ON THE ROAD TO THE OTHER WORLD. PLANTS IN THE BURIAL RITES OF BOGACZEWO CULTURE (ROMAN PERIOD, NORTHEAST POLAND)

MACIEJ KARCZEWSKI

Abstract

Charred microscopic plant remains, other than charcoal, uncovered in the contents of grave pits, provide information on the use of plants as grave goods and other aspects of the burial rite, as well as on the taxonomic composition of the plant cover of the cemetery and the landscape around it. This paper presents the results of an analysis and interpretation of such eco-facts from the Bogaczewo culture cemetery at Paprotki Kolonia site 1 in the Masurian Great Lakes District. All of the charred plant remains came from the contents of 87 grave pits with pyre remains and contents of urns, dated, in general, to the early Roman Period and phase C_1. Thirty-six taxons of different kinds were represented among them, including cereals and wild plants of different habitats. An analysis of the age, sex, number of individuals and social status of the deceased, defined on the basis of the grave goods and the use of plants in the burial rite, showed no pattern. The only probable rule seems to be the fact of the domination of wheat among the cereals uncovered in grave pits. The interpretation of the function of plants put intentionally on the pyre in the burial rite showed that their use was connected with universal and complicated symbols of cereals and plant food. Wild plants might have been used in the rite for their medicinal or magic properties. Some plants discovered in the contents of grave pits might also have overgrown the sites of the pyres and their close vicinity. Their taxonomic set shows that at the time of the use of the cemetery at the Paprotki Kolonia site 1, its surface was deforested and overgrown with herbal plants.

Key words: environmental archaeology, Roman Period, Bogaczewo culture, plants, burial ritual.

Charcoal and other macroscopic plant remains discovered in grave pits are evidence of the use of plants in the burial rites of Bogaczewo culture and the whole of the West Baltic culture circle. Charred microscopic plant remains other than charcoal provide information on the use of plants as grave goods and other aspects of the burial rite, as well as on the taxonomic composition of the plant cover of the cemetery and the landscape around it.

So far, macroscopic plant remains other than charcoal have been discovered only at the Bogaczewo culture cemetery at Paprotki Kolonia site 1 in the Masurian Great Lakes Region (Fig. 1).[1]

All the charred plant remains came from the contents of 87 grave pits and the contents of urns (Bieniek 2008; Karczewski *et al*. 2009, p.141, Table 2). Some of them were dated to the Early Roman Period and phase C_1 (graves 200, 290, 317, 360, 382, 394, 397, 407, 412, 413, 415, 417, 419, 422, 425, 426, 437, 442, 449, 450, 453, 454, 456, 458, 460, 463, 464, 475, 493, 496, 501, 503, 507, 508, 511, 513, 514, 517). Some of them were also discovered in the contents of graves dated to a wider chronological framework. Five of them came from phase B_2 or C (graves 416, 418, 451, 497, 499), one from the whole Roman Period (grave 432) and one from the Roman Period and phase D of the Great Migrations Period (grave 516). Forty-two graves can be dated in general from the beginning of the Roman Period to the developed phase of the Great Migrations Period (graves 295, 330, 351, 367, 404-406, 408, 409, 411, 427, 428-433, 435, 436, 438-441, 445, 448, 452, 466, 467, 470-474, 476-480, 489, 490, 492, 498) (Fig. 1, Table 1) (Karczewska M. 2008).

Unfortunately, the exact number of graves in the cemetery at Paprotki Kolonia site 1 which contained primarily charred plant remains is unknown. Collecting samples of macroscopic plant remains from the grave pits started in 2000, almost ten years after the beginning of the excavations at the site.[2] From 2000 to 2007, 354 samples were analysed. Most of them came from graves uncovered in 2006 (57 samples) and 2007 (192 samples). The volumes and stratigraphical positions of the samples had a basic importance for the results of the analysis. At the beginning, from 2000 to 2003, the volume of samples was 0.5 litres, in 2004 and 2005 one

[1] The author of the palaeobotanical evaluation is Dr Aldona Bieniek from the Polish Academy of Sciences Institute of Botany in Krakow.

[2] This paper presents the results of an analysis of macroscopic plant remains uncovered at the cemetery at Paprotki Kolonia site 1 between 2000 and 2007. Macroscopic plant remains uncovered in 2009 and later seasons will be analysed with the final study of the results of the excavations.

Fig. 1 The cemetery at Paprotki Kolonia site 1 (partly explored between 1991 and 2007). Graves with macroscopic plant remains are marked.

litre, and in the years 2006 and 2007, whole preserved grave pits were analysed.[3]

The stratigraphical positions of the samples determine the kind of information it is possible to obtain from macroscopic plant remains. The most important issue connected with sampling was to define the formation of the different layers in grave pits, and to indicate which of them included plant remains deposited originally (Table 1). Charred macroscopic plant remains were uncovered in one out of 22 graves explored in the year 2000, one out of 26 graves in the year 2002, four out of 32 graves in 2003, three out of 26 graves in 2004, as many as 25 out of 35 graves in 2006, and 52 out of 72 graves in 2007.

Except for two samples from graves 478 and 479, all the other charred plant remains were discovered in grave pits filled with charcoal from pyres (Table 1). So it can be assumed that all of the samples were charred in the fire of a pyre. However, it cannot be ruled out that some plant remains might have become charred during other, so far unknown, burial rituals.

Macroscopic plant remains from graves 478 and 479 were uncovered in grave pits with no pyre remains, filled with mixed dark brown sand (Table 1). Similar layers were uncovered in the cemetery at Paprotki Kolonia site 1 in the upper parts of many other grave pits. They were probably formed as the result of digging in younger graves into clusters of graves. The stratigraphy of the graves shows that this activity came before the disclosure of the upper parts of urns from earlier neighbouring burials. Translocation from earlier grave pits might be an explanation why the remains of knawel (*Scleranthus annuus*) and common knotgrass (*Polygonum aviculare*) were uncovered in grave pit 478. This grave was dug in two older graves, 476 and 477, with pyre remains in the pits (Fig. 1, Table 1); whereas grave 479 was heavily destroyed and had no relations with other graves. A single seed of wheat (*Triticum* sp.) was found in it. It was probably displaced into the grave pit from the surface of the cemetery, together with a layer containing macroscopic plant remains from earlier destroyed grave pits.

So far, except for graves 478 and 479, charred plant remains were not uncovered in grave pits with no pyre remains. As has been mentioned above, the ritual of placing pyre remains in graves disappeared in the cemetery at Paprotki Kolonia site 1 in the Late Roman Period. However, the lack of charred plant remains in graves without charcoal does not mean that in phases C_2 and D the custom of using plants in the burial rite did not exist. Their charred remains were simply not put into grave pits at that time.

The dependence between the size of the sample and the effectiveness of uncovering macroscopic plant remains, as well as searching for such remains just since the year 2000, are reasons why we cannot make conclusions on the relations between the burial rite and the spatial layout of the cemetery. These remains were found in graves in all parts of the cemetery at Paprotki Kolonia site 1. The concentration of graves with plant remains in the northern part of the cemetery is caused by the fact that this part of the site was excavated in 2006 and 2007, when the method used for extracting plant remains was most effective (Fig. 1). This concentration also shows that the custom of the use of plants in the burial rite was common in that cemetery in the Early Roman Period and phase C_1.

