

Supplementary Information 2

Ritual robbery? Disturbance in Early Bronze Age graves in Eastern Poland in the light of microscopic tool marks examinations on the bones

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Catalogue of graves:

Gródek site 1C (50°47'45.0"N 23°57'18.1"E). The site covering an area of ten hectares lies on the culmination of a prominence running parallel to the nearby Bug river, within the mezoregion of the Hrubieszów Basin, in the western part of the Volhynian Upland. During examinations of the settlement of the Funnel Beaker culture (FBC) conducted between 1956 and 1957, J. Kowalczyk discovered four graves of the Strzyżów culture (SC) (Kowalczyk 1957, 300-306; Głosik 1958a, 160-164; 1958b, 382-384; 1959, 23-26; Gałasińska-Pomykoł, Szewko-Szwaykowska 1968, 115-123; Kozak-Zychman 1991, 357-359). While investigating a burial ground of the Masłomęcz group in the southern part of the site in 1985–1986, A. Kokowski discovered a grave and fragment of a pit of the SC (Bargieł, Kokowski 1991, 139-143; Kozak-Zychman, Rutkowska 1991, 147-148).

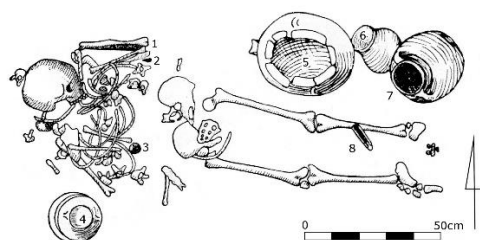


Fig. S1 Gródek site 1C, grave 2. 1 – bone dagger, 2 – flint arrowhead, 3 – shell, 4-7 – vessels, 8 – bone tool (Głosik 1958a, Fig. 4)

Grave 2 – Skeleton of a male individual aged approx. 35 years lay at a depth of 40–45 cm (Fig. S1). The outline of the pit was not recorded. The skeleton lay supine with the head to the west. The bones of the spine and ribs were jumbled, and the pelvis and lower limbs were articulated. Under the mandible there was a flint arrowhead, parallel to the left humerus was a bone dagger, among the ribs lay a shell

with a perforation, by the left tibia was discovered a bone tool, to the north of the left leg were three clay vessels, and to the south of the right humerus was a vessel covered with a fragment of another vessel.

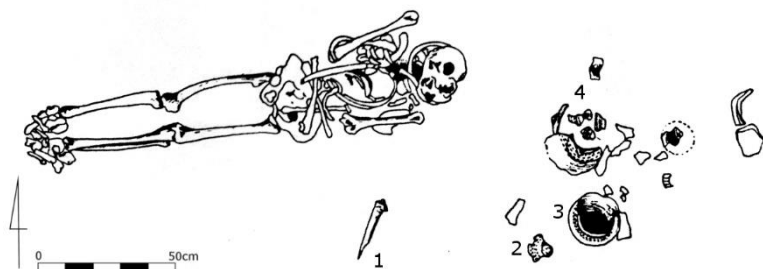


Fig. S2 Gródek site 1C, grave 3. 1 – bone perforator, 2-4 – vessels. (Głosik 1958b, Fig. 1)

Grave 3 – Skeleton of a woman aged approx. 55–60 years lay at a depth of 35–45 cm (Fig. S2). The outline of the burial pit was not recorded. The skeleton lay extended and (according to the investigators) prone with the head to the east. The skull was placed on the fontanelle and the mandible was missing. Published drawing documentation indicates that the pelvis and lower limbs were articulated and supine, and the upper part of the skeleton had been jumbled in prehistoric times. On both sides of the skull, on temporal bones, green discolorations caused by copper oxides were found. In the southern part of the burial, by the deceased's arms there was a bone perforator, and in the eastern part were three vessels.

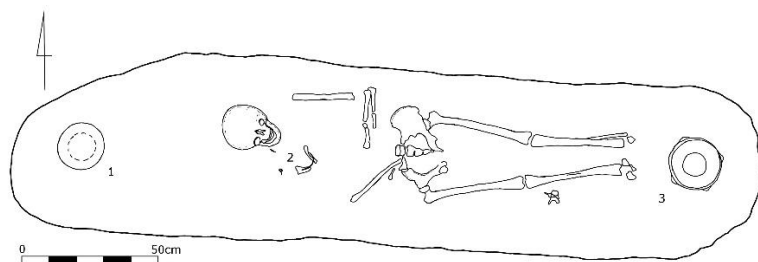


Fig. S3 Gródek site 1C, grave 4. 1, 3 – vessels, 2 – temple ring. (Bargieł, Kokowski 1991, Fig. 20)

Grave 4 (II/1986) – The skeleton lay at a depth of 25 cm. The outline of the burial pit, in the shape of a heavily elongated rectangle with rounded corners, measuring 280 by 65 cm, was indistinct (Fig. S3). The skeleton was that of a woman aged 30–40 years. It was lying extended and supine, with the head to the west. The arms were bent at the elbows – the left one at a right angle, the right one bent towards the pelvis. Bones of the upper limbs survived only partially. Most of the ribs and all vertebrae were missing. By the feet of the deceased was a bowl, another vessel was found by the western wall of the grave, and a temple ring of copper wire was discovered in the upper part of the chest.

Horodysko site 13 (50°57'11.0"N 23°26'39.8"E). The site is known from the surface surveys conducted in 1984, and is located on a small (one hectare), isolated meadow terrace within the valley of the Horodyska river. In 2004, as a result of earthworks connected with the construction of a water body, a significant part of the site was disturbed. This led to the discovery of artefactual material dated from the Neolithic to Early Middle Ages. Construction workers also destroyed a grave of the SC. Salvage excavations yielded over 300 features from various periods, seven of which were determined to be graves of the SC (Bargieł, 2006, 353, 355-356, 360-361; Libera 2016, 104-128; Borowska-Strugińska 2016, 303-308).

