

HORSE GRAVES IN THE ELBLĄG GROUP. THE CASE OF THE CEMETERY AT THE NOWINKA, TOLKMICKO COMMUNE*

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Abstract

The article presents 50 horse graves from the Late Migration Period cemetery of the Elbląg group at Nowinka. There are discussed i.a. a burial rite, archaeozoological data, coincidences with human grave types of grave furnishing as well as analogies.

Key words: The Elbląg group, Nowinka, the Migration Period, horse grave, Balts, archaeozoology.

Introduction

The burial ground of the Elbląg group¹ in Nowinka apart from solely human graves yielded 50 horse graves, including three double ones (altogether 53 horses)². This makes up a significant assemblage, so far the largest at the area of Elbląg group of the West Balt circle³. Also

a comparison with another Balt necropolis famous for its horse burials, Tumiany, Barczewo com. (formerly *Daumen*),⁴ is favourable for the site at Nowinka⁵.

probably connected with the Elbląg group. The burial ground in Podgórze, Braniewo com. (formerly *Huntenberg*) yielded four horse graves (Peiser 1919, pp.339, 342 and 350), whereas Paślęk, Paślęk com. (formerly *Preussische Holland*) yielded 3 (Ehrlich 1923, p.197). A relatively small number of horse burials at the above mentioned burial grounds may be explained only to a certain extent by the obsolete research methods, i.e., by the use by the German researchers of steel probes, which were pushed into the ground to locate a stone pavement and the area was explored only if it was spotted (Dorr 1914, p.2). This method was abandoned by B. Ehrlich when it turned out that not all graves were covered with pavement. As a result, from 1912 whole areas under investigation were excavated (Dorr 1914, p.4; Ehrlich 1920, p.179). Doubts as to the actual number of graves can be expressed in that way only in the case of investigations at the burial ground in Łęczce and the first excavation seasons in Elbląg-Żytno. The excavations at Młoteczno, Braniewo com., yielded 5 horse graves (Ziemlińska-Odojowa 1991, p.105).

¹ The Elbląg group, Olsztyn group and Sudovian culture were distinguished in 70's of 20th century (see Okulicz 1973; Kaczyński 1976; Kowalski 2000). As refers to Sambian Peninsula and neighboring areas its cultural situation during phase E is unclear, as the former Dollkeim-Kovrovo culture is disappearing (Nowakowski 1996, p.96ff).

² Graves nos. 8, 17, 18, 20, 21, 26, 34, 35, 44, 45, 47, 48, 52, 55, 60, 61, 62A, 62B, 65, 70, 77, 78, 80, 82, 83, 84, 87, 89, 98, 99, 102, 103, 104, 112, 114, 117, 118, 119, 120, 121, 127, 131, 137, 142, 147, 148, 149, 151, 155 and 160.

³ At the burial ground in Łęczce, Tolkmicko com. (formerly *Silberberg bei Lentzen*) 13 horse grave were discovered (Dorr 1898), in Chojnowo, Tolkmicko com. (formerly *Conradswalde*) 4 horse burials were found during pre-war excavations (Neugebauer 1934, pp.321-322) and 3 more after the war (Kowalski 1985, pp.227-228; 1987, p.281 and 284). From Elbląg-Żytno (formerly *Benkenstein-Freiwalde*) excavated by R. Dorr in 1907-1912 6 graves are known (Dorr 1914), and 5 more from investigations conducted by various researchers in 1916-18 (Ehrlich 1920, p.184). It is known, however, that the excavations were continued there from 1928 (Ehrlich 1932, p.404), so the final number was probably larger. The burial ground near Moniuszki St in Elbląg (formerly *Scharnhorststrasse*) yielded 10 horse burials (Ehrlich 1937a, p.80ff; 1937b, p.268), but also there more horse burials were recorded during the excavations conducted in the eve of the second World War (Ehrlich 1941, p.96 fig.32.3-4). One should also mention grave no. 21, discovered at the burial ground in Elbląg-Pole Nowomiejskie (formerly *Elbing-Neustädterfeld*), Elbląg com. (Neugebauer 1937, p.55 fig.10.3), but

⁴ At that necropolis of the Olsztyn group 33 horse skeletons, usually 1-2 individuals in one grave, were discovered (Baranowski 1996, p.70).

⁵ In the present study there appear many comparisons to the materials from the Olsztyn group cemetery at Tumiany. This is due to the fact that this site is culturally relatively close, and, what is more, it yielded a large number of graves, making up a set comparable to the materials from Nowinka. References to other necropolises of the Elbląg group are of selective character due to the unsatisfactory state of research on this cultural formation, basing almost entirely on pre-war publications, which are usually of a general character and present only a selection of the source materials. At the same time it should be stressed that it was not always possible to find analogies at the necropolis in Tumiany, because not all of the issues discussed in the

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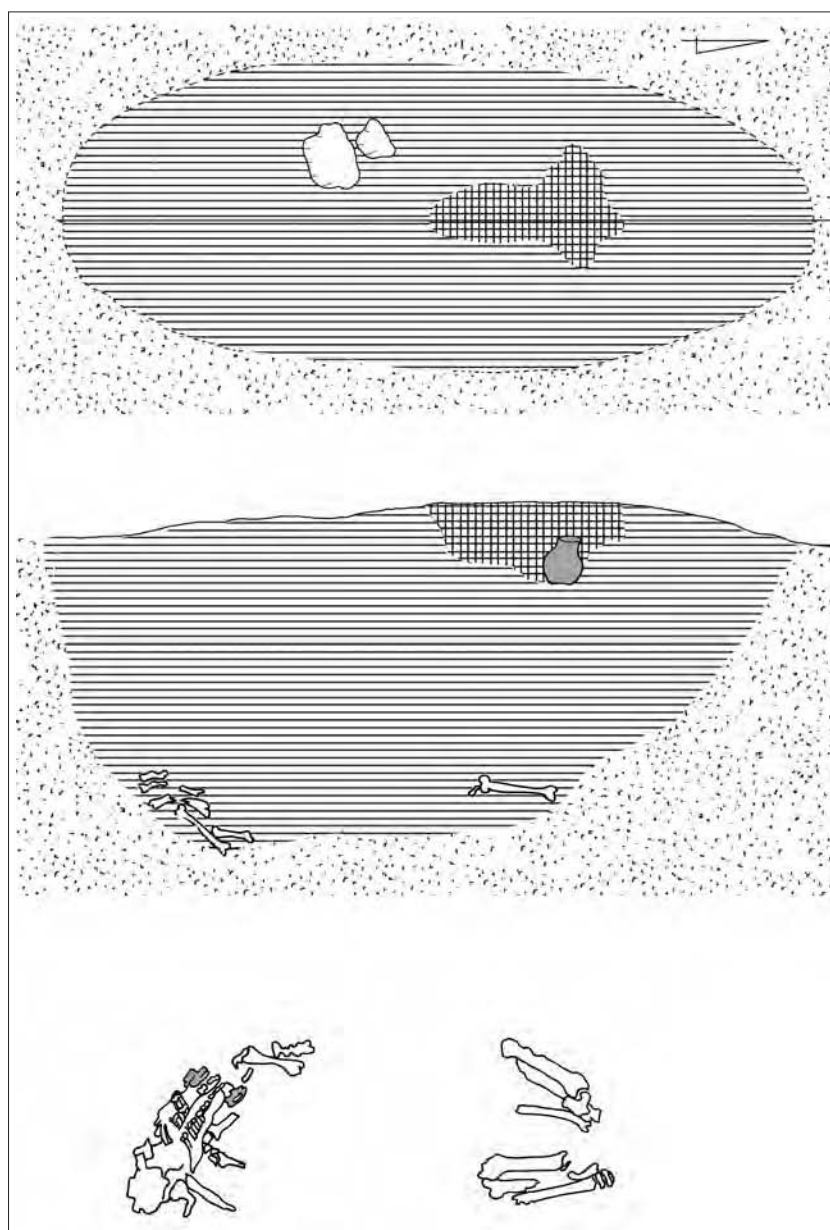


Fig. 1. Position of a horse and human grave: plan, section and arrangement of the horse's skeleton from Nowinka, grave no. 148.

Burial rite

Horse grave were placed there in elongated pits, usually only slightly larger than the animals (in grave nos. 62A, 62B and 87 the pits were so narrow that horses could barely fit in). In the same pit, between more than a dozen and several ten centimetres above the horse's back, human cremation pit burials most frequently with unburnt grave goods were located (Fig. 1), similarly to what was found for the same period at the area of the Sambian-Natangian area. Above them single stones were found, probably remains of stone pavements destroyed while ploughing (graves nos. 88, 26, 33, 37, 38, 48, 57?, 62A, 78, 83, 105?, 110, 127, 147,

present paper were reflected in the investigations of horse burials from Tumiany.

148, 149?, 150 and 151). Also the stone cist around the cremation burial 60 can be treated as a remainder of a pavement. Only the pavement from grave no. 21 was better preserved. However in the majority of the features no remains of pavement were found. In turn, some features had the pavement, but it was not connected with the other features (features 22, 39, 112B and 161). Their function is difficult to determine; only in the case of feature 22 it is possible to suppose that it was a hearth.

Similar grave with horse burials are quite typical of the Elbląg group. They were found at the burial ground in Elbląg, Moniuszki St (Ehrlich 1937a, p.80; 1937b, p.268), Łęczce (Dorr 1898, pp.6-7 and 10), Chojnowo (Kowalski 1987, pp.281 and 284), Elbląg-Żytno (Ehr-

lich 1920, p.184) or Młoteczno (Ziemlińska-Odojowa 1991, pp.105 and 109), where often, although not always, they were under pavements, sometimes consisting of several layers, circular, elliptic or irregular in shape (cf. e.g. Ziemlińska-Odojowa 1991, p.109). The lack of pavements was explained by their destruction by ploughing (Dorr 1898, p.7; 1914, p.3), which seems justified, but most probably not all burials were covered with pavement (they were not found at all in, e.g., Chojnowo, cf. Neugebauer 1934, p.323, although some of the stones recorded during the post-war excavations may have been related to grave, cf. Kowalski 1985, p.226 fig.IV; 1987, pp.281 and 284). Unfortunately, so far there is no basis to determine for certain whether the use of pavement has any chronological value.

At the cemetery in Nowinka, besides the predominating single grave, also burial pits with pairs of horses (graves. 55, 120 and 131) were found. Double horse burials are found in the Elbląg group only in rare cases. Besides the grave nos from Nowinka one can mention only grave no. 15 from Chojnowo (Neugebauer 1934, pp.322 and 324) and lately also remains of a grave no. from Komorowo Żuławskie, Elbląg commune⁶. The anthropological analyses of bones from grave below which horses were deposited indicate that pairs of horses accompanied pairs of humans (grave no. 55 – woman and child, grave no. 120 – woman and man) or single people (grave no. 131 – one adult?). Although one can attribute the last-mentioned result to imprecise determination based on burnt bones (cf. Godłowski 1974), the assemblage is too small to state if in the burial rites there existed a relationship: pair of people-pair of horses deposited in the grave.

Horse grave were placed under cremation burials of warriors, i.e., grave with weapons (graves nos. 21 and 60), but also under ones anthropologically determined as female graves (nos. 45, 18?, 48?, 63? and 149?), grave of a woman and a child (graves nos. 55 and 151?), of an adult and a child (graves nos. 78, 82, 89 and 102), or even of only one child (graves nos. 70, 80, 104 and 121). The appearance of horse grave in combination with grave of people of different age and gender were noticed by R. Dorr, who made inferences on the basis of the excavations at the burial ground in Łęcze (Dorr 1898, p.7ff)⁷.

In Nowinka horse grave no.s not connected with human burials appeared only exceptionally (graves nos. 47, 119 and 160). In these cases one may conjecture that

⁶ The excavations conducted by Mateusz Bogucki PhD from the Institute of Archaeology and Ethnology, Polish Academy Sciences, whom we would hereby like to thank for the information.