According to the taxonomy of charred macroscopic plant remains from the cemetery at Paprotki Kolonia site 1, it can be pointed out that 36 taxons of different kinds were represented among them. There were cereals: wheat (*Triticum* sp.), emmer wheat (*Triticum* cf. *dicoccum*), emmer wheat or einkorn (*Triticum* cf. *monococcum/dicoccum*), barley (*Hordeum vulgare*) and common millet (*Panicum miliaceum*), as well as wild plants of different habitats, with ribwort (*Plantago lanceolata*), pigweed (*Chenopodium* t. *album*), clover (*Trifolium* sp.), mint (*Mentha* sp.), tuber oat grass (*Arrhenatherum elatius*), fragments of hazelnut shell (*Corylus avellana*), and the seed of mistletoe (*Viscum album*) (Table 1, 2) (Karczewski *et al*. 2009, p.141, Table 2).

To interpret the function of plants in the burial rite in the cemetery at Paprotki Kolonia site 1 is very difficult, and devoid of any basis other than archaeological and palaeobotanical data. The lack of cultural continuation between the Roman Period and the last two centuries, as well as the lack of written sources earlier than the Middle Ages, means that the use of knowledge based on them and ethnographic data, according to the utilitarian and symbolic use of plants, is very limited.

[3] The change in the volume of samples required different methods for extracting macroscopic plant remains from grave pit fills. The basis for all methods was flotation. Large volume samples were rinsed by the use of a simple unit consisting of a large container and three sieves of different sizes of mesh. Two sieves, of which the mesh sizes were 4 by 4 milimetres and 2.5 by 2.5 milimetres, were placed at the top of the container. The sand from the grave pit fill was put into the top sieve and rinsed with water. All small objects overlooked during excavation (grave goods, human and animal bones, potsherds and large plant remains) were recovered in this way. Sand and small plant remains stayed on the surface of the water inside the container. Charred plant remains emerged with the water through the plughole at the top of the container, and were embedded inside a third sieve with a mesh size of 0.2 milimetres. A heavy fraction was obtained from the bottom of the container.

On the basis of archaeological and palaeobotanical data, the question of whether there was any relationship between the age, sex and social status of the deceased and the use of plants in the burial rite can be checked. According to the type of grave goods, a few different types can be pointed out (Table 1). Some of them contained ornaments only, and sometimes a very rich set (graves 317, 394, 407, 412, 416, 417, 419, 422, 423, 425, 426, 437, 454, 458, 460, 464, 499, 501, 503, 513, 516). Besides ornaments, this kind of grave also contained buckles and articles for everyday use: spindle-whorls, whetstones and knives (graves 200, 360, 413, 418, 433, 449, 450, 493, 507). One grave contained only weapons and horse equipment (grave 415), one contained only a weapon (grave 456), and two more weapons, ornaments, parts of a belt and whetstone or knives, and toilet accessories (graves 453 and 508). Four graves contained parts of belts or parts of belts and a whetstone or tweezers (graves 397, 463, 511, 514). Three graves contained only single knives (graves 404, 452, 498), one more only fittings (grave 448), and one a needle (grave 429). Thirty-nine graves were not equipped (graves 253, 295, 330, 351, 367, 405, 406, 408, 409, 411, 427, 428, 430, 431, 432, 435, 436, 438, 439, 440, 441, 445, 466, 467, 470-480, 489, 490, 492, 496). And finally, in two cases, macroscopic plant remains were discovered in the contents of offering pits with horse skeletons (graves 290 and 442).

The anthropological analysis of the number of individuals, the age and the sex, in spite of being inaccurate in some cases, showed that in most graves only one person was buried. In three graves two people were buried: in two of them, an adult and a child (graves 405 and 451), in the third two children of different ages (grave 439) (Table 1).

On the basis of the correlation between age and grave goods, three categories of grave can be pointed out. The first category is formed of graves of men, warriors and riders (graves 382, 415, 453, 456, 508, 517). The second one includes the graves of adults, and in one case children of nine or ten years old, furnished with a rich set of ornaments and parts of clothes fittings (graves 200, 422, 458, 503, 513). The third category is the most numerous, with graves of adults and children, poorly furnished or without grave goods.

The richest sets of macroscopic plant remains were discovered in the graves belonging to both adults furnished with ornaments or weapons (graves 200, 415, 458, 464), and adults whose graves were poorly furnished or unequipped (graves 409, 411, 429, 438, 441, 463, 475, 477, 498). This shows that there was no dependence between the age, sex and social status, and the use of plants in the burial rite. Such a dependence did not take place even in cases when the intentional use of plants was certain, in cases of cereals, mistletoe (*Viscum album*), hazelnut (*Corylus avellana*), probably vetch (cf. *Vicia* sp.), and tuber oat grass (*Arrhenatherum elatius*) (Table 1) (Karczewska *et al.* 2007, p.65; Karczewski *et al*. 2009, p.141).

Macroscopic remains of cereals were found in 52 grave pits (Tables 1; 2). Cereals were discovered in the graves of both adults and children, with all categories of furnishing. Cereals from graves 452 and 464 had the richest taxonomic set. The first was furnished only with knives, the second one included a necklace of glass beads.

Fragments of hazelnut shell (*Corylus avellana*) came from grave 317. It contained the ashes of an adult of unknown sex, and was furnished with fragments of eye fibula and an iron ring of unidentified function (Table 1).

A mistletoe seed (*Viscum album*) was in grave 429, of a person of unknown age and sex, furnished with an iron needle. Macroscopic remains of vetch (cf. *Vicia* sp.) were also discovered in grave 409, of an adult of unknown sex, with a complete lack of furnishings (Table 1).

The charred remains of tuber oat grass (*Arrhenatherum elatius*) were included in 13 graves (295, 416, 432, 437, 441, 453, 458, 460, 463, 473, 475, 477, 493) and one offering pit with a horse skeleton (grave 290). Human graves represented all categories of age and sex, as well as all categories of furnishing (Table 1).

A comparison of the taxonomic set of charred plant remains, probably used in the burial rite, with the age, sex and social status of the deceased, defined on the basis of the grave goods, showed no pattern. It is worth emphasising the prevalence of the use of plants in the burial rite in the Early Roman Period and phase C_1 in the cemetery at Paprotki Kolonia site 1. The fact of the domination of wheat (*Triticum*) among cereals also seems to be significant. The pointed regularity and lack of rye in grave pits shows that in the burial rite only higher-value species of cereals were used (Table 2) (Karczewski *et al*. 2009, p.141). In some cases, it was probably complete ears. This fact was confirmed by a piece of an ear found in grave 422.

An interpretation of the function of plants intentionally put in the pyre in the Bogaczewo culture burial rite is impossible. This is because of the fragmentary nature of archaeological and palaeobotanical data, known from only one cemetery of this culture, and a lack of other sources. We can suggest that the use of plants in the burial rite was connected to the universal and complicated symbolism of cereals and plant food in general

in Indo-European myths (Kempiński 2001, p.482ff). This hypothesis is all the more probable in light of the fact of the use in this rite of only the most value species of cereal, especially wheat. In the religious beliefs of Prussian tribes, cereals were symbols of the gods, the harvest and fertility (Fiszer 1937, p.23).

Wild plants might have been used in the rite according to their medicinal or magic properties. Some of them were also used as part of the construction of the pyre (Karczewski *et al.* 2009, p.141). Other plants discovered in grave pits grew over the sites of the pyres and in the close vicinity of them. This is why these species of plant are the basis for the reconstruction of pictures of plant assemblages which grew over the cemetery and in its close vicinity.