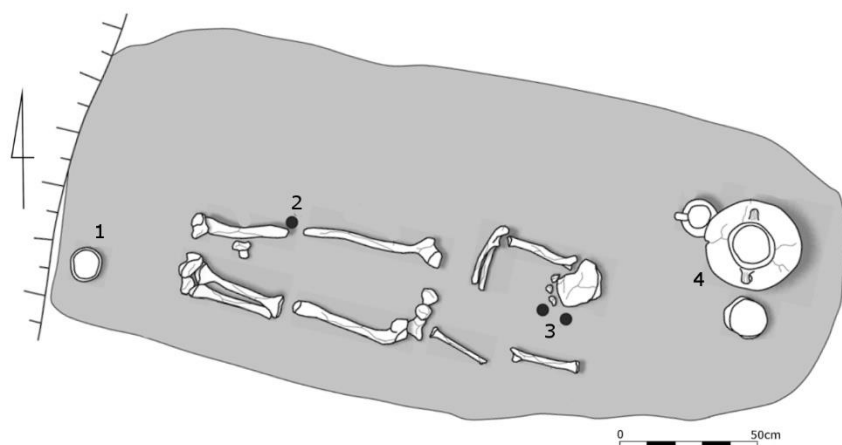


Fig. S4 Horodysko site 13, grave 2. 1, 4 – vessels, 2 – copper sheet, 3 – faience beads. (Libera 2016, Fig. 2)

Grave 2 – A sub-rectangular pit with rounded corners measuring 280 by 120 cm, thickness – 40 cm, aligned W–E (Fig. S4). At the bottom lay a poorly preserved skeleton of a man aged *Maturus* (approx. 35–45 years), lying extended and supine with the head to the east. The right arm was bent at a right angle and laid over the chest and the left arm was stretched out along the torso. Only fragments of the skull survived. Of all ribs, only two rib bodies survived. In the eastern part of the pit was an amphora, a mug and a bowl, and in the western part lay a miniature vessel. On the left of the skull, two faience beads were found along with a fragment of a copper sheet. Another bead was found by the knee. In the fill there were forty-nine pottery fragments (including twelve of the SC), two burnt flint chunks, and seven pieces of animal bones (cattle, pig, sheep or goat).

Hrebenne site 10 (50°52'22.6"N 24°00'24.0"E). The site, situated on the edge of a small, nameless watercourse, was discovered during surface surveys in 1982. In 1992, following reports of destroyed graves visible on the surface of the field, W. Koman carried out rescue excavations (Koman 1992, 22–26). In 1997, M. Polańska conducted salvage excavations which yielded twelve features, including two graves of the SC (Polańska 1998a, 78–85).



Fig. S5 Hrebenne site 10, grave 2. 1 – burial pit, 2 – part with dark fill, 3 – vessel, 4 – flint flake, 5, 6 – coils made of a metal sheet, 7, 8 – faience beads, 9 – copper ring, 10 – flint sickle. (Polańska 1998a, Fig. 2A)

Grave 2 (1/97) – At a depth of 26 cm, a sub-rectangular burial pit with rounded corners, measuring 330 by 154 cm and filled with dark-brown earth was discovered (Fig. S5). The pit was oriented W–E. In its eastern part there was dark fill with jumbled human bones, animal bones, a flint sickle, copper ornaments (a ring made of wire, two coils made of a metal sheet) and faience beads – probably remains of an ancient trench. In the north-west corner there was an amphora and a flint flake.

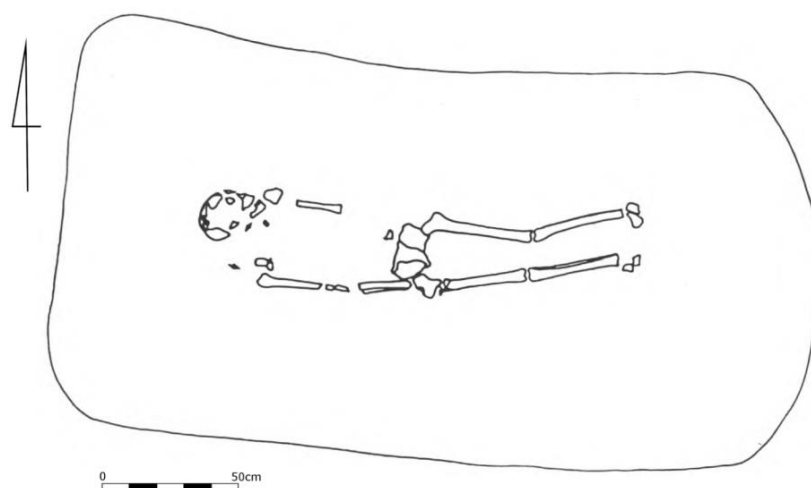


Fig. S6 Hrebenne site 10, grave 3. (Polańska 1998a, Fig. 2B)

Grave 3 (2/97) – A sub-rectangular burial pit with rounded corners measuring 280 by 146 cm discovered at a depth of 30 cm (Fig. S6). It was filled with dark brown earth. The pit was elongated along the W–E axis. In its central part, at a depth of 40–51 cm, was an incomplete articulated skeleton, lying extended and supine, with the head pointing to the west. The right arm was stretched out along the body, and the left one was probably bent at the elbow. The right leg was extended, the left one slightly bent at the knee. The skull was crushed, and vertebrae and torso bones were missing.

Hrebenne, site 31 (50°52'23.9"N 24°00'35.5"E). The site was discovered by S. Jastrzębski during surface surveys in 1984. It is located on the edge of a promontory in the valley of a small nameless watercourse running through Hrebenne and flowing into the Bug. In 1991, following reports of clusters of pottery and human bones visible on the surface, W. Koman conducted rescue excavations and discovered a grave of the SC (Koman 1991, 13-14). He continued the works in 1993 discovering another three burials (Koman 1994, 21-22). In 1997–1998, M. Polańska conducted salvage excavations which yielded twenty-eight burials, some of which could be classified as those of the SC (Polańska 1998b, 66; Juras et al. 2020, Supporting Information S1).

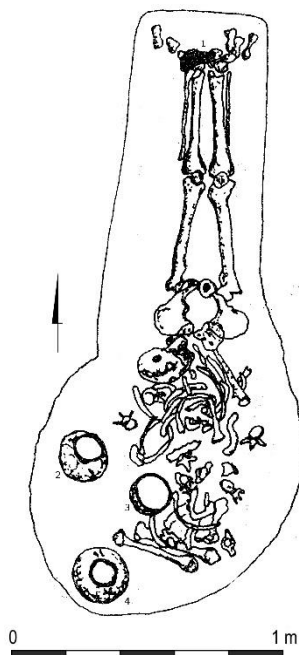


Fig. S7 Hrebenne site 31, grave 1. 1 – flint sickle, 2-4 – vessels (Koman 1991, Fig. 1)

Grave 1 – A burial pit aligned N–S was clearly visible under the layer of ploughed earth at a depth of 40 cm (Fig. S7). Its northern part was rectangular, while the southern part was irregular in shape, roughly oval. This may represent remains of an ancient trench. The deceased was laid extended and supine with the head to the south. While the lower limbs were articulated, the upper part of the skeleton above the pelvis was jumbled. In the southern part of the pit there were three vessels, in the northern part a flint sickle was placed on feet bones.