⁷ A general remark to this effect was made in reference to the Balt areas by J. Jaskanis (1966, pp.55-65).

the human grave were destroyed by ploughing, which is indicated by the traces of burning in the upper parts of the investigated features. Only in the case of grave no. 20 it is possible that only the horse was deposited in the pit. Such cases were not, in the principle, found in the Elbląg group: the only known example comes from grave no. 15 in Łęcze where a horse burial under a pavement without traces of a human cremation burial was found. Less unambiguous is the discovery of two horses with no connection to human burials in Elbląg-Żytno (Dorr 1914, p.6) due to the possibility that the human grave may have been destroyed by ploughing. At the burial ground in Nowinka complete skeletons were found⁸ and the presence of incomplete skeletons can be reliably explained by the worse preservation of the bones. Grave no. 120 in which a pair of horses was buried is an exception. In case of one of them the head, cervical vertebrae, and some of fore-leg bones were missing. It is certainly impossible to explain that by the state of preservation of the feature as the skeleton was located next to the edge of a burial pit: evidently the horse was deposited in the burial after decapitation. Depositing parts of the skeleton was confirmed in the Elbląg group by the discovery from grave no. 106 in Elbląg-Żytno (Ehrlich 1920, p.187). The closest analogy from the Balt area for the discovery from Nowinka is in this case grave no. XV from Tumiany (Olsztyn group) where both buried horses were deprived of heads (Baranowski 1996, p.70 fig. 39).

In Nowinka horse grave were N-S orientated (with the head directed towards S), with small variations: NNW-SSE (grave no. 151) with the head towards SSE, NW-SE with the head towards SE (graves 22A, 78, 84, 87, 89, 98, 102, 112, 120 and 150) or NE-SW with the head towards SW (grave no. 62B). Two features: grave no. 45, oriented on the N-S axis, but with the head directed towards N and grave no. 44, oriented on the W-E axis, with the head towards E, are exceptions to this rule (Fig. 2). The unique grave did not differ from the other ones in the arrangement of horses' bodies, their sizes, or equipment. The only departure from the rule there was the fact that the horse from grave no. 44 did not have the bit, which was the standard element of the horse equipment. It was a young individual, aged 9-12 months, yet in the case of another young individual, about one year old, from grave no. 60, the bit was in the muzzle. The orientation of horse grave from Nowinka follows the customs of the Balt peoples. Horse skeletons in the Elbląg group were arranged on the N-S axis with the heads towards S, with small deviations from this axis. This was con-

⁸ Partial burials were also found at other Balt areas: in the Sudovian culture, in Sambian Peninsula and Lithuania (Bitner-Wróblewska 2007, p.106 with further literature).

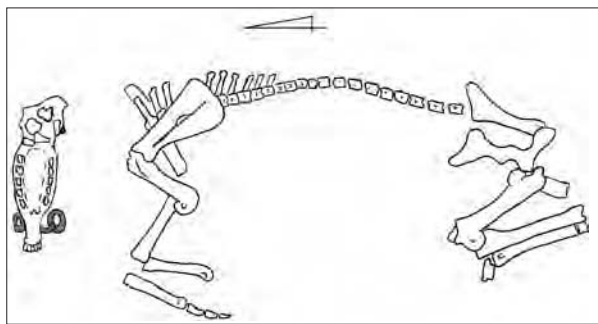


Fig. 2. Untypical orientation of the horse's skeleton from Nowinka, grave no. 45.

firmed by the investigations conducted at the burial ground in Elbląg-Żytno (Ehrlich 1920, pp.181 and 184ff), Elbląg, Moniuszki St (Ehrlich 1937b, p.274), Podgórze (Peiser 1919, p.342) or Chojnowo (Kowalski 1987, pp.281 and 284). The only exception is the burial ground in Młoteczno where in three cases horse heads were directed towards N, and only in one, towards S (Ziemlińska-Odojowa 1991, p.109)⁹. Horse burials in the Olsztyn group and in the Bogaczewo, Sudovian, and Dollkeim-Kovrovo cultures were also orientated along the N-S axis, sometimes slightly deviating towards E or W, often with the head oriented towards S¹⁰ (cf. Jaskanis 1966, p.53; 1968a, p.96ff; Baranowski 1996, p.70ff; Kulakov 1990, p.22; Lasota-Moskalewska, Perlikowska-Puszkarska 1994, p.195; Piątkowska-Małecka 2000, p.188; Gręzak 2007, p.362), although in eastern areas (Lithuania) departures from this rule were observed (Jaskanis 1966, p.53). In such a situation the atypically oriented grave nos. 44 and 45 from Nowinka seem more interesting.

At the discussed necropolis horse bodies were deposited in so-called ventro-dorsal position, natural for a lying horse, sometimes slightly on the side. The limbs were almost always bent and the fore-legs were stretched forward, similarly as at other burial grounds of the Elbląg group (Neugebauer 1934, p.324; Kowalski 1985, p.227; 1987, pp.281 and 284; Ziemlińska-Odojowa 1991, p.109) or generally Balt cemeteries, particularly the ones from Samland Peninsula and neighbouring areas (Jaskanis 1966, p.47; 1968a, p.89; Baranowski 1996, p.70ff)¹¹. At the cemetery in Nowinka some departures from this rule were also recorded

⁹ In this case, however, one should remember about the very poor preservation of horse skeletons, as a result of which the orientation of burials was reproduced only on the basis of the location of teeth in the pit (Ziemlińska-Odojowa 1991, p. 109). This could have resulted in certain inaccuracies in the reconstruction.

¹⁰ In the case of inhumation grave, the horse skeletons were oriented in the same way as the human remains, i.e., with the head to N (Jaskanis 1965, p.53).

¹¹ It should be, however, noted that in the Balt milieu horses were also buried at their sides, which concerns especially

(Fig. 3): in grave no. 70 the horse was deposited with its neck strongly bent backwards, in grave no. 87 the head was turned towards the back, to the right¹² and downwards, whereas the horse from grave no. 127 was arranged in a standing position only with slightly bent legs; also horses from graves nos. 17, 60 and 62A were put in a standing position. The stand of the horse from grave no. 117 is also unique. The animal was pushed into the pit in a twisted position with bent hind-legs, trunk and neck strongly turned leftwards, and the head between the fore-legs with the muzzle touching the left hind-leg. In several graves (nos. 20, 34, 48, 55 – both skeletons, grave no. 112) the horses had fore and hind-legs strongly extended to the sides¹³. The last mentioned cases can be explained by sagging of the horses' bodies under the weight of the soil. In the other, less typical, cases the position of the horses seems to indicate that the horses were put in the pits alive and that they were trying to get out of the grave. The animals may have been ridden into the ground so that it was easy to push them into the pit¹⁴ but it is also possible that they were stunned, poisoned or intoxicated. J. Jaskanis also suggested starving the animal put in the pit (1966, p.47), which seems hardly probable judging from the arrangement of the skeletons from Nowinka. No unambiguous cases of tying limbs,¹⁵ like those recorded for horses from the burial ground in Sątoczno, Korsze com.¹⁶ (Perlikowska-Puszkarska 1994, p.197) and the necropolises of the Sudovian culture in Korliny, Suwałki com. (Krysiak, Serwatka 1970, p.219),¹⁷ were found either. It is worth to note that the pits into which animals were pushed were very narrow (graves nos. 62A, 62B and 78)¹⁸. Generally it should be assumed that horses were deposited in pits before they

grave from the period of Roman influences (cf. Jaskanis 1966, p.46ff).

¹² A similar position, although not so strongly twisted, was found for one of the horses from the burial ground in Elbląg, Moniuszki Street (Ehrlich 1937b, fig.5).

¹³ A similar arrangement was found at the burial ground at Moniuszki Street in Elbląg (Ehrlich 1937b, fig. 6).

¹⁴ Such practices among Medieval Prussians are mentioned, i.a., in *Chronicon terrae Prussiae* [The Chronicle of the Prussian Land] by Peter of Dusburg III, 5 (cf. Jaskanis 1966, p.46ff; Gręzak 2007, p.361).

¹⁵ No cases of crossing fore-limbs or placing the limbs very close, or under the belly, which could have been interpreted as prove of tying the limbs (cf. Piątkowska-Małecka 2000, pp. 90-191), were found.

¹⁶ The burial ground has the features of the Dollkeim-Kovrovo culture.

¹⁷ Some researchers believe that tying the legs was a general custom, and tied animals were lowered to the burial pits on ropes (Krysiak, Serwatka 1970, p.219; Piątkowska-Małecka 2000, p.191).

¹⁸ Also B. Ehrlich noted the fact that at the burial ground in Elbląg, Moniuszki St, pits were small, exactly fitting the dimensions of the horses (1937b, p.274).

III

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FOR WAR,
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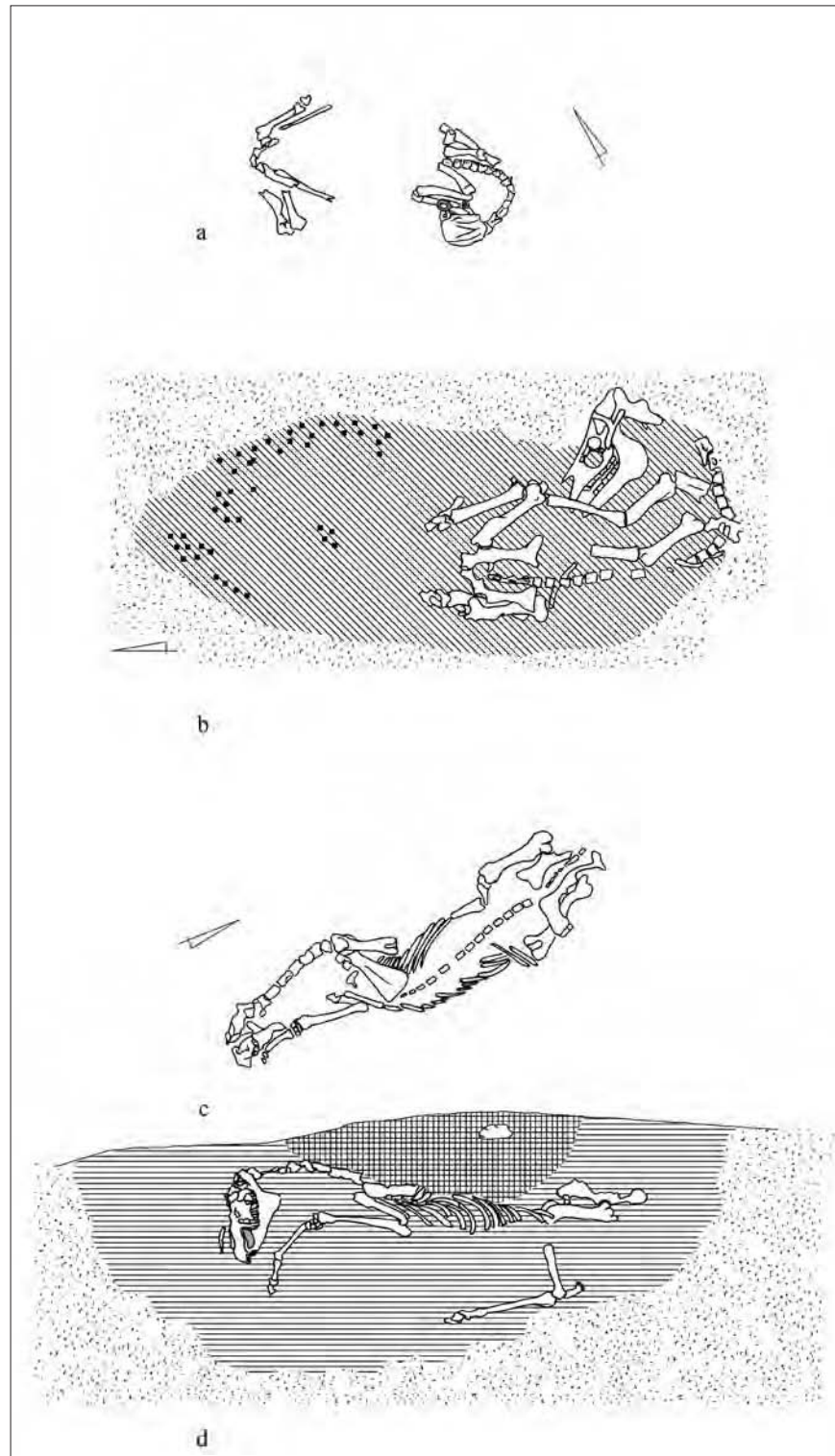


Fig. 3. Untypical arrangement of the horse's skeletons from Nowinka: a grave no. 87; b grave no. 117; c plan of the grave no. 127; d section of the grave no. 127.

reached rigor mortis, which is suggested by their natural positions. In some cases burying alive seems the most accurate interpretation. The suspicions that living animals were put in the pits and deprived of life as offerings in the grave were expressed already in the pre-war period, on the basis of the observation from the necropolises of the Elbląg group (Ehrlich 1937a, p.82; 1937b, p.274). In grave no. 66 from site Elbląg, Morniszki St, a knife, which may have been used to kill the animal, was found in the central part of the horse's back; moreover positions of many skeletons were said to suggest that the horses fought for their lives (Ehrlich 1937b, p.274). Doubtlessly horses played significant role during burials and their peculiar treatment was an important element of funeral rites, although we cannot reconstruct it even in general¹⁹.