Edible plants were represented by tuber oat grass (*Arrhenatherum elatius*), black-bindweed (*Fallopia convolvulus*), mint (*Mentha* sp.), ribwort (*Plantago lanceolata*), green bristle grass (*Setaria viridis*) and clover (*Trifolium* sp.) (Rostafiński, Seidl 1973, pp.152, 222; Rumińska 1981, p.221; Mowszowicz 1983, p.597; Łuczaj 2002, pp.26-27, 88, 90, 118-119, 159, 215; Podbielkowski, Sudnik-Wójcikowska, 2003, p.518; Dreyer 2008, p.35). In many traditional cultures, mistletoe (*Viscum album*) was used as a panacea (Kempiński 2001, pp.211-212; Macioti 2006, pp.51, 233, 235, 237, 239-240). It was used by the Prussians as a cure, and the magic properties of mistletoe were known in Masuria in the first half of the 18th century (Fiszer 1937, p.43; Pirożnikow 2005, pp.92-93).

Mint (*Mentha* sp.) had a wide range of medicinal uses in traditional cultures. It was used as a cure for digestive problems, as an antiseptic preparation, and also as a cure for pain, fever, vomiting and bleeding (Muszyński 1958, p.115; Rostafiński, Seidl 1973, p.52; Rumińska 1981, p.221; Wallisa 1995, p.49; Łuczaj 2002, p.118). Ribwort (*Plantago lanceolata*) has similar properties (Muszyński 1958, p.84; Wallisa 1995, p.10; Łuczaj 2002, p.27).

Tall buttercup (*Ranunculus*, cf. *acris*) has special properties in comparison with other plants. It is a toxic plant which causes vomiting, bleeding and dysentery. In traditional medicine, a potion made from tall buttercup was used as a cure for pains and headaches (Mowszowicz 1976, p 66; Wallisa 1995, p.32).

Hemp (*Cannabis sativa*), containing canabioids, might have been used as a magic plant. Remains of this plant have not been discovered in grave pits so far, but the cultivation of it in the Roman Period in the Masurian Great Lakes Region was confirmed by pollen records from lakes Jędzelek, Miłkowskie and Wojnowo, around the cemetery at Paprotki Kolonia site 1 (Kupryjanowicz 2008; Wacnik 2009, p.27ff, Figs. 3, 4).

The taxonomic set of macroscopic plant remains from grave pits in the cemetery at Paprotki Kolonia shows that at the time of the use of this cemetery, its surface was deforested and overgrown with herbal plants.

The example of the cemetery at Paprotki Kolonia shows the importance of palaeoenvironmental research in the study of burial rites and the symbolic culture of the West Balts. An archaeobotanical analysis of all macroscopic plant remains, and not only charcoal, shows the wide scope of plant use in these rites, which is not limited to using wood as pyre fuel only. However, the lack of comparative data makes an interpretation of this kind of source very difficult, and burdened with a large margin of uncertainty. But that is a feature of all archaeological interpretations. In spite of this, the analysis of macroscopic plant remains should be regarded as an essential element of all archaeological investigations, not only in the remains of settlements, but also in cemeteries. It seems very important to include a search for macroscopic plant remains at the very beginning of excavations of cemeteries of the West Baltic Cultural Circle. The best results will be reached when searching for macroscopic plant remains includes total grave pit contents, and when the interpretation of the results of archaeobotanical analysis is carried out together with an archaeological analysis of the stratigraphy and other data.

Table 1. The cemetery at Paprotki Kolonia site 1. Macroscopic plant remains other than charcoal uncovered in the contents of graves and offering pits*

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
1.	**200**	B_2	urn grave	1	?	adult	- iron buckle AG3 - two belt bow-shape pendants - necklace: melted glass beads of unknown type and three bronze coin-shape pendants	layer of black sand with pyre remains in the whole grave pit	green bristlegrass (*Setaria viridis*) mint (*Mentha* sp.) clover (*Trifolium* sp.) pigweed (*Chenopodium* t. *album*) knawel (*Scleranthus annuus*) chickweed (*Stellaria* sp.) cleavers (*Galium* sp.) sorrel (*Rumex acetosella*) bud indet. indet.
								upper part of urn fill, under the cover	green bristlegrass (*Setaria viridis*)
								fill of the urn	unidentified
2.	**290**	1835±30 BP (80 cal AD – 250 cal AD) B_2-C_1	offering pit with horse skeleton	-	-	-	-	layer of ginger-grey-brown sand in the lower part of the offering pin, on the level of front part of horse skeleton	tuber oat grass (*Arrhenatherum elatius*)
3.	**295**	A_3-B_1 – E	urn grave	1	♂?	adult	-	layer of black sand with pyre remains in the middle and lower part of grave pit fill	wheat (cf. *Triticum* sp.) unidentified cereals (Cerealia indet.) tuber oat grass (*Arrhenatherum elatius*)
4.	**317**	B_2	urn grave	1	?	adult	- fragment of bronze spring of eye brooch - fragment of iron ring	layer of brown-grey sand with pyre remains in the middle part of grave pit fill	hazelnut (*Corylus avellana*)
5.	**330**	A_3-B_1 – E	urn grave	1	?	?	-	layer of brown-black sand with pyre remains in the lower part of grave pit fill	crabgrass (*Digitaria* sp.) bristle grass (cf. *Setaria* sp.)
6.	**351**	A_3-B_1 – E	urn grave	1	?	?	-	layer of black-grey sand with pyre remains in the middle and lower part of grave pit fill	crabgrass (*Digitaria* sp.)
7.	**360**	B_2	urn grave	1	?	adult	- fragments of bronze bow of brooch belonging to IV Almgrens' group - fragments of iron bow and pin of penannular brooch - iron buckle AH1 - iron knife - iron fire-steel - two fragments of iron mount	layer of black-grey sand with pyre remains in the middle part of grave pit fill	green bristle grass (*Setaria viridis*) bristle grass (cf. *Setaria* sp.)
8.	**367**	A_3-B_1 – E	urn grave	1	?	adult	-	layer of brown-black sand with pyre remains in the middle and lower part of grave pit fill	emmer wheat (*Triticum* cf. *dicoccum*)

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
9.	**382**	B_{2b}	urn grave	1	?	adult	- iron pin belonging to Group B - glass bead TM387b - melted glass bead of unknown type - iron buckle AG1 - iron spearhead VI type, variety 1 - iron knife - iron tweezers - whetstone	layer of black sand with pyre remains in the lower part of grave pit fill	bristle grass (cf. *Setaria* sp.)
10.	**394**	B_2/C_1	urn grave	1	♂	adult	- fragments of pipe-shaped beads	layer of grey-black sand with pyre remains in the lower part of grave pit fill	cleavers or speedwell (*Galium / Veronica hederifolia*)
11.	**397**	$B_{2b} – C_{1a}$	pit grave	1	?	adult	- iron buckle similar to AG44 - iron tweezers	layer of black sand with pyre remains in the lower part of grave pit fill	clover (cf. *Trifolium*)
12.	**404**	A_3-B_1 – E	pit grave	1	?	adult	- two fragments of bronze U-shaped mount - small iron knife	layer of grey-black sand with pyre remains in the upper part of grave pit fill	pigweed (*Chenopodium* t. *album*)
13.	**405**	A_3-B_1 – E	urn grave	2	1) ? 2) -	1) adult 2) child (9-17 months)	-	layer of grey-black sand with pyre remains in the middle and lower part of grave pit fill	wheat (cf. *Triticum* sp.) unidentified cereals (*Cerealia indet.*) indet.
14.	**406**	A_3-B_1 – E	urn grave	1	♂	adult	-	layer of grey-black sand with pyre remains in the lower part of grave pit fill	unidentified cereals (*Cerealia indet.*)
15.	**407**	B_2	urn grave	1	?	adult	- bronze eye brooch A.61 - five fragments of finger-ring VI group, form 31	layer of grey-black sand with pyre remains in the whole grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia indet.*)
16.	**408**	A_3-B_1 – E	urn grave	1	?	?	-	layer of grey-black sand with pyre remains in the middle and lower part of grave pit fill	unidentified cereals (*Cerealia indet.*) tall buttercup (*Ranunculus* cf. *acris*) indet.
17.	**409**	A_3-B_1 – E	pit grave	1	?	adult	-	layer of black sand with pyre remains in the lower part of grave pit fill	emmer wheat (*Triticum* cf. *dicoccum*) wheat (cf. *Triticum* sp.) unidentified cereals (*Cerealia indet.*) vetch (cf. *Vicia* sp.) family of Asteraceae (cf. *Asteraceae indet.*) grass (*Poaceae indet.*) indet.

