzący na zamku Žampach. Podczas gdy w części podlegającej tym ostatnim żaden zamek ani gródek nie są wspomi-

nane, o tyle Ješek Pykna z Lichemburga jest w 1388 r. wymieniany jako pan na Novém Hradě, natomiast w czasach Zygmunta Pięknego z Lichemburga (po-

czętek XV w.) istnieje w Choceń twierdza. Po raz ostatni jest on wzmiarkowany w 1417 r., jednak jest już w rękach rodu z Častolovic. W 1433 r. doszło do sporu o sukcesję po zmarłym bezdzietnie Zygmuncie Pięknym, zakończonego splądrowaniem zamku. Na podstawie tych wzmiarek zamek Zítkov jest utożsamiany z Novým Hradem wspominanym w 1388 r.

W latach 2007-2011 przeprowadzono na relikach zamku prospekcję wykrywaczami metali. Większość z ponad 300 odkrytych artefaktów stanowiły groty broni strzelczej, odkryte w różnych partiach zamku i namierzane urządzeniami GPS. Podstawowe informacje dotyczące tych znalezisk prezentują tabele (tab. 1-2).

W trakcie prospekcji natrafiono na 204 groty broni strzelczej (ryc. 3-12), a jeszcze trzy inne, bliżej niezlokalizowane znaleziska, pochodzące z amatorskich detekcji, przechowywane są w zbiorach Regionalnego Muzeum w Vysokém Mýtě (tab. 3). Dodatkowo natrafiono też na jeden walcowaty pocisk broni palnej. Ze względu na warunki zalegania groty zachowały się w bardzo złym stanie.

Pozyskany zbiór grotów pozwala na wydzielenie dwóch grup zabytków, uwzględniających sposób ich mocowania na promieniu bądź brzechwie – a więc groty z tulejką i trzpkiem. Wśród nich 105 egzemplarzy (51,5%) to groty z trzpkiem, natomiast 99 okazów (48,5%) to zabytki z tulejkami. Niemal wszystkie te zabytki reprezentują popularne w średniowieczu typy. Wyjątkiem jest grot nr 64 (ryc. 4:64), którego pierwowzory są tradycyjnie wiązane z Madziarami, zajmującymi w początkach X w. Kotlinę Karpacką. Z wojeskami węgierskimi wiązane są też okazy datowane na XIII-XIV w., w tym dobrze udokumentowany

stratygraficznie zabytek z zamku w Veselí nad Moravou. Dwa egzemplarze reprezentują też typ z zadziorami (ryc. 3:12; 11:280), używany głównie w myślistwie. Do niezbyt częstych znalezisk należy także grot z rozwidlonym liściem (ryc. 7:140).

Analiza rozmieszczenia grotów ukazuje, że podczas gdy groty z tulejkami – z wyjątkiem wschodniego stoku – występują mniej lub bardziej równomiernie, to egzemplarze z trzpieniami koncentrują się głównie w południowej części wzgórza zamkowego i przewężeniu, którym biegła droga do zamku. Dla 140 grotów (68,6%) udało się ustalić dokładne ułożenie w ziemi w momencie odkrycia. Wśród nich 80 egzemplarzy (39,2%) to groty z tulejką, a 60 okazów (29,4%) to groty z trzpieniem (ryc. 14-15). Ostrza i liście grotów skierowane są głównie w poprzek warstw – zarówno w kierunku zamku, jak i w stronę przeciwną. Powstaje oczywiście pytanie, czy ułożenie grotów wynika z procesów postdepozycyjnych, czy też rzeczywiście oddaje stan pierwotny, a więc przekazuje informacje o kierunku ostrzału zarówno ze strony obrońców, jak i obiegających zamek. W północnej części wspomnianego przewężenia zarejestrowano groty skierowane ku centralnej części zamku, a w kilku przypadkach również w odwrotną stronę, nie całkiem jednak zgodnie z nabyleniem stoku. Sugeruje to, że ułożenie pocisków może być niezależne od procesów postdepozycyjnych. Analiza tych znalezisk sugeruje, że zostały one wystrzelone przez obrońców zamku. Wydaje się więc, iż mimo znacznego wpływu procesów postdepozycyjnych znacząca liczba dobrze udokumentowanych pocisków może dostarczyć wiarygodnych informacji na temat kierunku prowadzenia ostrzału. Teoria ta musi być jednak zweryfikowana na innych, podobnych stanowiskach, na których występują liczne znaleziska grotów broni strzelczej.