Archaeozoological data

Horses buried in Nowinka are almost exclusively males²⁰. This determination was confirmed for all cases possible to identify, except for grave no. 121, where probably a female was buried. It accompanied a human child burial whereas horse's male burials co-occurred with grave of adult people (or adults with children). It is hard to decide if we have to do with a principle or this is an isolated case. In pre-war reports from excavations at cemeteries the results of archaeozoological analyses were not published so it is hard to find any points of the reference. Similar results were found, however, at the burial ground in Tumiany (Olsztyn group) where only males (Baranowski 1996, p.71 table 1) were identified and in Sątoczno (the Dollkeim-Kovrovo culture) where 1/3 of the horses was determined as male whereas it was impossible to determine the gender of the rest (Lasota-Moskalewska, Perlikowska-Puszkarska 1994, p.196). The tradition of burying males is confirmed at the Balt areas also for earlier time, i.e., the Roman

Period (Gręzak 2007, p.359 fig.7; see Piątkowska-Malecka 2000, p.191).

The age of the buried horses, however, is different from the results obtained for the Olsztyn group. The average age of the individuals from Nowinka, calculated on the basis of 42 cases, was 4.1 years while the youngest horses were 9–12 months (grave no. 44) or about 1 year old (grave no. 60); the oldest were 8 years old (grave no. 8)²¹. Thus young individuals were predominant. The essential differences were found, however, for Balt necropolises from other cultural units of the West Balt circle. On the basis of 23 measurements presented in the publication of horse burials from Tumiany (Baranowski 1996, table 1) it is possible to calculate that the analogous average was 7.3 years, and the results were contained in the brackets from below one year to 14–17 years. The analysis of horse bones from Sątoczno, in turn, indicates that the individuals of various ages were buried there: from the young, through the mature, to the very old ones (Lasota-Moskalewska, Perlikowska-Puszkarska 1994, p.196). Similar observations were made based on finds from the Bogaczewo culture (Gręzak 2007, p.359) and generally from the areas of settled by the Balts in north-eastern Poland (Piątkowska-Malecka 2000, p.191 fig.2).

The analysis of the height at the withers brought interesting results. The average height at the withers of the horses from Nowinka, calculated on the basis 17 measurements, was 128.9 cm, and the results are comprised in the brackets from 123.6 cm to 136.3 cm (which stresses not the big differences in height)²². A decisive majority of horses had height at the withers between 125 and 133 cm,²³ they were thus short or medium-sized individuals. Only a few cases were outside this span. One should recall grave no. 121, where under a cremation burial of a child probably a small-sized (123.6 cm at the withers) female was deposited. It is hard to state whether the height and gender of the horse were in any way connected with the age of the deceased

¹⁹ In Orosius' *Chorography*, 22 translated by King Alfred the Great we find the information about horse races connected with burial ceremony aimed to win the valuables formerly possessed by a dead person. The precious items had been divided and situated in known place. Then horse riders were to hurry and get the prize (cf. Labuda 1961, pp.70 and 86). The significance of a horse in the burial rite is also underlined by a mention from Treaty of Christburg, 13: a peace treaty signed in A.D. 1249 between the pagan Prussian clans, represented by a papal legate, and the Teutonic Knights. Pagan priests called *Tulissones* or *Ligaschones* are described here during burial ceremonies; they were reporting their visions of the mounted armed dead person, riding the sky together with his retinue and a falcon (text after Hartknoch 1679). For a role of a horse in a burial rite see also Hoffman 2006.

²⁰ The archaeozoological analysis was conducted by professors Krzysztof Świeżyński and Henryk Kobryń (Warsaw University of Life Sciences-SGGW).

²¹ In pre-war publications concerning the Elbląg group remarks were sometimes made to the effect that young individuals were buried, e.g., in Chojnowo, grave no. 15 (Neugebauer 1934, p.23). Due to the bad state of preservation of the bones at the burial ground in Młoteczno, the horse age was determined only in one case: it was an 18–42 month old individual (Ziemlińska-Odojowa 1991, p.113).

²² Although one should underline the case of a young individual from grave no. 48 with its height at withers 144.2 cm. Probably it would have grown even bigger if it hadn't died so young.

²³ In the reports from pre-war excavations at the sites of the Elbląg group, professor T. Müller's opinion was quoted that short horses resembling East-European breeds were buried (Ehrlich 1920, p.185; see Ehrlich 1937b, p.274; Neugebauer 1934, p.323).

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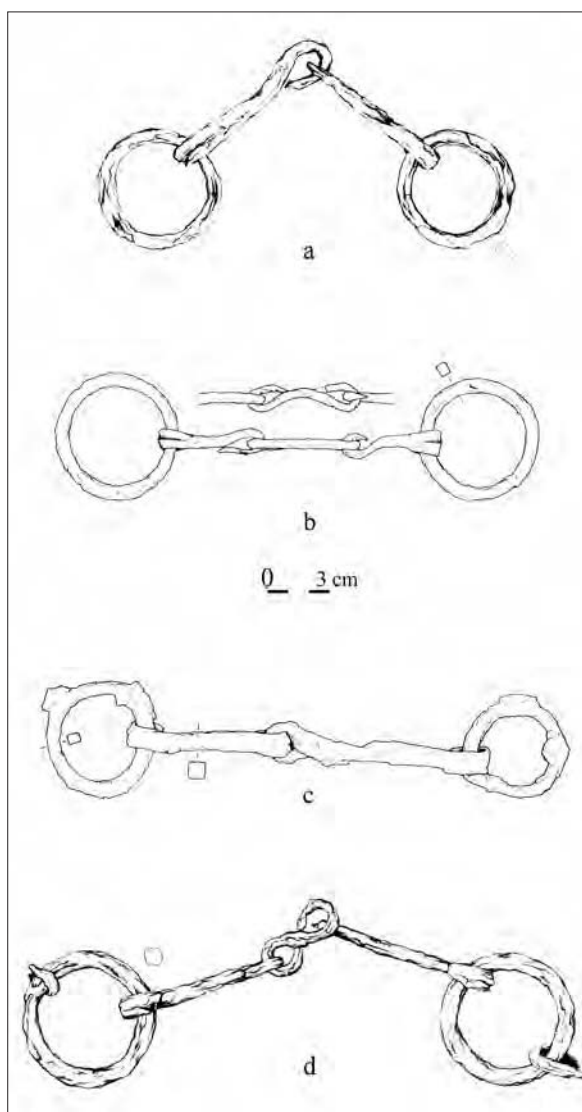


Fig. 4. Examples of bridle-bits from Nowinka: a grave no. 62B; b grave no. 112; c grave no. 114; d grave no. 131.

human. Tall individuals were found in grave no. 48 (144.2 cm at the withers) and grave no. 82 (136.3 cm at the withers). It is possible that their clearly larger dimensions can be explained by their individual features and the use of castration, which, when applied before the second year of life (horse from grave no. 48 was 1.5–3.5 years old whereas the one from grave no. 82 was 4.5 years old) may increase the height at the withers by about 4–6 cm (Kobryń 1984, p.50). Horses of similar size were typical of Barbarian Europe from the Roman Period (Lasota-Moskalewska, Kobryń 1998; Bishop 2006, p.94),²⁴ including the Bogaczewo culture (Gręzak 2006, p.359 fig. 7) and generally the West Balts circle (Piątkowska-Małecka 2000, p.192; cf. Lasota-Moskalewska, Perlikowska-Puszkarska 1994, p.197 fig.5). The Scandinavian horses, the remains of which were discovered at the bog site of Illerup were

²⁴ Cf. also B. Kontny's article in this volume.

not much taller, reaching 140 cm at the withers (Ilkjær 2007, p.104).

No evident relations between the age and dimensions of buried horses and the grave no. goods, gender and age of the people buried in cremation grave, etc., have been recorded.

Bridles

The grave goods in horse burials consisted mainly of bridles (Fig. 4), represented exclusively by bridle bits, sticking in muzzles. Only three horse skeletons were not accompanied by bridles. In grave no. 44 this can be explained by the fact that the buried individual was too young (9–12 months) to be broken. On the other hand, at that cemetery, grave no. 60, mentioned above, contained a young (about one year old) individual with a bridle in its mouth. Lack of a bridle in the case of one of the horses buried in double grave no. 120 is connected with the fact that the individual was deprived of its head. In turn grave no. 142, in which no bridle was found, was disturbed and that is how its lack can be explained.

Most of the bridles consisted of bipartite bits which were symmetrical (graves nos. 17, 45, 52, 60 and 89) but also slightly (graves nos. 103, 114 and 121) or clearly asymmetrical (graves nos. 8, 47, 48, 62B, 127 and 149)²⁵. Such forms represent type 1C1 according to M. Ørsnes (1993²⁶). Significant part of bridles create tripartite forms (graves nos. 20, 70, 80?, 98, 102, 112, 119, 120, 131, 155 and 160) representing type 1C2 according to Ørsnes (1993). Some of the central links were 8-shaped (graves nos. 20, 98, 120) others were S-shaped with unfinished ends (graves nos 131 and 155) or had the form of a rod with ends in the shape of little hooks (graves nos. 70, 80?, 102, 112 and 160). The majority of central links were clearly shorter than the remaining ones and certainly functioned as baubles – elements used as a piece for a tongue to ‘play’ with, in aim to accept the bridle easily; **touching the central link with the tongue makes the bit not getting too deep into the mouth (also at present some horses with a tendency to reject a bridle, do need such utensils)**²⁷.

²⁵ They should be determined as type 1, subtype 2 according to V. Kulakov (1990, p.35).

²⁶ It should be noted that M. Ørsnes' classification is schematic; the author did not distinguish the cases where links of various lengths were found (1993, p.190).

²⁷ This kind of form with short, S-shaped link can be determined as type 2 according to V. Kulakov (1990, p.36). They are found at Balt areas, e.g. in Semigalian cemetery at Šukioniai, grave no. 69 (Griciuvienė *et al.* 2005, p.129, fig.670), in the East Lithuanian Barrows culture, e.g. Žvirbliai (Žwirble), barrow 55, grave no. 1 (Iwanowska 2006, p.117 plate XCIX.1) or in the Dollkeim-Kovrovo

Some of central links were, however, of similar and even greater length than the remaining ones (graves nos. 80, 119 and 160). In such cases we have probably to do with bits adapted to calm horses down, for the addition of a third, long, link made the pressure of the bit on gums lesser than in bipartite bits. Both types of bits have been recorded for the Elbląg group: tripartite items with the short central link were discovered in Elbląg-Żytno (Ehrlich 1932, fig.5.b) and in grave no. 21 in Łęczce (Dorr 1898, p.11 plate I.23) whereas bipartite items were confirmed by the finds from Elbląg, Moniuszki St (Ehrlich 1937b, fig.2), Elbląg-Żytno (Ehrlich 1932, fig. 5.a) and Łęczce (the artefact the copy of which survived in the collection of the Römisch-Germanischen Zentralmuseums Mainz, no 20044²⁸ and the item from grave no. 15 – Dorr 1898, plate I.25). The situation at the necropolis of the Olsztyn group at Tumiany is slightly different. On this necropolis 14 of 17 horse grave (for 22 from 26 complete horse skeletons) contained pieces of equipment: mainly bridles, but also fragments and decorations of headgear (Baranowski 1996, pp.72-73). However, the tripartite bits (8 items) are more numerous here than the bipartite ones (seven items), as compared to the proportion of 11:14 at the burial ground in Nowinka. Moreover bridle bits with cheeks were quite frequent in Tumiany (five cases), and they are proved also for other necropolises of the Olsztyn group and for the Dollkeim-Kovrovo ones as well (see La Baume 1944, p.14). Meanwhile in the Elbląg group they are almost unknown²⁹. The next difference between the two necropolises is the fact that the richest, decorative headgear fittings appeared in Tumiany, except for grave no. XVII, with tripartite bits (Baranowski 1996, p.73) whereas in Nowinka the situation is opposite: in burials with rich headgear fittings

culture, e.g. Pervomayskoe (former Warnikam) (La Baume 1944, fig. 4). They are known even further to the east, i.e. from the area of the Long Barrows culture (Kazanski 2007, p.245ff) and to the north (Scandinavia) in the Vendel Period and – as refers to Gotland – also from the Viking Age (Sundkvist 2001, p.239). In horse grave from the East Lithuanian Barrows culture both bipartite and tripartite bits were common, not showing any significant variability in time. Tripartite items have been recorded for the time from the second half of the fifth century but they gained the largest popularity in the 10th-14th century (Iwanowska 2006, p.68).