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
18.	**411**	A_3-B_1 – E	urn grave	1	?	adult	-	layer of black sand with pyre remains in the whole grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia indet.*) crabgrass (*Digitaria* sp.) common knotgrass (*Polygonum aviculare*) sorrel (*Rumex acetosella*) green bristle grass (*Setaria viridis*) family of Panicoidae (*Panicoidae*) indet.
19.	**412**	B_1-B_2	urn grave	1	?	adult	- small bronze finger-ring similar to group I specimens - fragment of bronze U-shaped mount - fragment of bronze rectangular mount - fragment of ornamented bronze mount (?) - fragment of massive, small bronze ring	layer of mixed brown-grey sand in the upper part of grave pit fill, formed during filling up grave pit 493 dug in the pit of grave 412	pigweed (*Chenopodium* t. *album*)
								layer of black sand with pyre remains in the middle part of grave pit fill	pigweed (*Chenopodium* t. *album*) indet.
20.	**413**	B_2	urn grave	1	?	?	- bronze eye brooch A.61 - bronze buckle pin - iron knife	layer of mixed brown-beige sand in the upper part of grave pit, formed during dig in consecutive grave pits at the cluster of graves	black-bindweed (*Fallopia convolvulus*) indet.
								layer of brown-black sand with pyre remains in the middle and lower part of grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia indet.*) indet.
								fill of the urn	unidentified cereals (*Cerealia indet.*)
21.	**415**	B_1	urn grave	1	♂	40-50 years old	- iron shield boss intermediate form of types J.5 and J.6 - bead TM 520 - melted glass bead probably TM30a - bronze wire ring (?) - melted bronze rectangular mount - fragment of bronze mount (?) - bronze rivet - two fragments of a spur bow (?) - fragment of a bronze spur bow - bronze filament	layer of black sand with pyre remains in the whole grave pit fill	common knotgrass (*Polygonum aviculare*) crabgrass (*Digitaria* sp.) family of Panicoidae (*Panicoidae*) tuber oat grass (*Arrhenatherum elatius*) small grass (*Poaceae* small) big grass (*Poaceae* big) indet.

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
22.	**416**	B_2/C_1-C_2	? burial completely destroyed	1	?	?	- fragment of bronze mount - fragment of bronze, faceted bow of brooch - three spindle--heated rivets - fragment of bronze bracelet (?) made of narrow band - bead TM24 - bead TM30a	layer of black sand with pyre remains in the whole grave pit fill	unidentified cereals (*Cerealia indet.*) tuber oat grass (*Arrhenatherum elatius*) pigweed (*Chenopodium* t. *album*) family of Panicoidae (*Panicoidae*) indet.
23.	**417**	B_{2b}-C_{1b}	urn grave	1	♂	adult	- two fragments of iron rectangular belt mount - two beads TM387a	layer of black sand with pyre remains in the whole grave pit fill	unidentified cereals (*Cerealia indet.*) barnyardgrass (*Echinochloa*)
24.	**418**	C_{1b} - C_2	urn grave	1	?	adult, over 35 years old	- iron buckle similar to AG51 - bead of blue glass with no analogues among types allowed by M. Tempelmann-Mączyńska - two fragments of beads TM91b - melted bronze bead (?)	layer of black sand with pyre remains in the lower part of grave pit fill	wheat (cf. *Triticum* sp.) indet.
25.	**419**	B_2-C_1	urn grave	1	?	15-25 years old	- fragments of bronze bracelet made of narrow band - bronze coin--shaped pendant	layer of black sand with pyre remains in the middle and lower part of grave pit fill	unidentified cereals (*Cerealia indet.*)
26.	**422**	B_2 - B_2/C_1	urn grave	1	?	adult	- fragments of three to four bronze wire loop - six bronze wire links - three melted glass beads of unknown type	layer of black sand with pyre remains in the lower part of grave pit fill	wheat (*Triticum* sp. i cf. *Triticum* sp.)
27.	**423**	B-C	urn grave	1	-	child (5.4-6.6 years old)	- fragments of bronze bracelet made of narrow band	layer of black sand with pyre remains in the lower part of grave pit fill	barley (*Hordeum vulgare* i cf. *Hordeum vulgare*) unidentified cereals (*Cerealia indet.*)
28.	**425**	B_2 - B_2/C_1	urn grave	1	-	child (0-6 years old)	- bronze spiral bead	layer of black sand with pyre remains in the lower part of grave pit fill	indet.
29.	**426**	B_{2a}	urn grave	1	-	child (0-6 years old)	- Aucissa derivative bronze brooch - bronze spiral bead	layer of black sand with pyre remains in the middle and lower part of grave pit fill	emmer wheat (*Triticum* cf. *dicoccum*) unidentified cereals (*Cerealia indet.*)
30.	**427**	A_3-B_1 – E	? burial completely destroyed	1	?	?	-	layer of black sand with pyre remains in the lower part of grave pit fill	unidentified cereals (*Cerealia indet.*) indet.

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
31,	**428**	A_3-B_1 – E	urn grave	1	?	?	-	layer of black sand with pyre remains in the whole grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia indet.*) pigweed (*Chenopodium* t. *album*)
								fill of the urn	green bristle grass (*Setaria viridis*) indet.
32,	**429**	A_3-B_1 – E	urn grave	1	?	?	- iron needle	layer of black-grey sand with pyre remains in the middle and lower part of grave pit fill	emmer wheat (*Triticum* cf. *dicoccum*) wheat (*Triticum* sp.) unidentified cereals (*Cerealia indet.*) mistletoe (*Viscum album*) grass (*Poaceae indet.*) indet.
33,	**430**	A_3-B_1 – E	? burial completely destroyed	1	?	?	-	layer of brown-black sand with pyre remains in the lower part of grave pit fill	indet.
34,	**431**	A_3-B_1 – E	urn grave	1	?	adult	-	layer of black sand with pyre remains in the lower part of grave pit fill	unidentified cereals (cf. *Cerealia indet.*) indet.
								layer of black sand from the inside of additional vessel	barley (cf. *Hordeum vulgare*), indet.
35,	**432**	A_3-B_1 – E	urn grave	1	-	child (7-13 years old)	-	layer of black sand with pyre remains in the lower part of grave pit fill	tuber oat grass (*Arrhenatherum elatius*) grass (*Poaceae indet.*) family of Panicoidae (*Polygonaceae indet.*) indet.
36,	**433**	A_3-B_1 – E	? burial completely destroyed	1	?	adult	- clay biconical spindle-whorl - three melted glass beads of unknown type	layer of black-brown sand with pyre remains in the lower part of grave pit fill	unidentified cereals (*Cerealia indet.*) indet.
37,	**435**	A_3-B_1 – E	? burial completely destroyed	1	?	?	-	layer of black sand with pyre remains in the lower part of grave pit fill	green bristle grass (*Setaria viridis*) indet.
38,	**436**	A_3-B_1 – E	? burial completely destroyed	1	?	?	-	layer of brown-black sand with pyre remains in the lower part of grave pit fill	indet.
39,	**437**	B_2/C_1	? burial completely destroyed	1	?	?	- fragment of bronze loop with chain link	layer of grey-black sand with pyre remains in the lower part of grave pit fill	black-bindweed (*Fallopia convolvulus*) indet.
40,	**438**	A_3-B_1 – E	urn grave	1	?	?	-	layer of black sand with pyre remains in the whole grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia indet.*) tuber oat grass (*Arrhenatherum elatius*) green bristle grass (*Setaria viridis*) pigweed (*Chenopodium* t. *album*) family of Panicoidae (*Panicoidae*) indet.