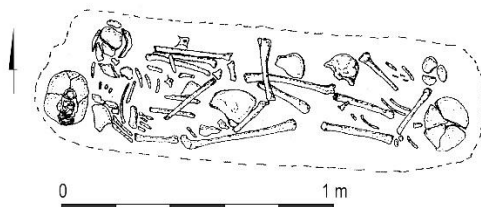


Fig. S8 Hrebenne site 31, grave 2. (Koman 1994, Fig. 1B)

Grave 2 – Outline of the burial pit indistinct. A mass burial oriented W–E was discovered at a depth of 30 cm (Fig. S8). It included skeletal remains of four individuals laid in pairs, with their lower limbs overlapping. The remains were those of two individuals aged 2–6 years and two others aged 14–18 years. The bones were jumbled.

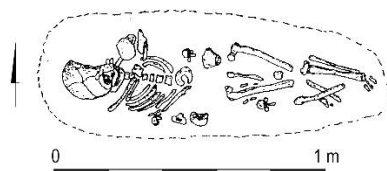


Fig. S9 Hrebenne site 31, grave 4. (Koman 1994, Fig. 1A)

Grave 4 – Outline of the burial pit indistinct (Fig. S9). The grave contained a skeleton of an individual aged 6–8 years aligned on the W–E axis; it had been laid extended and supine, with the head pointing to the west. Some bones were disarticulated; the skull was tilted and laid on its right side, the skeleton was incomplete.

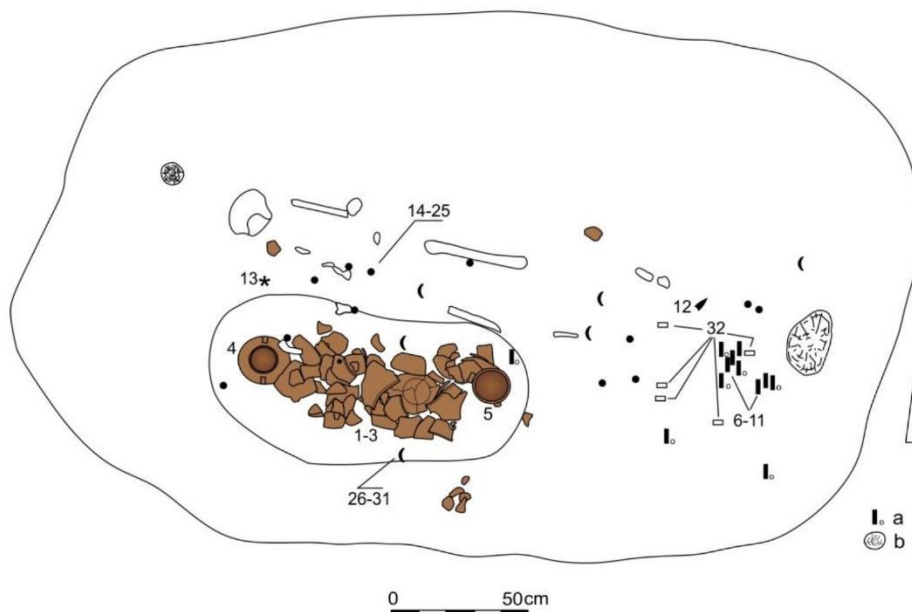


Fig. S10 Hrebenne site 31, grave 19. 1-5 – vessels, 6-11 – small flint tools, 12 – flint arrowhead, 13 – copper ornament, 14-25 – faience beads, 26-31 – pendants of animal teeth, 32 – boar-tusk fragments, a – flint scraps, b – wooden structure remains (Juras et al. 2020, Fig. S10)

Grave 19 (feature 19-3/98) – Sub-rectangular burial pit with rounded corners, measuring 396 by 264 cm, oriented W–E. At the bottom of the pit – at a depth of 80 cm – in its central part was a skeleton of a woman aged 20–30 years (Fig. S10). It was lying extended, oriented W–E and slightly deviating to the north, with the head in the western part. On the right of the skeleton were five vessels arranged in a line. At the bottom of the pit flint artefacts were discovered (fragment of a sickle, a retouched blade, five splintered pieces, an arrowhead) along with fragments of a wild boar's tusks, pendants made of animal bones, twelve faience beads and fragment of a copper ornament. By the western and eastern walls of the pit were remains of wood, most probably traces of construction.

Hrubieszów-Podgórze site 1 (50°48'34.3"N 23°54'35.2"E). The site was discovered by A. Kokowski during surface surveys in 1980. It is located on a loess promontory covered with a layer of black soil entering the Huczwa valley from the south-east. At the site, which covers an area of approx. three hectares, excavations were conducted between 1983 and 1986. These yielded features dated to the Neolithic (the Linear Pottery culture, the Lublin-Volhynian culture (L-VC)), the Bronze Age (the Lusatian culture), the Roman period and the Early Middle Ages. Investigations included eleven burials of the SC (Banasiewicz, Kokowski 1983, 16-17; Banasiewicz 1986, 8-12; 1990, 213-226; Kozak-Zychman 1991, 361-366). In 2001 while conducting rescue pre-investment excavations J. Niedźwiedź discovered another two graves of the SC.

Grave 1 – Indistinct burial pit, roughly rectangular. At a depth of 55 cm a partially burnt animal skeleton was discovered. Pottery grave goods were found below the layer of bones. Filling the grave was crumbled loess with daub and charcoal (darker near the vessels).