²⁸ The authors would like to thank Marek Jagodziński PhD from the Archaeological-Historical Museum in Elbląg for this information.

²⁹ The only example – except the plausible find of the bridle with a cheeks made of antler/organic material from grave no. 99 in Nowinka – of a bit with cheeks comes from Elbląg, Moniuszki street (Ehrlich 1941, p.96 fig.32.4). It should be attributed to type 5C3 according to M. Ørnsnes (1993) and it has an analogy e.g. in the find from Tumiany (La Baume 1944, figs. 16 and 19; Baranowski 1996, fig.5).

a tripartite bit was found only in grave no. 120; bipartite items were recorded in all the remaining cases. On the basis of the scant available material it is hard to decide if the above mentioned differences have a cultural character or they only are a result of different preferences of local communities. It is only possible to state the almost complete absence of bridle bits with cheeks in the Elbląg group.

In the analysis of the bits attention was paid to their span: it was attempted to measure so-called interdental space, i.e., the maximum length of the part of the bit which was in the animal's mouth. It was possible in 34 cases. The average value was 13.5 cm, and the results were comprised between 9 and 18 cm. A very small span (9 cm) was found in grave no. 8 where an eight-year-old, rather short (125.8 cm at the withers) horse was buried. This does not mean however that there is a directly proportional relation between the horse size and the span of the bit, for one of the largest span (17 cm) was recorded in the grave of a rather short horse (grave no. 20 – the horse of the age of 7–8 years, height at the withers: 127.4 cm). We have rather to do with individual features of the horse skull structure and making simple comparisons with the horse size is not justified. Besides, no correlations were observed between the bit sizes and heights or ages of the horses. One can notice however, that the largest spans appeared in tripartite bits (grave no. 20 – 17 cm, grave no. 87 and 155 – 16 cm, grave no. 160 – 18 cm), and only exceptionally in bipartite ones (grave no. 60 and 103 – both about 155 cm), which can be easily explained by practical reasons: tripartite bits generally were never set straight and the reconstruction of the real interdental space should decrease its length. Also the horses' individual features of character should be taken into account: their skittishness, sensitiveness of the jaw, etc.

Bridle rings from Nowinka varied in their diameters (average 5.2 cm, calculated on the basis of 92 measurements). It is worth to note the large items (grave no. 8 – 6.6 and 6.8 cm, grave no. 45 – 6.8 and 7.0 cm, grave no. 52 – 7.6 and 7.7 cm, grave no. 55, horse II – both 6.6 cm, grave no. 131 - twice 6.7 and 6.9 cm), which can be determined as type 2B according to Ørnsnes (1993, p.190)³⁰; the remaining items are smaller and do not go beyond the dimensions of type 2C³¹. The rings of larger sizes generally accompanied bipartite

³⁰ They are not however as large as some of items from the cemetery at Tumiany where rings of diameters up to 9–11 cm were discovered (Baranowski 1996, p.73).

³¹ As the studies on bits from the Merovingian Period indicate, the diameters of rings could have a chronological importance. The sizes recorded for Nowinka, however, do not allow to draw unambiguous conclusions in this matter (see Oexle 1992, fig.3).

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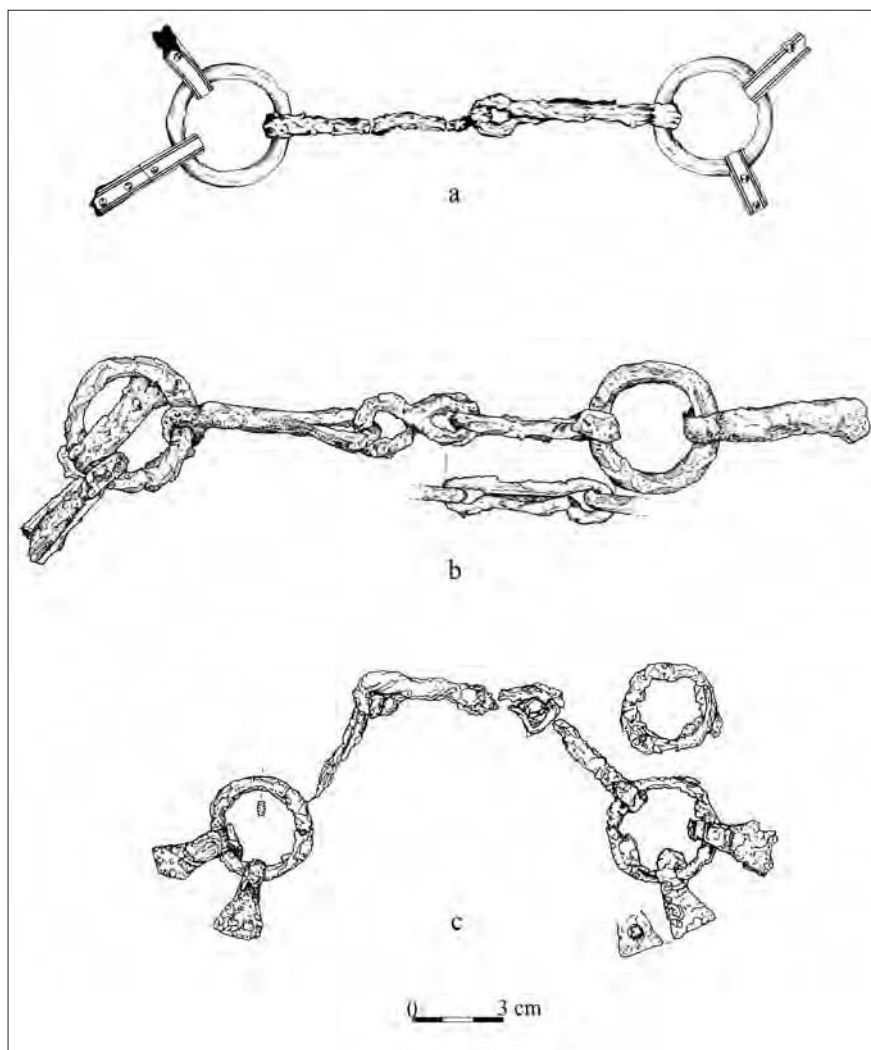


Fig. 5. Bridles with fittings aimed to fix reins or straps (cheeks) from Nowinka: a grave no. 17; b grave no. 20; c grave no. 160; a: iron and bronze, c-d: iron.

bits (graves nos. 45, 52, 55, 84 and 118, horse II from grave no. 131) and only exceptionally tripartite ones (grave no. 131, the horse I)³². No relation between the diameter of rings and age of the horses or their height at the withers has been observed.

The decided majority are iron bridle rings, however, also bronze ones were found (graves nos. 17, 18, 21, 34, 77 and 83). Bronze bridle rings have been also found at another necropolis of the Elbląg group, in Elbląg-Żytno in grave nos. 8, 10, 13 and 41 (Dorr 1914, p.7ff, plate I.3-5; Ehrlich 1920, p.182; 1932, p.404)³³. Bronze

³² A similar regularity can be found in Tumiany, cf. grave nos. IX and XIV (Baranowski 1996).

³³ Bronze bit rings with bronze strap fittings are also known from the Olsztyn group. This is proved by the discovery from grave no. 228 in Tumiany, the drawing of which has been preserved in Kurt Voigtmann's archives stored in Berlin (Prussia Museum inv. no VII.461.13005) and from „horse grave no. 1”, in which, i.a., a considerable part of headgear fittings of Tumiany type was preserved (Prussia Museum inv. no. VII.304.11948a). We would like hereby

rings had average sizes (diameters from 4.4 to 5.6 cm) and they were found only with bipartite bits. Some of them had bronze fittings for reins or cheeks. More often than in the case of iron items they appeared together with ornamental bronze headgear fittings (graves nos. 17, 18, 21, 34, 65 and 83), which indicates that the material probably determined the status of the horse owner³⁴.

Rings of some bits had bronze (graves nos. 17, 18, 65, 78, 83 and 84) or iron (graves nos. 20, 45, 47, 119, 131 and 160) fittings, serving to fix reins or straps of the headgear – first of all cheeks (Fig. 5). This solution is frequently found in the Elbląg group, cf.: Łęcze, grave no. 13 (Dorr 1898, p.10 plate I.27), grave no. 21 (Dorr 1898, p.11 plate I.23), graves no. 41 (Dorr 1898, p.13 plate I.26); Elbląg-Żytno, graves nos. 10, 13 and 41 (Dorr 1914, plate I.3-4) and 107 (Ehrlich 1920, p.193). At

the burial ground in Chojnowo, on the other hand, the presence of greenish tarnish on one of the iron bits was found (Neugebauer 1934, p.322), which suggests that originally there was a bronze fitting in that place. Bronze items from Nowinka had the same form: they were made of long rectangular plates, bent at half length around the ring of the bit. The arms of the fittings were originally joined together and with the strap by means of two or three rivets (depending on the length). Along the longer edges an ornament in the form of two engrave lines was placed. Such fittings were used both to fix the rein straps and headgear (cheekpieces) as they

to express our gratitude to professor W. Menghin and Dr H. Wieder from the Museum für Vor- und Frühgeschichte in Berlin for the possibility of using the above-mentioned archives.

³⁴ To a certain extent, for there are known bits completely made of iron, which are accompanied by decorative bronze fittings of the headstalls (graves nos. 8, 26, 47, 55, 60, 62B, 78, 82, 84, 117, 118, 120, 121 and 147). Additionally, an opposite case is known: in grave no. 77, a bridle bits with bronze rings without headgear ornaments was found.

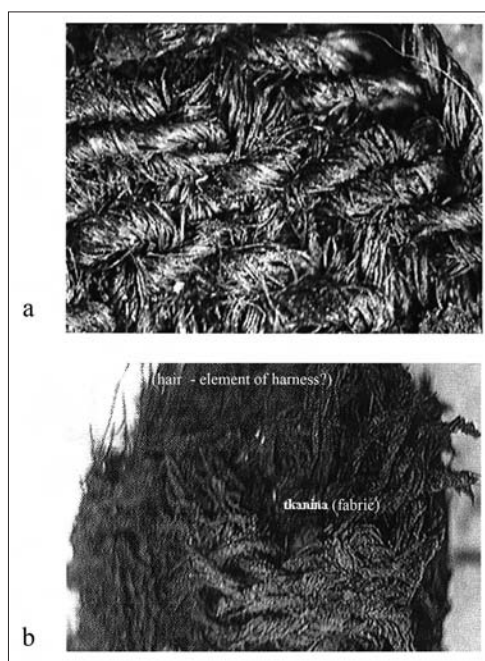


Fig. 6. Organic remains from the horse's back from Nowinka, grave no. 21: a plait of wattle or bast fibres, b traces of fabric on the fur.

appear singly – and then their function may be only a subject of conjecture (graves nos. 18, 65 and 84), or in pairs – in such cases they were used to strengthen both straps (graves nos. 17, 78 and 83). Much less can be said about the iron specimens, due to the fact that they were strongly damaged by corrosion. Only in the case of bit rings from grave no. 20, a pair and a single fitting of U-shaped iron plate was recorded, whereas in grave no. 160 pairs of fittings attached to rings were made of fan-shaped iron plates with single rivets at their broader ends designed to join the strap.