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
41.	**439**	A_3-B_1 – E	urn grave	2	1) – 2) -	1) child (1-1.6 years old) 2) child (5-9 years old)	-	layer of black sand with pyre remains in the middle and lower part of grave pit fill	indet.
42.	**440**	A_3-B_1 – E	urn grave	1	?	?	-	layer of black sand with pyre remains in the lower part of grave pit fill	wheat (*Triticum* sp.) indet.
43.	**441**	A_3-B_1 – E	urn grave	1	?	adult	-	layer of black sand with pyre remains in the whole grave pit fill	indet.
								fill of the urn	green bristle grass (*Setaria viridis*) crabgrass (*Digitaria* sp.) pigweed (*Chenopodium* t. *album*) tuber oat grass (*Arrhenatherum elatius*) ribwort (*Plantago lanceolata*) indet.
44.	**442**	1955±30 BP (40 cal BC – 130 cal AD) A_3-B_1 – B_{2a}	offering pit with horse skeleton	-	-	-	-	layer of black-grey sand at the southern edge of offering pit – layer of burning covered and surrounding the place of crossing fore and hind limbs of the horse	indet.
45.	**445**	A_3-B_1 – E	? burial completely destroyed	1	?	?	-	layer of brown-black sand with pyre remains in the lower part of grave pit fill	indet.
46.	**448**	A_3-B_1 – E	urn grave	1	-	child (5.1-5.4 years old)	- two beads TM12 - 12 melted glass beads of unknown type - two melted bronze beads of unknown type - fragments of bronze bracelet made of narrow band	layer of black sand with pyre remains in the upper part of grave pit fill	unidentified cereals (*Cerealia indet.*)
47.	**449**	B_2	urn grave	1	♂	adult	- melted head and needle of bronze brooch, probably Aucissa derivative brooch - bronze spiral bead - iron knife	layer of black sand with pyre remains in the middle and lower part of grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia indet.*)
48.	**450**	B_2/C_1	urn grave	1	-	15-20 years old	- bronze crossbow brooch, similar to type A.201 - fragment of bronze bracelet made of narrow band - iron knife	layer of black sand with pyre remains in the whole grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia indet.*)

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
49.	**451**	$B_2/C_1 – C_2$	urn grave	2	1) ? 2) -	1) adult, 2) child (8-9 months)	- glass, biconical bead with no analogues among types allowed by M. Tempelmann-Mączyńska - two beads TM23 - three beads TM91a - two beads and five fragments of beads TM91b - six melted glass beads probably belonging to types TM23, TM91a, TM91b - fragment of bronze pin or needle - fragment of bronze wire	layer of black sand with pyre remains in the middle and lower part of grave pit fill	unidentified cereals (*Cerealia indet.*) indet.
50.	**452**	A_3-B_1 – E	urn grave	1	♂	adult	- small iron knife	layer of black sand with pyre remains in the upper part of grave pit fill	wheat (cf. *Triticum* sp.) barley (*Hordeum vulgare*) unidentified cereals (*Cerealia* indet.)
								layer of black sand with pyre remains in the middle part of grave pit fill	einkorn / emmer wheat (*Triticum* cf. *monococcum / dicoccum*) indet.
51.	**453**	B_2	urn grave	1	?	adult	- bronze spur C1 type - iron knife - two fragments of profiled bronze ornament - fragment of bronze wire	layer of black sand with pyre remains in the lower part of grave pit fill	wheat (*Triticum* sp.) tuber oat grass (*Arrhenatherum elatius*) big grass (*Poaeceae* big) indet.
52.	**454**	B_2/C_1	urn grave	1	-	child (2.5-3.4 years old)	- bronze rectangular pendant with loop - bead TM520 - fragment of bronze wire	layer of dark-brown sand with pyre remains in the upper part of grave pit fill	barley (cf. *Hordeum vulgare*) unidentified cereals (*Cerealia* indet.) indet.
53.	**456**	B_{2b}-C_{1a}	urn grave	1	♂?	adult	- iron spearhead similar to type VIII, variety 3 - iron knife	layer of black sand with pyre remains at the bottom of grave pit fill, under the urn	indet.

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
54.	**458**	B_2-C_{1b}	urn grave	1	?	adult	- three fragments of bronze finger-ring group VI, form 31 - four fragments of bronze bracelet made of narrow band - necklace: 17 fragments of melted glass bead of unknown type, fragment of bead similar to TM291a-f, bead TM387a, two beads similar to TM290c, bead similar to TM287b, two beads TM520 - two fragments of bronze ring - fragment of bronze plate	layer of brown-black sand with pyre remains in the whole grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia* indet.) tuber oat grass (*Arrhenatherum elatius*) pigweed (*Chenopodium* t. *album*) indet.
55.	**460**	B_2/C_1	urn grave	1	♂?	adult	- bronze brooch A.96	layer of black sand with pyre remains in the middle part of grave pit fill	common knotweed / spotted ladysthumb / pygmy smartweed (*Polygonum aviculare, P. lapathifolium / persicaria / minus*) tuber oat grass (*Arrhenatherum elatius*) indet.
								fill of the urn	wheat (*Triticum* sp.)
56.	**463**	B_2-B_2/C_1	urn grave	1	♂	adult	- two iron bow-shaped belt pendants - iron fire-steel	layer of brown-black sand with pyre remains in the whole grave pit fill	barley (*Hordeum vulgare*) unidentified cereals (*Cerealia* indet.) tuber oat grass (*Arrhenatherum elatius*) green bristle grass (*Setaria viridis*) crabgrass (*Digitaria* sp.) pigweed (*Chenopodium* t. *album*) knawel (*Scleranthus annuus*) cleavers (*Galium*) common knotweed / spotted ladysthumb / pygmy smartweed (*Polygonum lapathifolium / persicaria / minus*) cinquefoil / wild strawberry (*Potentilla / Fragaria*) big grass (*Poaceae* big) bud indet., indet.