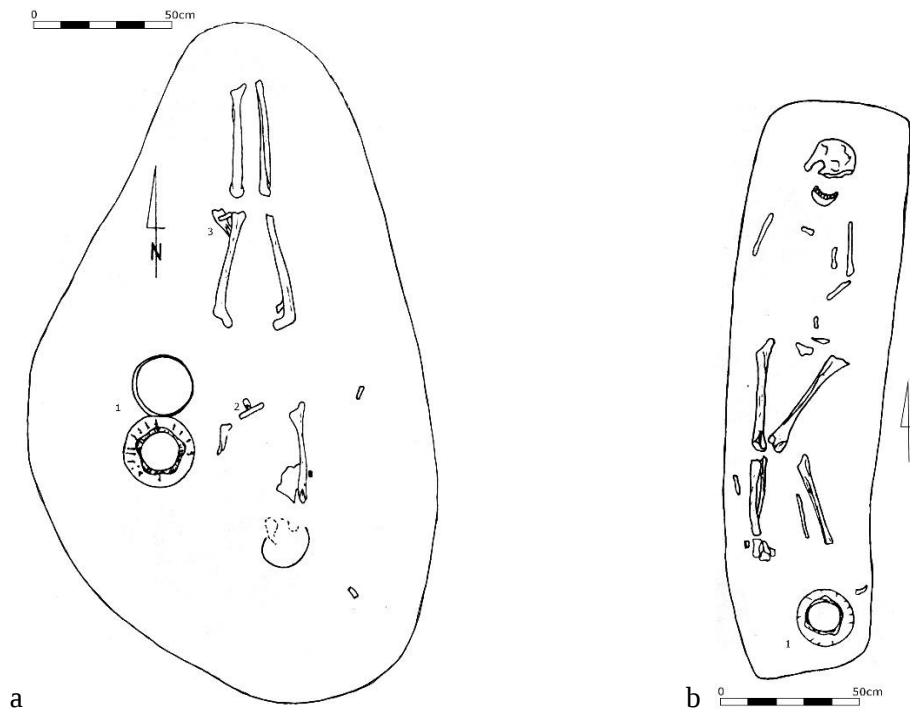


Fig. S11 Hrubieszów-Podgórze site 1, a – grave 2: 1 – vessels, 2 – appliqués, 3 – flint sickle; b – grave 3: 1 – vessel. (Banasiewicz 1990, Fig. 2:3; 3)

Grave 2 – A burial pit oriented N–S discovered at a depth of 60 cm (Fig. 11:a). At a depth of 80 cm was a skeleton, most probably of a man aged approx. 40 years, lying extended and supine, with the head to the south. Only part of the skeleton survived – the skull was disturbed, and ribs and pelvis were missing. The pit was filled with light-grey, crumbled loess mixed with lumps of daub and loess sterile earth. A barrel-shaped vessel and a bowl were found by the left arm. The pit also contained a flint sickle with a broken tip, five fragments of appliqués made of a wild boar’s tusk and a fragment of a faience bead.

Grave 3 – A rectangular burial pit oriented N–S discovered at a depth of 70 cm (Fig. 11:b). At a depth of 85 cm was a skeleton of a man aged approx. 50 years, lying extended and supine with the head to the north. Only part of the skeleton, with a disturbed skull and single fragments of ribs and pelvis survived. The pit was filled with light-grey, crumbled loess. In the southern part of the burial pit a barrel-shaped vessel was found.

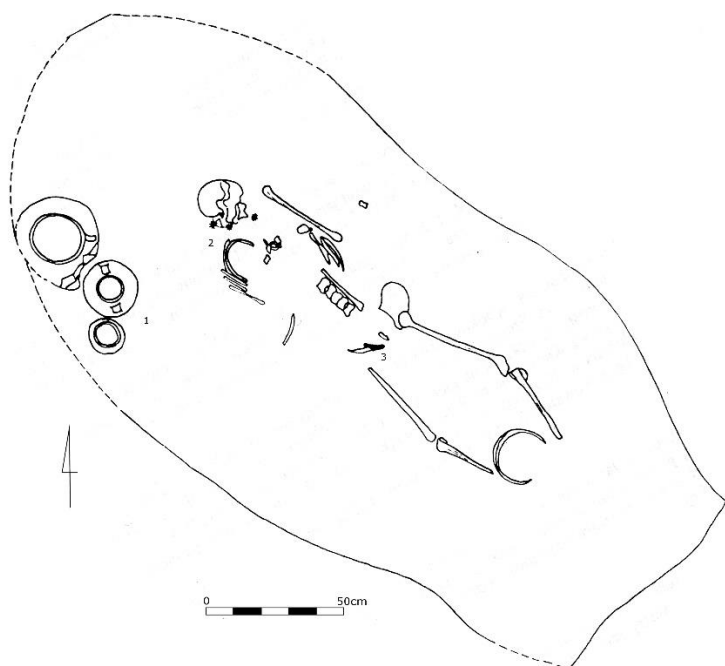


Fig. S12 Hrubieszów-Podgórze site 1, grave 4. 1 – vessels, 2 – faience beads, 3 – flint sickle. (Banasiewicz 1990, Fig. 4)

Grave 4 – An indistinct, sub-rectangular burial pit aligned NW–SE discovered at a depth of 50 cm (Fig. S12). At a depth of 75 cm was a skeleton of a man aged approx. 55 years, lying extended and supine, with the head pointing to the north-west. Bones of the chest were disordered. Filling the pit was light-grey crumbled loess. In the western part of the pit two amphorae and a barrel-shaped vessel were discovered. Between the deceased's feet was a bowl. The burial pit also contained a flint sickle with a broken tip, an arrowhead and three faience beads.

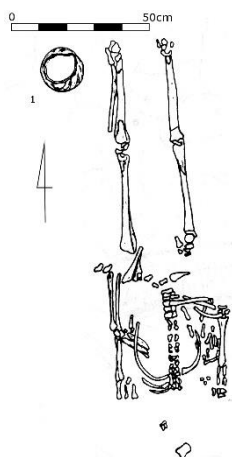


Fig. S13 Hrubieszów-Podgórze site 1, grave 5. 1 – vessel. (Banasiewicz 1990, Fig. 2:5)

Grave 5 – An outline of a burial pit aligned N–S discovered at a depth of 68 cm (Fig. S13). A skeleton of an adult woman lay at a depth of 72 cm. According to the author of the research, the skeleton was lying extended and prone, with the head to the south. The left arm was bent backwards with the forearm resting on the back, the right arm was extended along the torso. Of the whole skull, only fragments of the cranial vault and three molars survived. However, the drawing and photographic documentation indicate that the skeleton was lying supine and had been robbed in the prehistoric times. The pit was filled with light-grey crumbled loess. The deceased was equipped with a barrel-shaped vessel placed by her left foot, two faience beads and a partly surviving bone pin.

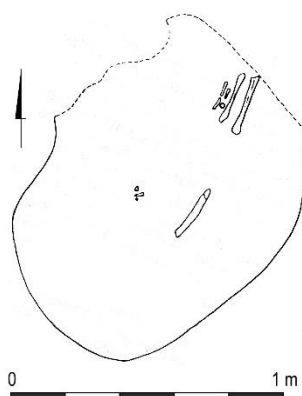


Fig. S14 Hrubieszów-Podgórze site 1, grave 6. (Banasiewicz 1986, Fig. 5:6)

Grave 6 – A burial pit elongated along the NE–SW axis found at a depth of 50 cm (Fig. S14). It contained very few partly surviving remains of an adult woman – the shafts of a femur, both tibiae and fibulae. Filling the pit was light-grey crumbled loess.