Saddles

In some grave it may be assumed that the horse was buried together with the saddle made of organic materials (Fig. 6). Although such materials can not survive till modern times, certain premises seem to confirm such a presumption. In grave no. 20 iron and bronze fittings located over the animal's backbone were found, probably strengthening certain parts of the saddle. What is more, fragments of wood were found in this place. The presence of organic materials on the animals' backs was recorded in graves nos. 17 and 21. Their samples were taken and, according to the analysis conducted by Teresa Radek (Centre of Anatomy and Histology, Academy of Agriculture in Wrocław) in grave no. 17 these were fragments of moss and, in grave no. 21, tissues of wicker or bast making up a kind of plait. The analysis of the samples also showed the presence of remnants of tanned leather and of horse, cattle, and

sheep fur, which Teresa Radek interpreted as remains of horse fur and remains of pieces of leather harness tanned together with hair (cattle hides and hair) and remains of fabrics (sheep hair). Also in grave no. 21 at the side of the animal's hind part bronze plates were found: maybe fittings of the dock (?). Iron fittings in the form of plates connected by massive rivets spaced out by ca 1 cm (fragments of wood were preserved between the plates) arranged in a way impossible to interpret, nails, and rectangular washers, were found near the back of the horse buried in grave no. 89. In turn, in graves nos. 119 and 155, large iron buckles, probably used to fasten the girth (and thus to secure the saddle, held in place by the girth)³⁵, were found near the animal's abdomen. The data presented above do not, of course, allow to say anything about how the presumed saddles may have been constructed. The only relation to any of the various features of burial rites or grave no. goods, which it was possible to observe, is that in grave with alleged saddles bits had large spans (grave no. 20 – 17 cm, grave no. 89 – 14 cm, grave no. 119 – 15 cm, grave no. 155 – 16 cm). It is hard, however, to establish if this has any connection with using saddles.

Headgear

The most spectacular category of the equipment of horse grave are the fittings decorating headgear straps. They were found in many graves (nos. 8, 17, 18, 21, 26, 34, 47, 55, 60, 62A, 62B, 65, 78, 82, 83, 84, 117, 118, 120, 121 and 147), however, only in some of them they were numerous enough and their arrangement was similar enough to the original ones to make their reliable reconstruction. Headgear fittings were made of very thin bronze plates³⁶ which crumbled easily, which was noted already in the pre-war period (cf. Ehrlich 1920, pp.191-192). No silver fittings were found at Nowinka, similar to the ones recorded for the necropo-

³⁵ Similar buckles (in form, dimensions, and the location in the grave no.) were found at sites from the West Balts circle: in Tumiany (grave no. X, horse 20; grave no. XIII, horse 23; grave no. XV, horse 27 – cf. Baranowski 1996, p.77 figs.30.c, 35.a, 40.d), in grave no. 3 in Sątoczno (Lasota-Moskalewska, Perlikowska-Puszkarska 1994, p.193, fig. 2), and also in the Sudovian culture: Szwajcaria, barrow 25 (Jaskanis 1966, figs.4-5) and Korkliny, barrow 2 (Jaskanis 1966, p.40 fig.6; Krysiak, Serwatka 1970, p.219) although one should notice that the find from Szwajcaria is definitely earlier. They should be interpreted in an analogous way.

³⁶ The only exception is an iron fitting from grave no. 62A, consisting of two rectangular plates: a larger one, about 2.4 cm long, bent at the end, and a smaller one joined to it by a pair of rivets. Their exact function is difficult to establish, although due to their location close to the animal's muzzle one may conjecture that the fitting strengthened the place where the straps crossed.

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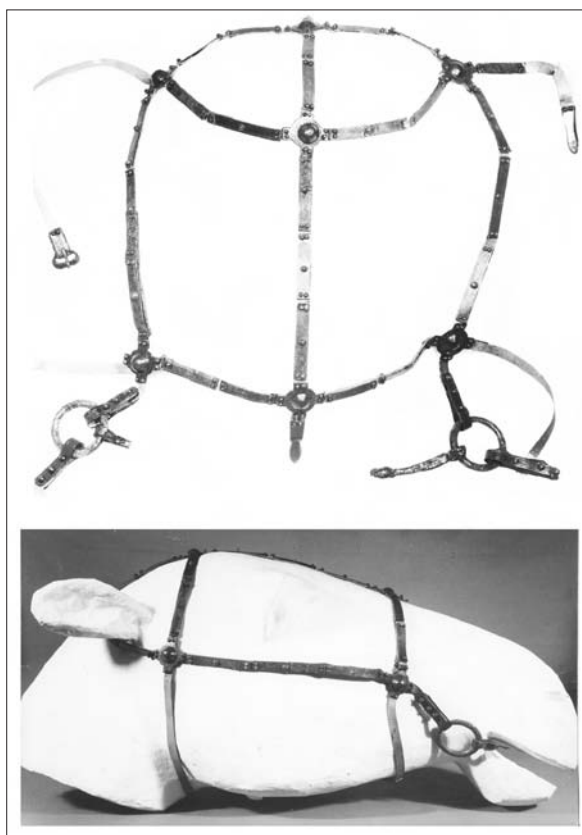


Fig. 7. Reconstruction of headgear from Nowinka, grave no. 83; prepared in 1983 by Department of Preservation, State Archaeological Museum in Warsaw for the exhibition "Bałtowie – północni sąsiedzi Słowian" (photograph by T. Biniewski).

lis at Chojnowo (Kowalski 1987, pp.281 and 284)³⁷ or the more so, fittings made of gold or gilded, which appeared, next to silver and bronze ones, at the burial ground in Elbląg, Moniuszki street (Ehrlich 1941, p.96). The most common form were rectangular strap mounts decorated with lines engraved along the edges, fixed with the use of pairs of rivets placed on shorter sides. In some grave they were quite numerous (over 20 items). They appeared comparatively often at different necropolises of the Elbląg group, where beside forms decorated with grooves also items with 1–3 lines made of stamped points were found, e.g., in Łęcze, grave no. 20 and 25 (Dorr 1898, p.22 plate III.19,24), Elbląg-Żytno, graves nos. 10, 105 and 107 (Ehrlich 1920, p.191ff figs.2.f and 2.g-h), Chojnowo – pre-war investigations (Neugebauer 1934, p.321 plate LXX.4) as well as features 1 and 14 (Kowalski 1987, pp.281 and 284). Less numerous were bronze strap connectors of various forms (usually a few of them were found in one grave) and lancet-shaped strap ends (graves nos. 21, 60, 82 and 83; in grave no. 82 also tongue-shaped one) identical with these which served as belt ornaments. In some cases small buckles, probably serving

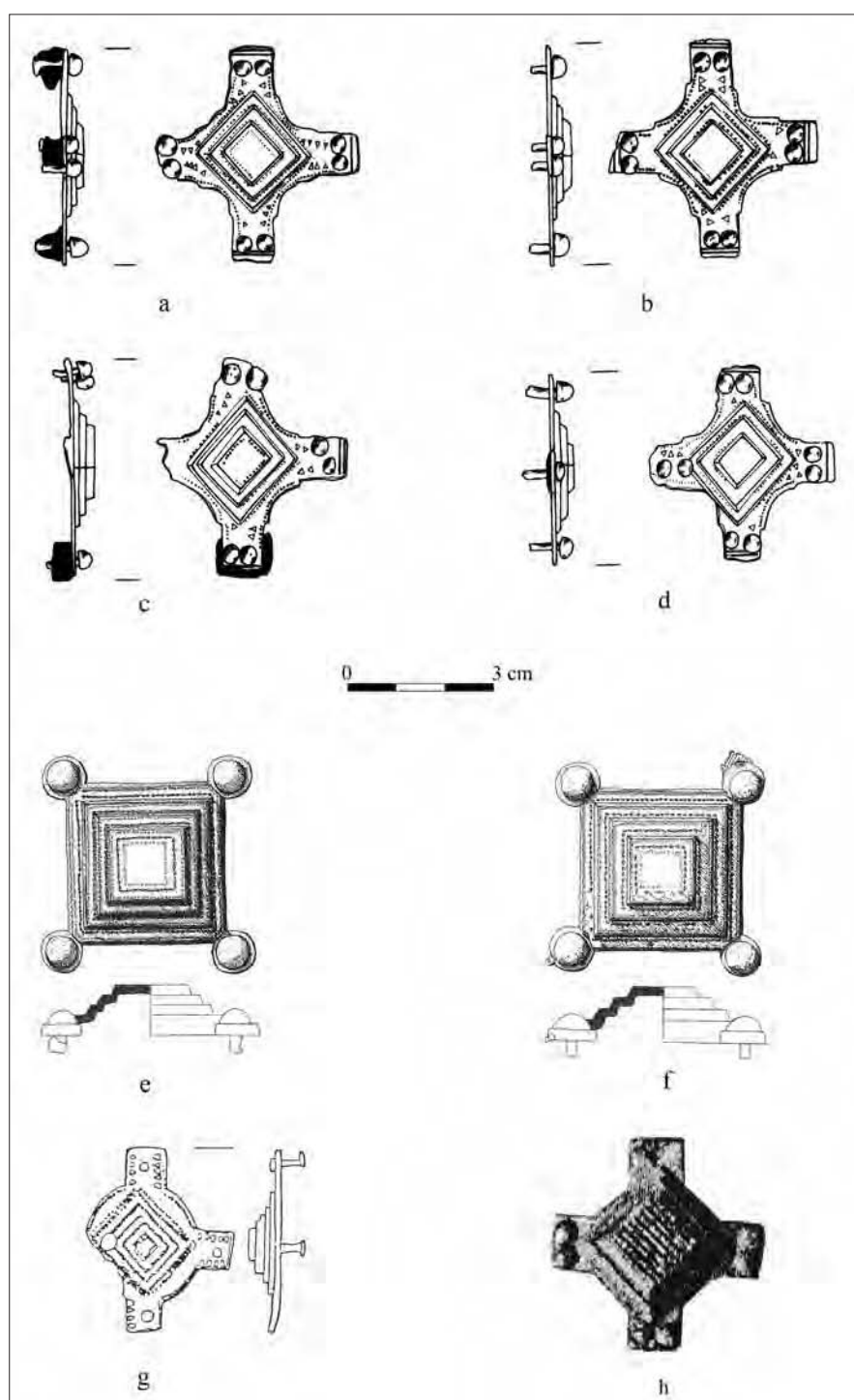
³⁷ They were also found at the burial ground in Tumiany (Baranowski 1996, p.77).

to tighten headgear or rein straps were found (graves nos. 17, 18, 21, 62A, 112 and 114). In graves nos. 112 and 114 the location of buckles at the back of the skull, on the left, suggests that they served to fasten the cheek or throat-lash (in both grave no decorative headgear fittings were found) whereas thanks to a very well preserved arrangement of the headgear fittings from grave no. 83 it was possible to state that the buckle was used to fasten the throat-lash.

It is possible to distinguish in the investigated material several types of sets of headgear ornaments and their considerable individual differentiation should be noted. The model known from the cemetery of the Olsztyn group and hence called the Tumiany type (La Baume 1944, p.13ff)³⁸ is represented by a set of fittings from grave no. 83 in Nowinka (Fig. 7). Rectangular plates covered in that case the cheeks, headpiece, browband, noseband (in the exposed part, i.e., in the front part of the head) and the central strap, running along the axis of the horse's head extending from the headpiece to the noseband or even beyond it and ending with a lancet-shaped fitting. Also part of the throat-lash was fitted and the strap coming through the buckle was ended with a lancet-shaped fitting. In the places where the straps crossed, connectors in the form of circular plates with four arms each ending with four rivets designed to fix the straps were used. The central parts of the connectors had circular bosses on which decorative arrangements consisting of concentric lines of embossed points were made³⁹. In the grave there were seven such connectors, which provides a certain point of reference owing to the very well preserved arrangement of the headgear fittings. An almost identical arrangement of headgear fittings was found in grave no. XVII (horse 30) in Tumiany (Baranowski 1996, p.77 figs. 4 and 50). The only difference consists in the use of one of the tongue-shaped fittings to decorate part of the central strap, behind the headpiece found in Tumiany, while in Nowinka it was used as an end of the throat-lash. Connectors of this type were also found in other graves at the necropolis in Nowinka (graves nos. 18, 34 and 60) but they belonged to incomplete or disturbed sets, which made reconstruction impossible. Items from grave no. 34 were not decorated whereas the ornament on the connector from grave no. 18 differed in details from the one presented above. Connectors of the dis-

³⁸ It is worth noting that this type was not defined precisely by W. La Baume, and the examples used to illustrate it differ considerably (cf. Baranowski 1996, p.76). The common features, however, were supposed to be cross-shaped strap connectors, elongated, rectangular mounts, belt buckles and tongue-shaped strap ends (the bits may have been ended with rings or metal rods).