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
57.	**464**	B_{2b}-C_2	urn grave	1	?	adult	- necklace: three bronze coin-shaped pendants, five melted glass beads of unknown type, melted bead probably TM1, melted bead probably TM30a	layer of brown-black sand with pyre remains in the whole grave pit fill	wheat (*Triticum* sp.) barley (*Hordeum vulgare*) common millet (*Panicum miliaceum*) unidentified cereals (*Cerealia* indet.) green bristle grass (*Setaria viridis*) crabgrass (*Digitaria* sp.) barnyardgrass (*Echinochloa*) ribwort (*Plantago lanceolata*) family of Panicoidae (*Panicoidae*) indet.
58.	**466**	A_3-B_1 – E	urn grave	1	?	adult	-	layer of brown-black sand with pyre remains in the whole grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia* indet.) crabgrass (*Digitaria* sp.) indet.
59.	**467**	A_3-B_1 – E	urn grave	1	♂?	adult	-	layer of brown-black sand with pyre remains in the whole grave pit fill	unidentified cereals (*Cerealia* indet.) small grass (*Poaceae* small) indet.
								fill of the urn	indet.
58.	**470**	A_3-B_1 – E	urn grave	1	-	child (9-12 years old)	-	layer of black sand with pyre remains in the lower part of the grave pit fill	green bristle grass (*Setaria viridis*) pigweed (*Chenopodium* t. *album*) indet.
59.	**471**	A_3-B_1 – E	urn grave	1	?	adult	-	layer of black sand with pyre remains in the lower part of the grave pit fill	unidentified cereals (*Cerealia* indet.)
60.	**472**	A_3-B_1 – E	? burial completely destroyed	1	?	adult	-	layer of black sand with pyre remains in the lower part of the grave pit fill	green bristle grass (*Setaria viridis*) pigweed (*Chenopodium* t. *album*) cinquefoil / wild strawberry (*Potentilla / Fragaria*) family of Panicoidae (*Panicoidae*)
61.	**473**	A_3-B_1 – E	? burial completely destroyed	1	?	adult	-	layer of black sand with pyre remains in the lower part of the grave pit fill	tuber oat grass (*Arrhenatherum elatius*) indet.
62.	**474**	A_3-B_1 – E	? burial completely destroyed	1	?	?	-	layer of black sand with pyre remains in the lower part of the grave pit fill	green bristle grass (*Setaria viridis*) pigweed (*Chenopodium* t. *album*) ribwort (*Plantago lanceolata*) indet.

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
63.	**475**	B_2/C_1-C_{1a}	urn grave	1	?	?	- iron bow and needle of brooch A.162	layer of black sand with pyre remains in the lower part of the grave pit fill	unidentified cereals (*Cerealia* indet.) tuber oat grass (*Arrhenatherum elatius*) green bristle grass (*Setaria viridis*) barnyardgrass (*Echinochloa*) pigweed (*Chenopodium* t. *album*) family of Fabaceae (*Fabaceae*)
64.	**476**	A_3-B_1 – E	urn grave	1	?	adult	-	layer of black sand with pyre remains in the whole grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia* indet.)
65.	**477**	A_3-B_1 – E	urn grave	1	?	adult	-	layer of brown-black sand with pyre remains in the lower part of the grave pit fill	green bristle grass (*Setaria viridis*) crabgrass (*Digitaria* sp.) tuber oat grass (*Arrhenatherum elatius*) pigweed (*Chenopodium* t. *album*) bud indet., indet.
66.	**478**	A_3-B_1 – E	urn grave	1	?	adult	-	mixed layer of dark-brown sand in the whole grave pit fill, without pyre remains, formed during dig in of grave 478 into the fills of grave pits 476 and 477	knawel (*Scleranthus annuus*) common knotgrass (*Polygonum aviculare*)
67.	**479**	A_3-B_1 – E	urn grave	1	?	adult	-	mixed layer of dark-brown sand without pyre remains in the lower part of the grave pit fill	wheat (*Triticum* sp.)
68.	**480**	A_3-B_1 – E	? burial completely destroyed	1	?	adult	-	layer of black sand with pyre remains in the lower part of the grave pit fill	indet.
69.	**489**	A_3-B_1 – E	urn grave	1	♂?	adult	-	layer of black sand with pyre remains in the whole grave pit fill	unidentified cereals (*Cerealia* indet.)
70.	**490**	A_3-B_1 – E	urn grave	1	♀?	adult	-	layer of black sand with pyre remains in the middle and lower part of the grave pit fill	wheat (*Triticum* sp.) barnyardgrass (*Echinochloa*) indet.
71.	**492**	A_3-B_1 – E	pit grave	1	?	adult	-	layer of brown-black sand in the whole grave pit fill	indet.
72.	**493**	B_2	urn grave	1	?	?	- profiled bronze belt end fitting I.8 - three fragments of small bronze ring - two fragments of bronze mounts with rivets	layer of black sand with pyre remains in the whole grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia* indet.) pigweed (*Chenopodium* t. *album*) tuber oat grass (*Arrhenatherum elatius*)
73.	**496**	A_3-B_1 – E	urn grave	1	?	?	-	fill of the urn	crabgrass (*Digitaria* sp.) pigweed (*Chenopodium* t. *album*) family of Panicoidae (*Panicoidae*) indet.

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
74.	**497**	B_2-C_2	urn grave	1	?	adult	- three fragments of bronze bracelet made of narrow band - four fragments of iron finger-ring group I, form 5 - bronze rivet group IIID - fragment of melted bead similar to TM223d	fill of the urn	unidentified cereals (*Cerealia* indet.)
75.	**498**	A_3-B_1 – E	urn grave	1	♂	adult	- small iron knife	layer of brown-black sand in the whole grave pit fill	unidentified cereals (*Cerealia* indet.) green bristle grass (*Setaria viridis*) pigweed (*Chenopodium* t. *album*) black-bindweed (*Fallopia convolvulus*) family of Panicoidae (*Panicoidae*) indet.
76.								fill of the urn	unidentified cereals (*Cerealia* indet.) crabgrass (*Digitaria* sp.) pigweed (*Chenopodium* t. *album*) black-bindweed (*Fallopia convolvulus*) family of Panicoidae (*Panicoidae*) indet.
77.	**499**	B_{2b}-C_2	urn grave	1	?	?	- melted bead probably TM1 or TM6	layer of black sand with pyre remains in the upper part of the grave pit fill	pigweed (*Chenopodium* t. *album*) common knotweed / spotted ladysthumb / pygmy smartweed (*Polygonum lapathifolium / persicaria / minus*) indet.
78.	**501**	B_2-B_2/ C_1-C_{1b}	urn grave	1	♀?	adult	- necklace: beads and fragments of beads TM162, fragments of beads TM163, five fragments of melted beads probably TM162 or 163, bead TM186, melted bead probably TM223d or TM223g, melted bead probably TM223a-e or 223g-I, melted bead probably TM223g	layer of black sand with pyre remains in the whole grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia* indet.) green bristle grass (*Setaria viridis*) family of Panicoidae (*Panicoidae*) bud indet. indet.