Grave 8 – An oval pit, slightly extending towards north-west, recorded at a depth of 60 cm. No skeletal remains were found in it. At the bottom of the pit, at a depth of 75 cm, were three clay vessels. Filling the pit was light-grey crumbled loess mixed with loess sterile earth.

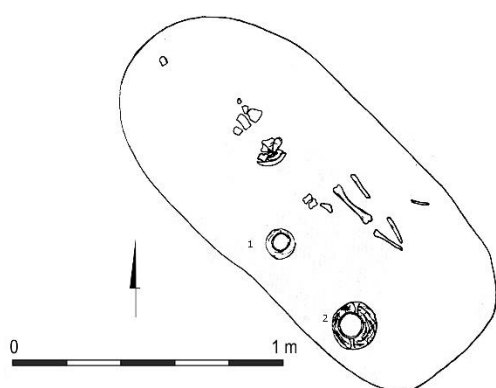


Fig. S15 Hrubieszów-Podgórze site 1, grave 10. 1, 2 – vessels (Banasiewicz 1986, Fig. 6:13)

Grave 10 – An indistinct outline of a burial pit oriented NW–SE discovered at a depth of 60 cm (Fig. S15). At a depth of 68 cm was a skeleton of a child aged approx. 5 years, lying extended and supine, with the head to the north-west. In the southern part of the pit a pendant made of a wild boar's tusk, eight faience beads and two vessels were found. Bones of the chest were incomplete and jumbled. The grave also contained a metatarsal bone of another individual aged *Infans II* or *Juvenis*. The pit was filled with dark-brown crumbled loess.

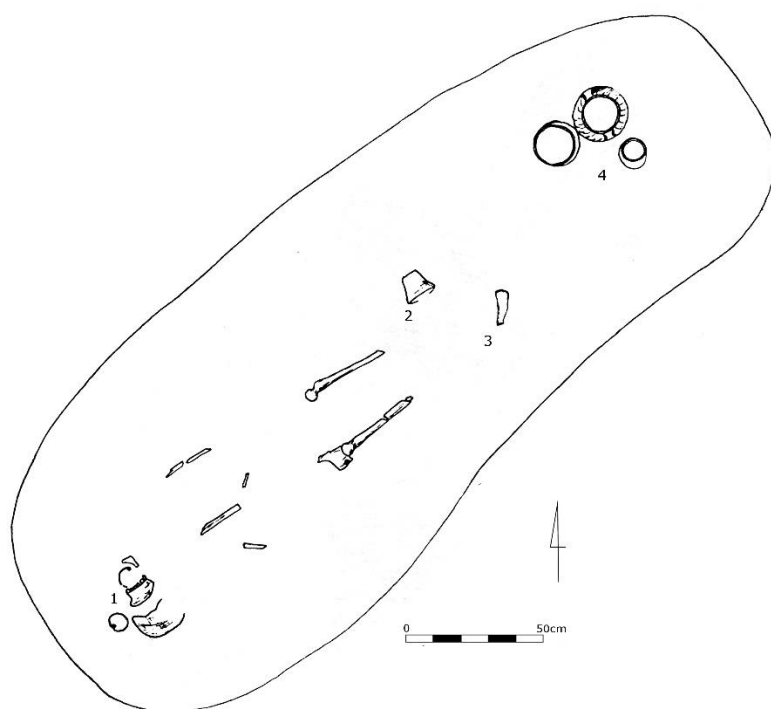


Fig. S16 Hrubieszów-Podgórze site 1, grave 8. 1 – temple rings, 2, 4 – vessels, 3 – flint sickle. (Banasiewicz 1990, Fig. 7)

Grave 11 – A sub-rectangular burial pit with rounded corners, oriented NE–SW, was recorded at a depth of 45 cm (Fig. S16). At the bottom of the pit (depth 72–80 cm) was a partially surviving skeleton of a woman aged approx. 40 years, lying extended and supine, with the head pointing to the south-west. The deceased was equipped with four clay vessels, three of which were placed in the north-east part of the burial pit. The fourth vessel was placed at her feet along with a sickle. Near the skull and chest bones were copper temple rings, beads and faience beads. The pit was filled with light-grey, crumbled loess mixed with fragmented daub and loess sterile earth.

Grave 12 – Indistinct outline of a burial pit (Fig. 2). At a depth of 58 cm were two clay vessels, about a dozen faience beads and about a dozen small bone fragments, probably of a woman aged *Adultus*. The alignment of bones indicates the SW–NE orientation.

Grave 13 – A poorly visible, sub-rectangular burial pit with rounded corners measuring 280–290 by 90–100 cm and aligned W–E was discovered at a depth of 75 cm (Fig. 3). The grave contained a disarticulated skeleton of a woman aged 23–24 years, bones jumbled. The skull was found in the eastern part of the burial pit. The deceased was equipped with a clay bowl, a flint sickle, copper objects (a pin, temple ring and two sheets with perforations), around 100 faience beads, bone objects (eight tubular beads with incisions running around it, two unadorned tubes, six bone pipes, four round pendants) and six shell pendants.

Husynne-Kolonia site 6 (50°51'03.6"N 23°58'31.5"E). The site was accidentally discovered during the repair of a road from Ciołki to Husynne in 1987. A. Kokowski and W. Koman explored two settlement pits of the FBC, an animal burial of the Globular Amphorae culture (GAC) and four graves of the SC (Kokowski 1987, 21-23; Koman 1987, 24-25; 1992, 22-26; Bargieł, Kokowski 1991, 127-139; Kozak-Zychman, Rutkowska 1991, 148-151). In 1990, W. Panasiewicz discovered an assemblage of bones on the surface (Panasiewicz 1990, 49). In 1992, W. Koman explored five burials (Koman 1992, 22-26). Between 1993 and 1994, M. Polańska investigated an area of 222 m² discovering five burials of the SC and features of other cultures (Polańska 1994a, 16-18).