³⁹ Such forms have no direct equivalents in Ørnes' classification (1993), representing a form between types 9D1 and 9D2.



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Fig. 8. Bronze connectors with step pyramid motif in a centre: a-d Nowinka, grave no. 21; e-f Kobbeå, grave no. 1 (after Nørgård Jørgensen 1992, figs.11.2-3); g Jelonki, loose find (after Nowakowski 1998, fig.1a); h Tumiany, grave no. 228 (after Nowakowski 1998, fig.1.b).

cussed kind were found at necropolises of the Elbląg group in Elbląg-Żytno, in grave no. 10 (Dorr 1914, p.8 plate II.1-3)⁴⁰, graves nos. 105 and 107 (Ehrlich 1920, p.192)⁴¹ and during later investigations (Ehrlich 1932,

fig.10)⁴², in Elbląg, Moniuszki street (Ehrlich 1937a, fig.2) among the others in grave no. 2 (Ehrlich 1937b, p.274), and in Komorowo Żuławskie⁴³. They were nu-

⁴⁰ In this case the ornament around the central boss (riveted to the connector and not embossed) consisted of zigzag engraved lines.

⁴¹ With the ornamental motif in the form of an engraved zigzag line with a central boss embossed from the inside.

⁴² Both the items with the embossed boss and the flat ones, originally with riveted boss.

⁴³ A stray find from the excavations conducted by Dr Mateusz Bogucki's from the Institute of Archaeology and Ethnology, Polish Academy of Sciences, whom we would hereby like to thank for the information.

merous also at other Balt burial grounds: in Olsztyn group or in Sambian-Natangian area, e.g. in former Koddien (Ehrlich 1920, p.192). Similar forms were also discovered in the Merovingian circle where, however, they were more ornamental, cf.: Rommersheim, grave no. 54 (Oexle 1992, plates 136 and 294.2-3)⁴⁴ and Beckum II, grave no. 110 (Oexle 1992, plates 166, 370. 2; 167, 370, 3)⁴⁵.

Somewhat different, simpler cross-shaped connectors of type 9D1 according to M. Ørsnes (1993) with single rivets at the ends of the arms and a small central boss in the place where the arms meet (without a circular central part) were found in grave no. 62 in Nowinka. Similar solutions were discovered at the burial ground of the Elbląg group in Łęczce, where four such fittings were uncovered in grave no. 25 (Dorr 1898, pp.11 and 22 plate III.17). They are proved also for the Sambian area, e.g. Izhevskoe, raj. Kaliningrad, grave no. 8 (former Widitten-Elenskrug, Kr. Fischahusen) (Kleemann 1956, plate XXXI:8e).

The discovery from grave no. 21 is particularly worth mentioning. Four cross-shaped connectors with pairs of rivets at the ends of the arms and with a step pyramid (with three steps) in the centre were found there (Fig. 8). They should be considered as a transitional form 9D1 and 9D3 variant b according to Ørsnes (1993). A similar style of decoration was found on a brooch from grave no. 23. The closest, although not complete, analogy for this solution can be found in grave no. 228 from Tumiany, where a pair of connectors was found differing from the items from Nowinka by the presence of different texture at the upper surface of the pyramid (Nowakowski 1998, p.196 fig.1.B; Kurt Voigtmann's records, No. inv. Prussia Museum VII 461.13005) and the shape of the pyramid, extending to the arms of the connector (in case of the find from Nowinka the whole pyramid is on a plate). Further analogies for such solutions can be found in Scandinavia among forms type RV1a according to A. Nørgård Jørgensen (1999, p.112), cf.: Kobbeå, grave no. 1 (Nørgård Jørgensen 1992, figs. 11.2-3 and 37; see Ørsnes 1966 fig.26) and Glasergård, grave no. 2 (Jørgensen 1990, p.138 plate 31.2-3; see Ørsnes 1966, fig.25) on Bornholm and Torgård in Norway (Nørgård Jørgensen 1992, fig.29.7-8) or Valsgårde, grave no. 7 in Sweden (Arwidsson 1954, plate 22.43,73). Connectors in the form of a pyramid are also known from the Merovingian circle: Betzingen, Kr. Reutlingen (Oexle 1992, plates 3, 16.2) Beckum, grave no. 76 (Oexle 1992, plates 160; 349.2-3)

⁴⁴ Curiously enough, in that case the ornament of stamped triangles and pseudo-pearl-like pattern, which is typical of items the Elbląg and Olsztyn groups, was used.

⁴⁵ Very decorative items, with cross-shaped mounts made of a metal band.

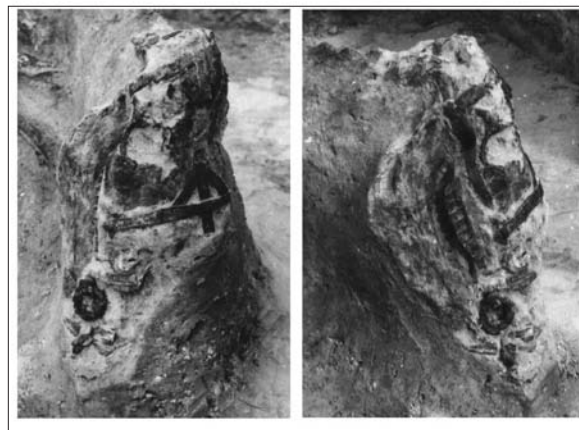


Fig. 9. Fittings of a headgear arranged at acute angles from Nowinka, grave no. 121.

and grave no. 73 (Oexle 1992, plates 158 and 348.2-3), Xanten, grave no. 27 (Oexle 1992, plates 196; 430.2); cf. also items more decorative and sometimes differing in details: Engers (Oexle 1992, plate 123, 269.1-2), Klepsau, grave no. 6 (Oexle 1992, plates 39; 84.2-3), Beckum, grave no. 17 (Oexle 1993, plates 154; 341.2-3), Regensburg (Oexle 1992, plates 102; 222.2-3), Bremen, grave no. 12 (Oexle 1992, pl. 176, 379, 2-3) and 14 (decorated: Oexle 1993, plates 178; 381. 2; 179, 381.3), Gammertingen (Rieth 1937, fig.4.7), and Junkersdorf, grave no. 411 (Oexle 1992, plates 183 and 393.1). These are not, however, ideal parallels: the motif of a pyramid on the finds from Scandinavia decorates a square plate which makes up the main part of the connector (small projections with rivets are placed in the corners of the plate) and not only the central part of the cross-shaped fitting. Also their function is not entirely identical with that of the Scandinavian finds: in Kobbeå only two pyramid-shaped fittings were found and they functioned as connectors of the browband and cheekpiece (Nørgård Jørgensen 1992, fig. 28); pairs of them appeared also in the Merovingian circle (cf. Oexle 1992, *passim*), while in the assemblage from Nowinka 4 items were discovered, thus also other pairs of straps must have been connected (curiously enough in the case of the find from Tumiany also a pair of connectors was found). Thus we have to do with a local imitation of a decorative motif and not of the whole product. Such interpretation is supported by another find from the area of the Elbląg group: a stray find of a headgear connector from Jelonki, Rychliki com.: the step pattern was used as a decoration of a connector typical of the Tumiany type (Nowakowski 1998, p.196 fig.1.a). All that clearly proves that there existed contacts between the Elbląg group and the southern part of Scandinavia (cf. Høilund Nielsen 2000, fig. 3); manifested also by, i.a., the presence of a pair of S-shaped brooches of Scandinavian type, variant L1a (Ørsnes 1966, p.299ff fig.164; Høilund Nielsen 1987, p.77;

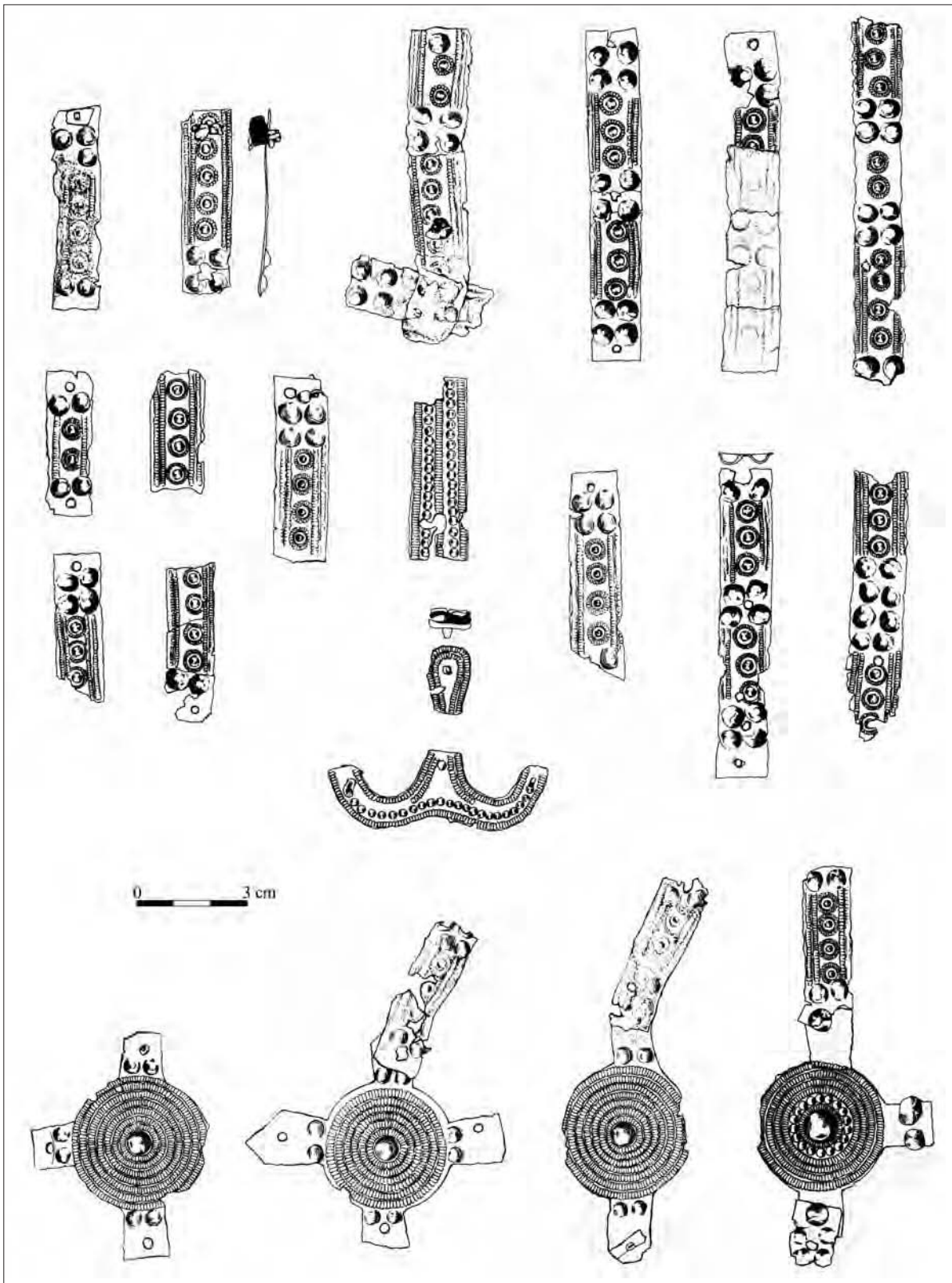


Fig. 10. Bronze fittings of a headgear from Nowinka, grave no. 118.

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Rundkvist 2003, p.97ff) from grave no. 41 (Godłowski 1981, fig.29; Kulakov 1990, plate VI.4), a beak fibula (Godłowski 1981, fig.28.a; Kulakov 1990, plate VI.3) variant G1 (Ørsnes 1966, p.296 figs.101-103; Høilund Nielsen 1987, p.76) from grave no. 38 or the stray find of an equal-armed brooch of F1-2 type according to K. Høilund Nielsen (1987, p.76) or tongue-shaped strap ends of Nørgård Jørgensen's type ZR1 (1999, p.113) / Ørsnes C12 (1966, p.292 figs. 32-36) / Høilund Nielsen C6b (1987, p.76) and T-shaped belt fittings of Nørgård Jørgensen's type TR1 (1999, p.114) / Ørsnes C10 (1966, p.292 fig.27) / Høilund Nielsen C5 (1987, p.76) from grave no. 84⁴⁶ (cf. horse harness from Kobbeå, grave no. 1 – Nørgård Jørgensen 1992, figs. 11.4-7, 37). It should be mentioned here that the three last-mentioned forms often appear in the Merovingian circle (Ørsnes 1966, pp.292 and 296) and they also appear in the Olsztyn group⁴⁷.