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
79.	**503**	C_1	urn grave	1	-	child (9-10 years old)	- bronze brooch A.126 - 32 fragments of bronze spiral bracelet made of narrow band - 22 fragments of bronze spiral finger-ring - necklace: two beads similar to TM30a, three beads similar to TM91b, two beads TM520, ten beads similar to TM520 and TM525, one bead and three fragments of beads TM526, five beads of navy-blue, transparent glass with no analogues among types allowed by M. Tempelmann-Mączyńska, two melted glass beads of unknown type - bronze rivets: three of unknown type, two IIIA - two fragments of bronze pipe-shape mount - fragment of small ring made of bronze band - fragment of bronze wire ring	layer of black sand with pyre remains in the lower part of the grave pit fill	barley (*Hordeum vulgare*) unidentified cereals (*Cerealia* indet.) crabgrass (*Digitaria* sp.) pigweed (*Chenopodium* t. *album*)
80.	**507**	B_{2b}-B_2/ C_1-C_{1a}	urn grave	1	♂	over 40 years old	- bronze pin belonging to group L - bronze fragment of pin or needle - iron knife - bead made of fossil with no analogues among types allowed by M. Tempelmann-Mączyńska	layer of black sand with pyre remains in the lower part of the grave pit fill	unidentified cereals (*Cerealia* indet.) green bristle grass (*Setaria viridis*) common knotgrass (*Polygonum aviculare*) family of Panicoidae (*Panicoidae*) bud indet.

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
81.	**508**	B_2/C_1	urn grave	1	♀?	adult	- bronze brooch A.96, iron, partly destroyed muserolle (?) - biconical amber boss similar to beads TM396a - small clay biconical spindle-whorl - iron corroded buckle with tip and semi-circular frame connected by corrosion with iron objects including two rectangular belt mounts - 13 iron rectangular belt mounts and three fragments of analogous mounts - eight cruciform belt mounts and two fragments of analogous mounts - necklace: bead similar to TM163, bead TM520, bead similar to TM525, fragment of flat biconical bead made of navy-blue, transparent glass with no analogues among types allowed by M. Tempelmann-Mączyńska, melted glass bead of unknown type - five fragments of bronze bracelet made of narrow band - fragment of bronze wrist-band (*Manschettenarmring*) - two bronze spiral finger-rings and fragment of analogous finger-ring - bronze rivets: one IIIA, one IIID, one of unknown type - fragment of bronze U-shape mount - three fragments of mounts and rivets	layer of black sand with pyre remains in the middle part of the grave pit fill	unidentified cereals (*Cerealia* indet.) bud indet.
								fill of the urn, over layer of burnt human bones	family of Panicoidae (*Panicoidae*) small grass (*Poaceae* small) indet.
82.	**511**	B_2-C_1	urn grave	1	?	adult	- iron corroded buckle with D-shaped frame - bronze finger-ring group V, form 28	layer of black sand with pyre remains in the lower part of the grave pit fill	unidentified cereals (*Cerealia* indet.) common knotweed / spotted ladysthumb / pygmy smartweed (*Polygonum lapathifolium / persicaria / minus*) small grass (*Poaceae* small)

No.	Grave No.	Chronology of the grave / offering pit**	Type of grave	No of dead ***	Sex	Age	Grave goods	Archaeological context of macroscopic plant remains	Taxonomic identification of plant remains
83.	**513**	B_2/C_1	urn grave	1	♂?	adult	- fragment of brooch bronze bow of unknown type - necklace: one bronze spiral bead, six fragments of analogous beads, six slightly trapeze-shape pendants made of bronze plate, one fragment of bead TM526 - two melted glass fragmented objects - fragment of bronze bracelet made of narrow band - bronze U-shaped belt mount - five bronze spindle-heated rivets and four fragments of analogous rivets - fragment of bronze horn mount	layer of black sand with pyre remains in the whole of the grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia* indet.) indet.
84.	**514**	B_2-B_2/C_1	urn grave	1	?	adult	- iron fire-steel - iron buckle AD1	layer of black sand with pyre remains in the whole grave pit fill	wheat (*Triticum* sp.) unidentified cereals (*Cerealia* indet.) pigweed (*Chenopodium* t. *album*) indet.
85.	**516**	B_1-D	pit grave	1	?	?	- bead similar to TM28 - melted fragment of navy-blue glass	layer of black sand with pyre remains in the whole grave pit fill	green bristle grass (*Setaria viridis*) indet.

* The table shows a list of macroscopic plant remains uncovered in the cemetery at Paprotki Kolonia site 1 in the years 2000 to 2007. During earlier excavations (1991-1994 and 1996-1999) this kind of remains were not researched. Macroscopic plant remains uncovered in 2009 and the following seasons will be analysed with the final study of the results of the excavations. All determination of species in the table refers to Bieniek A. 2007 typescript; 2008; Karczewski *et al.* 2009.

** A_3-B_1 – E Chronology of the cemetery and of unequipped graves.

*** Determination of numer, sex and age of dead refers to: Jaskulska E. 2009. Artefacts from grave pits were determined on the basis of typologies: O. Almgren (1923) – brooches, B. Beckmann (1969) – metal pins, C. Beckmann (1969) – finger-rings, R. Madyda (1977), R. Madyda-Legutko (1986) – buckles and belt fittings, M. Tempelmann-Mączyńska (1985) – beads, Z. Blumbergs (1982) – rivets, P. Kaczanowski (1995) – spearheads, M. Jahn (1916) – shieldbuckles, T. Baranowski (1973) – elements of horse harness, J. Ginalski (1991) – spurs.

Table 2. Cereals uncovered in the cemetery at Paprotki Kolonia site 1 (excavation seasons 2000 to 2007)

Corn species	Number of grave	Number and percentage of graves with definite corn species or set of corn species
wheat (*Triticum sp.*), also: emmer wheat (*Triticum* cf. *dicoccum*)	295, 367, 418, 422, 440, 453, 460, 479, 513, 517	10 (19.2%)
unidentified cereals (*Ceraelia* indet.)	406, 408, 416, 417, 419, 427, 433, 448, 451, 467, 471, 475, 489, 497, 498, 507, 508, 511	18 (34.6%)
wheat (*Triticum sp.*), also: emmer wheat (*Triticum* cf. *dicoccum*) and unidentified cereals (*Ceraelia* indet.)	405, 407, 409, 411, 413, 426, 428, 429, 438, 449, 450, 458, 466, 476, 493, 501, 514	17 (32/7%)
barley (*Hordeum vulgare*) and unidentified cereals (*Ceraelia* indet.)	423, 431, 454, 463, 503	5 (9.6%)
emmer wheat or einkorn (*Triticum* cf. *monococcum / dicoccum*), barley (*Hordeum vulgare*) and unidentified cereals (*Ceraelia* indet.)	452	1 (1.9%)
wheat (*Triticum sp.*), barley (*Hordeum vulgare*), common millet (*Panicum miliaceum*) and unidentified cereals (*Ceraelia* indet.)	464	1 (1.9%)

References

Manuscripts

BIENIEK, A., 2008. *Raport z wykonania zadania nr 12 „Analiza i opracowanie prób na zawartość makroskopowych szczątków organicznych”, zrealizowanego w ramach projektu badawczego: 1H01H 003 29 „Sacrum et Natura. Wyniki badań cmentarzyska kultury bogaczewskiej w Paprotkach Kolonii w Krainie Wielkich Jezior Mazurskich”*, typescript, archive of Institute of History and Political Sciences University at Białystok.

JASKULSKA, E., 2009. *Raport antropologiczny z badań na stanowisku archeologicznym Paprotki Kolonia, st. 1, gm. Miłki, pow. Giżycko, woj. warmińsko – mazurskie. Sezony 1991-2007*, typescript, archive of Institute of History and Political Sciences Uniwersity at Białystok.

KARCZEWSKA, M., 2008. Paprotki Kolonia stanowisko 1, gm. Miłki, pow. giżycki. Opracowanie chronologii pochówków na podstawie darów grobowych, typescript, archive of Institute of History and Political Sciences University at Białystok.