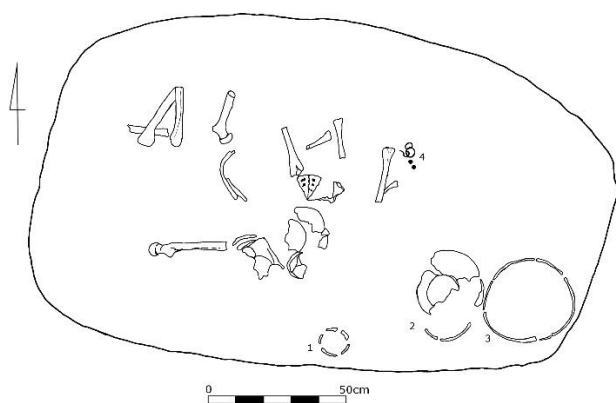


Fig. S17 Husynne-Kolonia site 6, grave 3. 1-3 – vessels, 4 – copper and bronze ornaments and faience beads. (Bargiel, Kokowski 1991, Fig. 10)

Grave 3 – In the course of road works the base of a roughly oval pit oriented W–E and measuring 200 by 125 cm was recorded (Fig. S17). The pit contained heavily destroyed skeletal remains of a woman aged *Adultus* (25–30 years). In the south-east corner two heavily destroyed vessels were discovered, one of them being placed bottom up. A bit further, by the southern wall were fragments of the third vessel. Among the bones were copper and bronze ornaments, as well as faience beads.

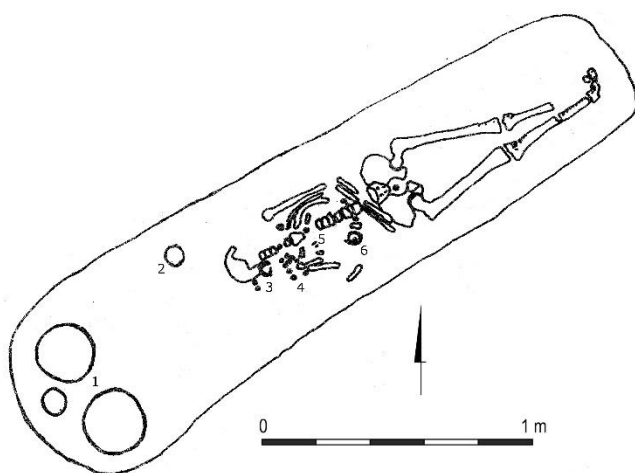


Fig. S18 Husynne-Kolonia site 6, grave 6. 1-2 – vessels, 3 – temple ring, 4 – faience beads, 5 – copper sheets, 6 – bracelet (Koman 1992, Fig. 1)

Grave 6 (1/92) – An elongated burial pit in the shape of a rectangle with rounded corners, oriented W–E but deviating to the south, was discovered at a depth of 35 cm (Fig. S18). The pit contained a disturbed skeleton lying extended and supine with the head to the west; the upper limbs were bent at elbows with hands being laid over the abdomen. On the right forearm was a bracelet. On the right side of the skull was a temple ring in the shape of a willow leaf. Among the torso bones were fragments of copper sheets and twenty-three faience beads. To the west of the skull four vessels were recorded.

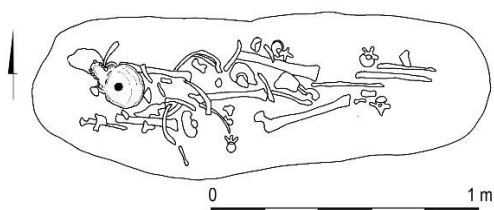


Fig. S19 Husynne-Kolonia site 6, grave 8. Drawing Hychała.

Grave 8 (3/92) – An elongated, oval burial pit oriented W–E (Fig. S19). The bones were not disturbed by ploughing though they were disordered and broken. The skull was found in the western part of the grave. Despite no signs of a robbery trench, it can be assumed that the burial was disturbed in the prehistoric times. The burial was probably that of a woman aged 20–30 years.

Grave 12 (2/93) – Disturbed grave, a barely distinct oval burial pit measuring 250 by 115 cm. At a depth of 34–45 cm was a disarticulated skeleton, additionally disturbed by a circular pit with a diameter of 110 cm dug into one of the longer walls of the grave.

Nieledew site 1 (50°49'55.9"N 23°47'20.2"E). In 1965, while digging a drainage ditch, workers building a school in Nieledew came across bones and vessels. I. Kutylowska conducted rescue excavations on an area of 150 m² which yielded six graves of the SC, one grave of the L-VC, two utility pits of the L-VC and one animal grave (Kutylowscy 1970, 327-339).

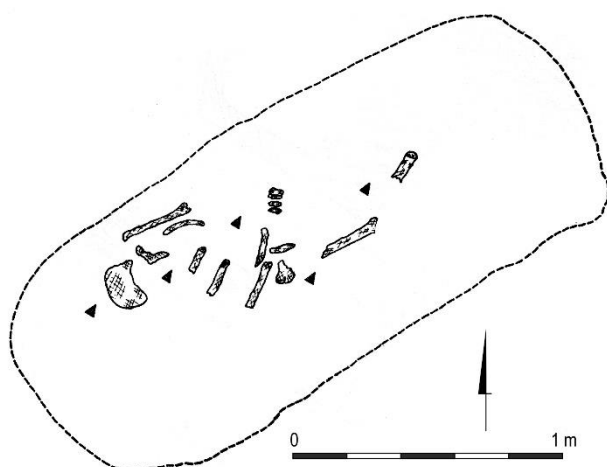


Fig. S20 Nieledew site 1, grave 2 (Kutylowscy 1970, Fig. 9)

Grave 2 – A rectangular burial pit oriented NE–SW was discovered at a depth of 45 cm (Fig. S20). It contained a heavily disturbed skeleton. According to the authors of investigations, the skeleton was flexed and laid on the left side, its head pointing to the south-west. The plan of the burial indicates that bones were disturbed and jumbled in the prehistoric times. Ten pottery fragments lay along the skeleton. On both sides of the skull green discolorations caused by copper oxides were found.