In the discussed grave no. 21, on a partly disturbed horse skull other bronze mounts of standard type (36 items) with double grooves along longer edges and one or two rivets at the ends were found. They decorated the browband, headpiece, noseband and the two cheek-pieces; also 2 small buckles, 2 lancet-shaped strap ends and some remains of the straps were discovered.

In grave no. 55, in turn, in the place where the straps crossed, rectangular plates of equal lengths, overlapping so that they made up a pattern of an equal-armed cross, were found (formally they should be determined as type 9D1 according to Ørsnes). At the place where they crossed they were joined by a rivet and similar rivets were fixed at the ends of the arms of the connectors⁴⁸. Unfortunately, in the discussed case it is impossible reliably to reconstruct the headgear: the two sets of fittings (double burial) were scattered and mixed up. It is, however, worth to notice the presence of connectors consisting of two plates: a longer one and a shorter one fixed to it with a rivet placed at the end, and arranged at an angle of about 45°. This is an example of a solution serving both to decorate and strengthen the branching out straps. In the case of the discussed grave no., typical fittings of thin plate, decorated with lines engraved along the longer edges were used.

Fittings arranged at acute angles are more numerous at the analysed necropolis (Fig. 9). One should men-

tion here the sets from graves no. 78 and 121. In grave no. 78 an almost intact arrangement of cheeks, browband, noseband and central strap (from the browband to the place below the noseband) mounts was found. Moreover, another specific feature of horse harness from Nowinka is manifested here, i.e. multiplied straps of the headgear: in this case the browband consisted of three parallel straps covered with plates, whereas the noseband, of two similarly decorated straps, the lower of which was connected to the central strap at the angle of about 45°. The lower end of the central strap had the form of a mount similar in shape to a rectangle but rounded at the end and with two decorative bosses: they were attached to the strap with the use of two rivets. In grave no. 121, where fittings were partly preserved in their original arrangement, however, it was found that some plates made up triangular patterns. A reproduction of the former was obtained thanks to the mounts going from the noseband on either side at an angle to the central strap (motif of a triangle with the apex pointing upwards). The second triangle was slightly higher and had its apex was pointing downwards. It was made of plates going from the headband at an angle towards the central strap. Also the headpiece, browband, cheeks, noseband, and the central strap were mounted (from the headpiece to the level below the noseband). The way of fixing the fittings is also very interesting: they were attached by means of pieces of flat wire running through holes in the metal plates and bent on the inside. The plates were decorated in a specific way: in the centre there was a line of embossed rosettes consisting of a central boss surrounded by a pearl-like motif, along the longer edges there were standard double engraved lines. An almost identical decorative arrangement (only the fittings of the central strap did not reach below the noseband) and the way of fixing them was found for the headgear fittings from grave no. 147. The difference, however, consisted in the decoration of the plates: they had a stamped ornament of railing-like rows placed between triple lines of pseudo-filigree. The same way of fixing plates was proved for fittings from grave no. 82 (they were ornamented with the pattern of embossed geometric and railing motives).

Also the decoration of rectangular fittings from grave no. 118 in Nowinka is unusual (Fig. 10). Stamped ornament composed from four larger groups of hemispherical bosses was used; the spaces between them were filled with rows of three or four smaller bosses surrounded by pearl-like motif and bordered with double lines of pseudo-filigree; single rivets were placed at the ends. These mounts decorated the browband, noseband (in this case composed of a pair of parallel straps), the central strap (from the headband to below

⁴⁶ In grave no. 35 there were found similar T-shaped fittings.

⁴⁷ Cf. Kowalski 1991, fig.2; 2000, pp.215-216; cf. also the finds of tongue-shaped fittings type ZR1 from grave no. 10 and 14 from Waplewo, Olsztynek com. (K. Voigtmann's archives in the collection of the Museum für Vor- und Frühgeschichte in Berlin).

⁴⁸ The cross-shaped connectors of this type were also found at the burial ground in Lecze, grave no. 25 (Dorr 1898, p.11, plate III.15) and Elbląg-Żytno (Ehrlich 1932, fig.10).

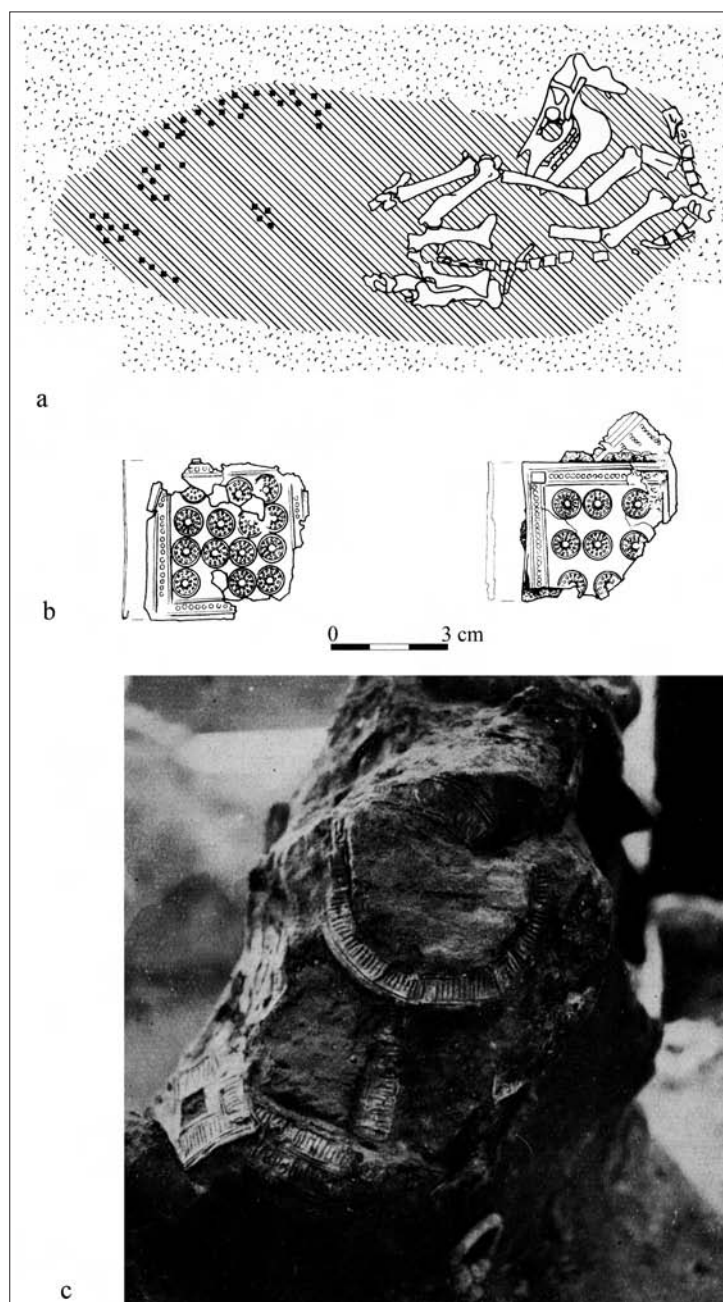


Fig. 11. Decorative metal blinkers (?) from the Elbląg group cemeteries: a plan of the grave no. 117 from Nowinka; b bronze fittings from Nowinka, grave no. 117; c silver fittings from Elbląg, Moniuszki street (after Ehrlich 1937b, fig.10).

the noseband) and the right cheek (the arrangement was almost intact)⁴⁹. The lower end of the central strap was made of an anchor-shaped plate with a rivet at the end. The connectors from that burial (four items) are of a very interesting form. They have the shape of circular shields on which the ornament was pressed, the same on three of them, of a central boss and seven concentric circles of pseudo-filigree; and on the fourth one the above composition was enriched with a ring-shaped pearl-like pattern around the central boss. At the ends of the arms pairs of semi-spherical bosses and single

⁴⁹ Lack of the fittings of the left cheek may be explained by the fact that the thin plate was destroyed.

rivet holes were added. The preserved rivets join the fittings with the overlapping ends of rectangular mounts of headgear straps⁵⁰. If this is compared to Ørsnes' typological suggestions, they represent a mixed form 9D1/9D2.

The set of fittings from grave no. 120 also deserves attention. On the skull of horse I mounts from the cheeks, the central strap (from the headpiece to the lower part of the skull), browband and headpiece were found. They were joined in a similar way as those found in graves nos. 121 or 147, i.e. with flat wires bent inwards.⁵¹ The decorative motif, however, was different: in the centre there was a vertical line of embossed railing motif and on either side three rows of pseudo-filigree made with the same technique (which strongly resembles the solution from grave no. 147).

The find of fittings from grave no. 117 is completely exceptional (Fig. 11). On the horse's skull there lay fittings of the browband, cheeks and the central strap (probably extending from the headpiece to the noseband). Unfortunately, they were preserved in small pieces and it was impossible to reproduce how they looked like: most probably they were rectangular plates decorated with stamped transverse railing-like ornament, similarly as in grave no. 120. However, the square bronze plates with the sides of 4.2 cm were completely unique. They were richly decorated with embossed motifs: at the edge a row of pearl-like ornament was placed between two straight lines, in the corners, little squares, and in the inside impressed rosettes with central points surrounded by pearl-like ornament (nine on one plate and twelve on the other). Some fragments of

leather and fabric adhered to them. Due to their location it is supposed that they functioned as decorative

⁵⁰ The motif of this kind was found in the Elbląg group: a very similar fitting was discovered in Elbląg-Żytno (Ehrlich 1932, fig.10, the item shown in the top left corner). An almost identical decoration as on the central piece of the connectors from grave no. 118 in Nowinka was found on the shield fibula from Łęcze, grave no. 76 (Dorr 1898, p.20, fig.6). Also the decorative belt fittings from grave no. 73 in Lazdininkai (Kalnalaukis) in Lithuania, dated to the first half of the seventh century, have a very similar form (Bliujienė, Butkus 2002, p.98ff fig.3.3).

⁵¹ This way of fixing was also found for the fittings of the headgear straps from grave no. 47.

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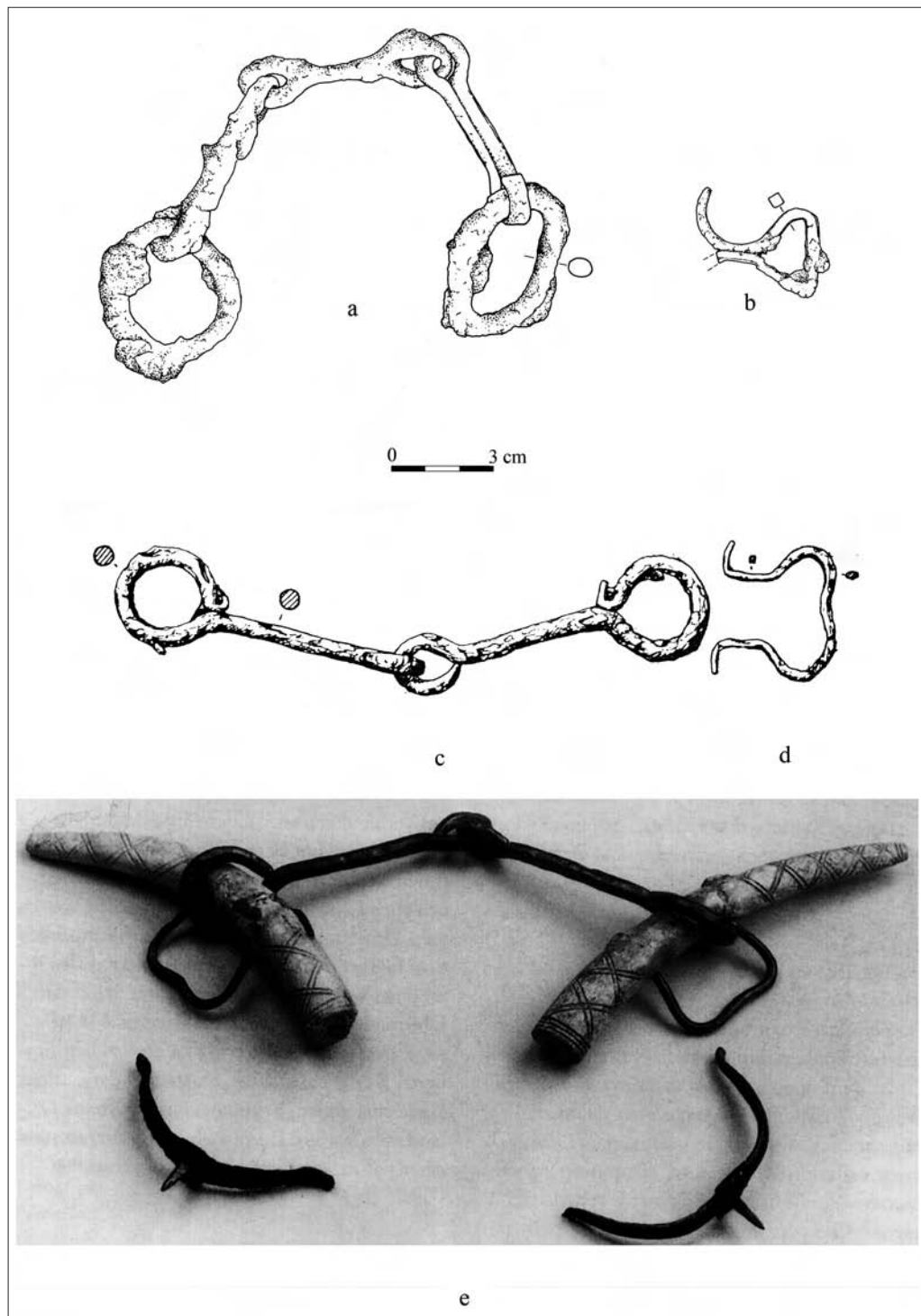