KUPRYJANOWICZ, M., 2008. Wyniki analizy pyłkowej osadów z torfowiska otaczającego jezioro Jędzelek, typescript, archive of Institute of History and Political Sciences University at Białystok.

Literature

ALMGREN, O., 1923. *Studien über nordeuropäischen Fibelformen der ersten nachchristlichen Jahrhunderte mit Berücksichtigung der provinzialrömischen und südrussischen Formen. Mannus-Bibliothek, 32. Leipzig: Habelt.*

BECKMANN, B., 1969. *Die baltischen Metallnadeln der römischen Kaiserzeit. Saalburg - Jahrbuch*, XXVI, 107-119.

BECKMANN, CH., 1969. *Metallfingerringe der Römischen Kaiserzeit im freien Germanien. Saalburg Jahrbuch*, XXVI, 5-106.

BLUMBERGS, Z., 1982. *Bronzebuckelchen als Trachtzier. Zu den Kontakten Gotlands mit dem Kontinent in der Älteren Römischen Eisenzeit*. Stockholm.

DREYER, E.M., 2008. *Zioła oraz ich trujące sobowtóry*. Warszawa: Bauer-Weltbild Media.

FISZER, A.,1937. *Etnografia dawnych Prusów*. Gdynia: Kasa im. Mianowskiego.

GINALSKI, J., 1991. Ostrogi kabłąkowe kultury przeworskiej. Klasyfikacja typologiczna. *Przegląd Archeologiczny*, 38, 53-82.

JAHN, M., 1916. *Die Bewaffnung der Germanen in der älteren Eisenzeit etwa von 700 v. Chr. bis 200 n. Ch.*. Würzburg.

KACZANOWSKI, P., 1995. *Klasyfikacja grotów broni drzewcowej kultury przeworskiej z okresu rzymskiego.* Kraków.

KARCZEWSKA, M., KARCZEWSKI, M., BIENIEK, A., CYWA, K., PIROŻNIKOW, E., TOMCZYŃSKA, Z., 2007. Plant Remains from the Roman Period cemetery in Paprotki Kolonia (the Great Masurian Lakes District): palaeobotanical and cultural interpretations. *In*: A. BIENIEK, ed. *14th Symposium of the International Work Group for Palaeoethnobotany, 17-23 June 2007, Kraków, Poland*. Kraków, 65.

KARCZEWSKI, M., BANASZUK, P., KUPRYJANOWICZ, M., MUELLER-BIENIEK, A., 2009. Uwarunkowania środowiskowe mikroregionu osadniczego z okresu wpływów rzymskich nad północnym brzegiem dawnego jeziora Wąż w Krainie Wielkich Jezior Mazurskich. *In*: *Środowisko - Człowiek – Cywilizacja*, 2, 131-145.

KEMPIŃSKI, A.M., 2001. *Encyklopedia mitologii ludów indoeuropejskich*. Warszawa: Iskry.

ŁUCZAJ, Ł., 2002. *Dzikie rośliny jadalne Polski. Przewodnik survivalowy*. Krosno: Chemigrafia.
MACIOTI, M.I. 2006. *Mity i magie ziół*. Kraków: University.
MADYDA, R., 1977. Sprzączki i okucia pasa na ziemiach polskich w okresie rzymskim. *Materiały Starożytne i Wczesnośredniowieczne*, IV, 351-412.
MADYDA-LEGUTKO, R., 1986. *Die Gürtenschnallen der Römischen Kaiserzeit und der frühen Völkerwanderungszeit im mitteleuropäischen Barbaricum*. BAR International Series 360, Oxford.
MOWSZOWICZ, J., 1976. *Rośliny trujące*. Warszawa: Wydawnictwa Szkolne i Pedagogiczne.
MOWSZOWICZ,J., 1983 m. *Pospolite rośliny naczyniowe Polski*. Warszawa: Państwowe Wydwnictwo Naukowe.
MUSZYŃSKI, J., 1958. *Roślinne leki ludowe*. Warszawa: Ludowa Spółdzielnia Wydawnicza.
PIROŻNIKOW, E., 2005. Rośliny medyczne w życiu Mazurów w pierwszej połowie XVIII w. w świetle informacji zebranych przez Jerzego Andrzeja Helwinga *In*: *Medycyna Nowożytna. Studia nad Kulturą Medyczną*, vol. 12.1-2, 85-111.
PODBIELKOWSKI, Z., SUDNIK-WÓJCIKOWSKA, B., 2003. *Słownik roślin użytkowych*, wydanie VI poprawione i uzupełnione. Warszawa: Państwowe Wydawnictwo Rolnicze i Leśne.
ROSTAFIŃSKI, J., SEIDL, O., 1973. *Przewodnik do oznaczania roślin*. Warszawa: Państwowe Wydawnictwo Rolnicze i Leśne.
RUMIŃSKA, A.,1981. *Rośliny lecznicze*. Warszawa.
TEMPELMANN-MĄCZYŃSKA, M., 1985. *Die Perlen der römischen Kaiserzeit und der frühen Phase der Völkerwanderungszeit im mitteleuropäischen Barbaricum*. Mainz am Rhein.
WACNIK, A., 2009. Galindowie i Krzyżacy – oddziaływania na lokalną roślinność w rejonie Miłek i Staświn (Kraina Wielkich Jezior Mazurskich, północno – wschodnia Polska). *Wiadomości Botaniczne,* 53.1/2, 21-34.
WALLISA, S.,1995. *Zielnik roślin leczniczych i magicznych*. Chorzów: Muzeum w Chorzowie.

Received: 1 February 2012; Revised: 3 March 2012;
Accepted: 17 October 2012.

KELIAUJANT Į POMIRTINĮ PASAULĮ. AUGALAI ROMĖNIŠKOJO LAIKOTARPIO BOGAČEVO KULTŪROS KAPUOSE (ŠIAURĖS RYTŲ LENKIJA)

MACIEJ KARCZEWSKI

Santrauka

Sudegusios augalų makroskopinės liekanos, randamos kapų sampiluose, suteikia žinių apie sąmoningą jų dėjimą į kapus ir kitus laidojimo papročių aspektus, taip pat ir apie kapinyną supusią augmeniją. Straipsnyje pristatomi Paprotki Kolonia 1 kapinyno (Bogačevo kultūra), esančio Didžiojo Mozūrijos ežeryno regione, tyrimų rezultatai. Sudegusių augalų liekanų, datuojamų romėniškojo laikotarpio C1 periodu, rasta 87 kapų duobėse ir urnose (1 pav.). Galima išskirti 36 grūdines ir laukines augalų rūšis. Augalų dėjimas į kapus nepriklausė nuo mirusiųjų lyties, amžiaus, socialinio statuso ar palaidotųjų skaičiaus kapuose. Pastebėtas tik vienintelis dėsningumas, t. y. kviečių dominavimas kapuose. Sudegusių augalų liekanos leidžia manyti, kad augalai kapuose buvo deginami sąmoningai. Šį reiškinį galima sieti su universalia ir sudėtinga simboline grūdinių ir kitų maistinių augalų reikšme. Laukinė, nesukultūrinta augmenija galėjo būti naudojama ritualuose kaip turinti medicininių ar magiškų galių. Kai kurie rasti kapuose augalai galėjo augti ugniakuro vietose arba šalia jų. Galima teigti, kad laidojimo šiame kapinyne metu jis buvo užžėlęs žoliniais augalais.

Vertė Agnė Čivilytė