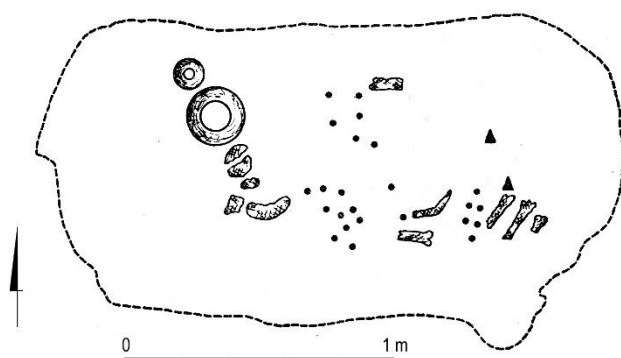


Fig. S21 Nieledew site 1, grave 3 (Kutylowscy 1970, Fig. 11)

Grave 3 – An outline of a sub-rectangular burial pit with rounded corners, oriented W–E, was found at a depth of 35 cm (Fig. S21). At a depth of 45 cm fragmentary bones were found. According to the authors of the examination, the deceased lay in a flexed position on the left side, with head pointing to

the west. As it appears from the plan of the grave, the bones were disturbed and jumbled in prehistoric times. Close to the head of the deceased there were two vessels. Next to the skeleton eighteen flat beads made of a mussel shell were found along with a fragment of a flint blade.

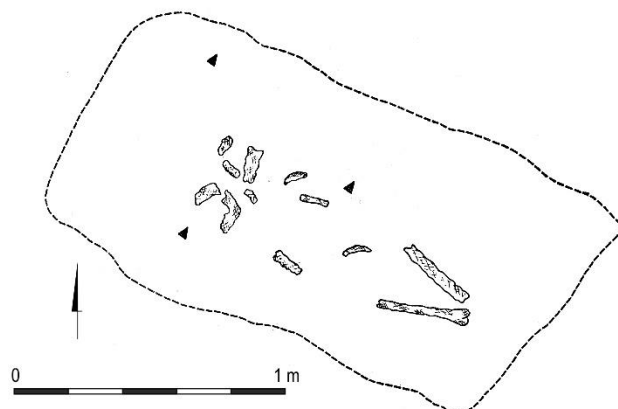


Fig. S22 Nielew site 1, grave 4 (Kutyłowscy 1970, Fig. 18)

Grave 4 – An outline of a sub-rectangular burial pit aligned NW–SE was discovered at a depth of 30 cm (Fig. S22). The grave contained a badly preserved skeleton. According to the authors of the investigation, it was lying in a flexed position with the head to the north-west. However, as it appears from a drawing, it could have been lying extended and supine, and the bones were disturbed and jumbled in prehistoric times. Three fragments of pottery of the SC were found within the pit.

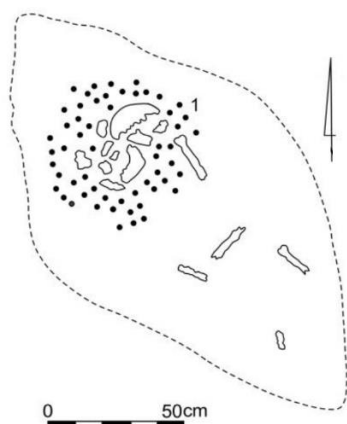


Fig. S23 Nielew site 1, grave 5 (Kutyłowscy 1970, Fig. 14)

Grave 5 – A heavily disturbed skeleton of a child aged *Juvenis* was discovered at a depth of 50 cm (Fig. S23). What survived of it were fragments of the skull and several uncharacteristic bone fragments. The skeleton was aligned NW–SE, with the head pointing to the north-west. Part of the skull bore green discoloration caused by copper oxides. Close to it, fifty-three faience beads were discovered. Approx. 30 cm above the skeleton there was a flint arrowhead.

Raciborowice-Kolonia site 2 (50°55'51.0"N 23°44'08.9"E). The site is located on the northern and eastern slope of the loess elevation called 'Karolicha', surrounded on three sides by marshy meadows. In 1953, human bones with grave goods were discovered during construction works at a depth of 80–100 cm. In 1956, Z. Ślusarski started excavations, continuing them in 1957–1958. He explored an area of 1,032.5 m² discovering nineteen graves, remains of a beam construction of the SC and features of the L-VC, the FBC and the GAC (Ślusarski and Ślusarska-Polańska 1988, 167-196). Between 1986 and 1989, M. Polańska explored another eight burials of the SC (Polańska 1987, 4-6; 1988, 40; 1994b, 18-19; Kozak-Zychamn 1991, 367-372; Juras et al 2020, Supporting Information S1).

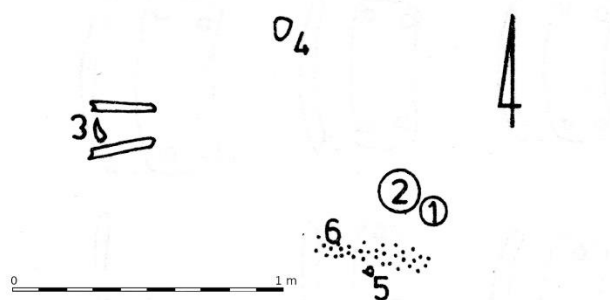


Fig. S24 Raciborowice-Kolonia site 2, grave 1. 1, 2 – vessels, 3 – flint sickle, 4 – flint axe, 5, 6 – flint tools (Ślusarski and Ślusarska-Polańska 1988, Fig. 5)

Grave 1 – A skeleton, most probably of an adult man, aligned E–W with the head pointing to the east was discovered at a depth of 90 cm (Fig. S24). The remains were fragmentary. In the southern part of the burial pit there was a clay amphora and a mug. In the northern part of the pit was a flint axe. By the deceased's lower limbs a flint sickle was found. The grave also contained a flint borer, fragment of a flint bladelet, sixty-eight shell beads and nine faience beads laid near the pottery.

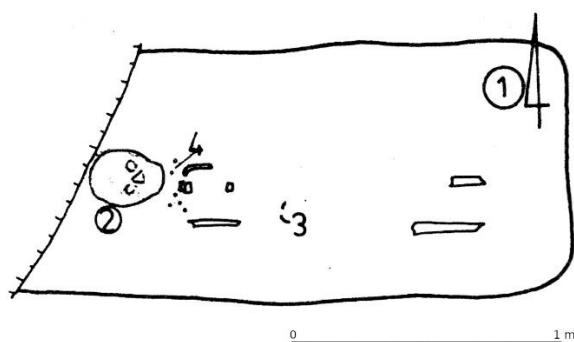


Fig. S25 Raciborowice-Kolonia site 2, grave 3. 1-2 – vessels, 3 – copper bracelet, 4 – faience beads (Ślusarski and Ślusarska-Polańska 1988, Fig. 7:3)

Grave 3 – A sub-rectangular outline of a burial pit measuring 100 by 200 cm and aligned E–W was discovered at a depth of 20 cm (Fig. S25). The pit's ceiling and fill consisted of dark earth mixed with ashes and coals. At the bottom of the grave (depth 65 cm) were partially preserved remains of a child aged 12–13 years, lying extended and supine with the head pointing to the west. The deceased was equipped with two vessels – a beaker deposited by the head and a barrel-shaped vessel in the north-east corner of the pit. The grave also contained fragments of a copper bracelet and six faience beads.