Fig. 12. Iron lyre-shaped object aimed probably for fixing the organic cheek bars from Nowinka and its parallels: a) bridle bit from Nowinka, grave no. 99; b) lyre-shaped object from Nowinka, grave no. 99; c) bridle bit from Korkliny, barrow 1 (after Jaskanis 1968b, plate I.1); d) lyre-shaped object from Korkliny, barrow 1 (after Jaskanis 1968b, plate I.2); e) bridle bit with horn cheeks with iron fastenings from Przebród (after Nowakowski 2007, fig.10).

blinkers. The silver head fittings from Elbląg, Moniuszki Street, unfortunately known only from a photograph of the horse burial, which does not allow to make a reliable comparison, may have had a similar function (Ehrlich 1937b, fig.10). It may be also possible that the presence of blinkers suggests that harness animals were deposited in the burials. This may be con-

firmed by the asymmetry of many bits, which would be practical if they were used for two harnessed horses. It should be reminded that in Nowinka, i.e., pairs of horses were found in burials. The predominant number of single burials and the unique character of the discovery from grave no. 117 seem, however, to contradict this.

It seems that if we really have to do with a burial of a harness horse, then it is a rather isolated case.

One should also mention the rare find from grave no. 99 where on the left side of a horse's mandible a lyre-shaped object of iron wire was found (Fig. 12). An almost identical object was uncovered in exactly the same relation to the horse in barrow I at the burial ground of the Sudovian culture in Korkliny, Suwałki com., site I. It was interpreted as a link between the reins and the bridle (Jaskanis 1968b, p.304 plate I.2), which, however, seems hardly probable due to its insufficient toughness. It is quite possible that we have to do with a loop used for holding the cheek straps in place (similar to a metal loop). However, the most probable is the hypothesis that we have to do with a fastener for the reins attached to holes in cheeks made of antler sticks. They co-occurred with bridles with terminals in form of rings of small diameters in which sticks were put; additionally the hooks fixed cheeks in rings of low diameters. Such sticks may not have been preserved till today; they may have been made from materials which are more easily decomposed, e.g., wood. They appeared in bridles of Avar type, which are considered to be the product of nomadic influences; starting from the second half of the sixth century they reached to the Balt areas (Nowakowski 2007, p.182), although also a view has been expressed that their chronology is broader and embraces the period from the turn of phases D/E till phase E2 (Piwowarska, forthcoming). Similar solutions are known from, i.a., a Prussian cemetery in Suworovo, raj. Gvardeysk (former Zohpen, Kr. Wehlau) from grave nos. 115, 172, and 183⁵² (La Baume 1944, fig.27; Kulakov 1990, plate XII.11; Bitner-Wróblewska 2008, plate CCXXVII) and also from cemeteries of the Olsztyn group in Tumiany, horse grave no. II (Baranowski 1996, p.84ff fig.6) and Wyszembork, Mrągowo com., site II, feature 23 as well as the Prudziszki phase necropolis from Przebród, Suwałki com., barrow I (Nowakowski 2000, fig.5.a; 2007, fig.10). The identity of the finds from Polish lands with this form is supported by the fact that the item from Korkliny was accompanied by a bridle with rings of small diameter (3.4 cm); also the find from Nowinka has rings of internal diameter of 4.5 cm, which is much less than the average for the other bridles from that necropolis (although they differ in details as the rings are not the part of the rod as e.g. in case of the item from Korkliny). In grave no. 65, in turn, inside the rings of the bit, two iron fittings were found. They were made of two rectangular plates joined by three iron rivets covered with bronze hemispherical tops. Between the plates remains

⁵² The necropolis show a lot of parallels to the Nowinka cemetery.

of leather straps were preserved. They were probably used to fasten the reins.

The purpose of three strap fittings from grave no. 34, made of U-shaped bronze band with long rivets with hemispherical heads is, however, unclear. Their reconstructed length was 5.8 cm. They were found near the headgear fittings, yet they were disturbed, which makes it impossible to establish what their function was.

Summing up it is worth to note that the sets of headgear fittings from Nowinka, besides the solutions known in the Balt world (similar to the Tumiany type) have their specific features. These include the use of many straps with mounts⁵³ (graves nos. 78 and 118), including the plates oriented towards one another at acute angles (graves nos. 55, 121 and 147), the method of joining decorative elements with flat wire (graves nos. 47, 82, 120, 121 and 147), characteristic patterns embossed on fittings and their specific forms, even if produced by external inspirations (cf. connectors from grave no. 21) bearing traces of local production, or the use of unique for the area ends of the central strap (graves nos. 78 and 118). All that indicates that headgear ornaments were results of local production open to external influences.

Other grave goods

Generally, besides the ones listed above, other elements of horse burial grave no. goods were not found in Nowinka. Although near the head of the horse from grave no. 114 a talus bone of another animal was found and in grave no. 121 a clay flask, whereas in grave no. 149 a large stone was discovered near the horse's rump, all the above cases concern disturbed grave no.s. For that reason both the bone and the flask should be connected with the assemblages from the disturbed human grave⁵⁴ and the stone with the disturbed pavement covering the horse and human grave. At the other cemeteries of the Elbląg group no other categories of goods were found in horse grave. At the necropolises of the Elbląg group no horse caring utensils such as combs and scissors, or knives and tweezers, known from the Olsztyn group (Baranowski 1996, p.78ff) have been found. It should be, however, reminded that at the burial ground in Młoteczno, tools were discovered in

⁵³ Although a double browband is known from Tumiany (La Baume 1944, fig.19), such a solution was exceptional in the Olsztyn group. It is worth to note that standard cross-shaped connectors with a small boss in the centre and less typical T-shaped connectors cut from sheet metal were used.

⁵⁴ The presence of a fragment of a window urn near horse 8 in grave no. V in Tumiany was interpreted in a similar way (Baranowski 1996, p.80).

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horse grave: in grave no. 68 under the horse's belly an iron sickle was found whereas in grave no. 86 an iron plane was found near the animal bones (Ziemlińska-Odojowa 1991, p.113).

Chronology

The chronology of the burial ground is a separate matter. As the monograph of the burial ground in Nowinka is still under preparation, it is impossible to settle all the details of chronology at the moment. It can be only said that the horse grave appeared in all phases distinguished for the necropolis. The cemetery should be dated to the second horizon of the Elbląg group, i.e. Phase E₂, and in reference to the chronology of the Olsztyn group: Phase E₂ and E₃, which is equivalent to the late sixth and early seventh century (Kowalski 2000, pp.220-224). This is confirmed by the dating of the above mentioned artefacts imported or inspired by external influences⁵⁵.

Conclusions

To conclude it should be stated that the horse inhumation grave no.s from Nowinka have their closest analogies at the area of Sambian-Natangian area (cf. Kulakov 1990, p.22). This is indicated by the orientation and arrangement of skeletons, occurrence of the remains of stone constructions over the grave, tight connection

⁵⁵ As for the connectors with the pyramid pattern: grave no. 1 from Kobbeå is dated to the late sixth century (Nørgård Jørgensen 1992, p.193), identically as the grave from Torgård (Jørgensen 1990, p.56), whereas grave no. 2 from Glasergård is dated to the late sixth or early seventh century (Jørgensen 1990, p.61), which makes them a determinant for Phase II in the chronology of Scandinavian grave no.s with weapons (Nørgård Jørgensen 1999, figs. 107, 110 and 116). The dating of the analogy from the Merovingian circle is similar: grave no. 54 from Rommersheim is dated with Justinian's solidus minted between 552 and 565 (Werner 1935, plate 21.13; cf. Oexle 1992, p.42). In turn, grave no. 110 from Beckum II is dated on the basis of analogous forms of buckles to the last quarter of the sixth century, i.e., Phase AM III according to H. Ament (1977); it is also to determine the other parts of the harness (Oexle 1992, p.55). S-shaped brooches type L1 are dated to approx. 540-570 A.D. (Rundkvist 2003, p.104ff) and, together with brooches type F1-2 and G1, are determinants of Phase VIIA according to K. Høilund Nielsen, dated to approx. 530-600 A.D. (Høilund Nielsen 2000, p.162ff). TR fittings are treated as determinants of chronological Phase II on Bornholm and in Norway, dated to 560/70-610/20 and Phases I-II in Gotland, dated to 520/30-610/20 (Nørgård Jørgensen 1999, figs. 107, 110 and 116), whereas ZR tongue-shaped fittings are the leading forms for Phases II and III in Norway and on Bornholm and also Phases I-II in Gotland (Nørgård Jørgensen 1999, figs. 107; 110 and 116).

with human cremation burials and the grave goods. The similarities are not, however, complete: e.g., no partial horse burials, present at the Sambian-Natangian area, were found (Kulakov 1990, p.22). Influences in this respect from other regions are doubtlessly minor: the connection of horse and human corpses in the Olsztyn group was not confirmed, whereas Scandinavian horse graves from the early part of the Vendel Period, recorded especially on Bornholm, contained partial horse burials (cf. Müller-Wille 1970-1971, p.161; Jørgensen 1990, p.52), later on horses were situated lying on their sides, near the unburnt humans (cf. Jørgensen, Nørgård Jørgensen 1997, fig.48). Scandinavian influences are, however, visible in the inspirations for some headgear fittings, which concerns, to a still greater extent, the relations with the area of the Olsztyn group.

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ELBLIONGO GRUPĖS ŽIRGŲ KAPAI, REMIANTIS NOVINKOS (TOLKMICKO GMINA) KAPINYNO MEDŽIAGA

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Santrauka

Straipsnyje nagrinėjami Novinkos kapinyno žirgų kapai, jų apranga, taip pat archeozoologiniai duomenys ir laidojimo papročiai (1–12 pav.). Novinkos žirgų kapai turi artimų analogijų su Sambijos–Natangijos srities kapais. Tai pastebima lyginant žirgų laidojimo kryptį ir žirgo padėtį kape, dažnai aptinkamą akmenų konstrukciją virš kapo. Taip pat yra nemaža panašumų tarp abiejų regionų degintinių žmonių kapų įrangos ir įkapių. Tačiau yra ir skirtumų: pavyzdžiui, nerasta palaidotų žirgų dalių, kas būdinga Sambijos–Natangijos sričiai. Kitų sričių įtaka kapams neabejotinai taip pat yra minimali: ryšys su Olštyno grupės žmonių ir žirgų kapais nepatvirtintas, o Skandinavijos žirgų kapuose iš ankstyvojo Vendelio laikotarpio, ypač Bornholmo saloje, laidotos žirgų dalys, netoli jų randami griautiniai žmonių kapai. Skandinavijos įtaka vis dėlto labiau pastebima kamanų stiliuje, kas pabrėžia vis dar didelę Olštyno grupės įtaką.

Vertė Audronė Bliujienė