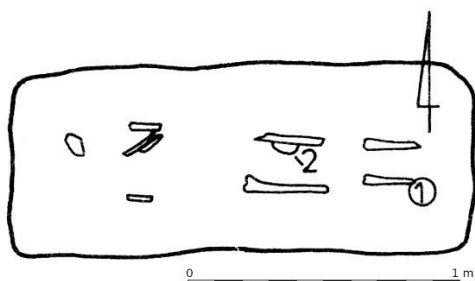


Fig. S26 Raciborowice-Kolonia site 2, grave 4. 1 – vessel, 2 – grindstone (Ślusarski and Ślusarska-Polańska 1988, Fig. 6B)

Grave 4 – A sub-rectangular outline of a burial pit measuring 70 by 180 cm and aligned E–W was found at a depth of 30 cm (Fig. S26). At the bottom of the grave (depth 55 cm) were remains of an adult woman aged approx. 50 years, lying extended and supine with the head to the west, the left arm being bent at

the elbow and laid over the chest. The remains were fragmentary. A barrel-shaped vessel was found by the feet, and under the left femur there was a grindstone.

Grave 5 – A disturbed skeleton lying extended and supine, oriented E–W with the head pointing to the west was discovered at a depth of 45–55 cm. The grave was unfurnished.

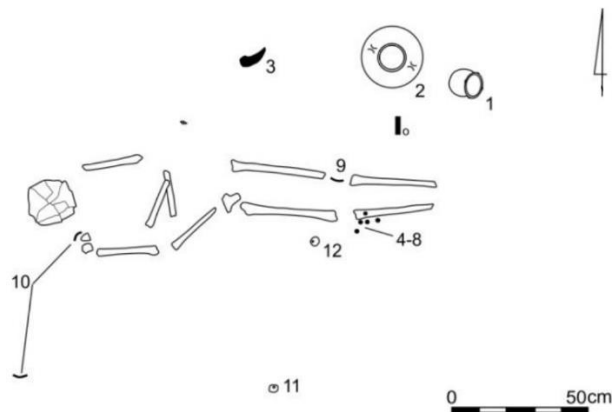


Fig. S27 Raciborowice-Kolonia site 2, grave 6. 1-2 – vessels, 3 – flint sickle, 4-8 – faience beads, 9, 10 – copper ornaments, 11, 12 – horn pendant (Juras et al. 2020, Fig. S12)

Grave 6 – A fragmentary skeleton of a woman aged approx. 25–30 years, elongated along the E–W axis with the head to the west was discovered at a depth of 30–35 cm (Fig. S27). It was lying extended and supine; ribs and pelvis bones missing. In the north-east part of the pit there were two clay vessels (an amphora and a barrel-shaped vessel). The pit also contained a flint sickle, a flint flake, fragments of two copper temple rings, two antler pendants and five faience beads.

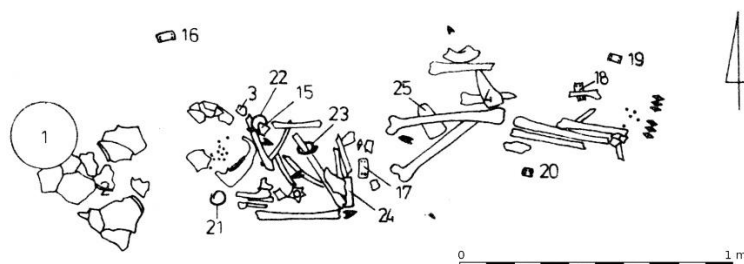


Fig. S28 Raciborowice Kolonia, site 2, grave 7. 1, 2 – vessels, 3- flint axe, 4-11 – flint arrowheads, 12 – stone axe, 13 – flint sickle, 14, 15 – small flint tools, 16 – shell beads, 17 – faience beads, 18-22 – wild boar tusk plates, 23-25 – copper ornaments (Ślusarski and Ślusarska-Polańska 1988, Fig. 9)

Grave 7 – A rectangular outline of a burial pit oriented E–W was found at a depth of 20–30 cm (Fig. S28). At the bottom of the grave (depth 80 cm) there were jumbled remains of two individuals – a woman aged 13–16 years and a man aged approx. 20 years. The woman's head was pointing to the west, the man's to the east. In the western part of the burial pit was a clay amphora and a barrel-shaped vessel. Among the bones were flint tools: an axe, a sickle, eight flint arrowheads, a scraper and a borer. The grave also contained a stone hatchet, two copper temple rings, a copper bracelet, five sheets made of a wild boar's tusk, twenty-three shell beads and eleven faience beads.

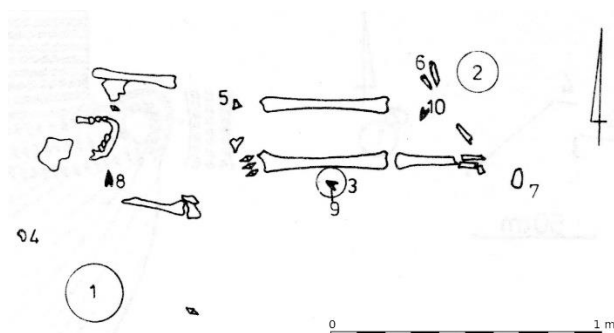


Fig. S29 Raciborowice-Kolonia site 2, grave 8. 1-3 – vessels, 4 – end-scraper, 5 – retouched flake, 6 – retouched blade, 7 – axe, 8-10 – arrowheads (Ślusarski and Ślusarska-Polańska 1988, Fig. 10)

Grave 8 – A sub-rectangular outline of a burial pit aligned E–W was discovered at a depth of 30 cm (Fig. S29). At the bottom of the grave (depth 75–85 cm) there were remains of an adult man aged approx. 40–45 years, lying extended and supine with the head pointing to the west. The skull was fragmentary, with ribs and pelvis bones missing. The collection also includes remains found ‘next to grave 8’; some of them are those of a man from the grave, and two milk teeth belonged to a child aged approx. 5 years. The deceased was equipped with three clay vessels (an amphora, a flowerpot-shaped beaker and a cup) and flint tools: an axe, three arrowheads, an end-scraper, a retouched flake and a retouched blade.

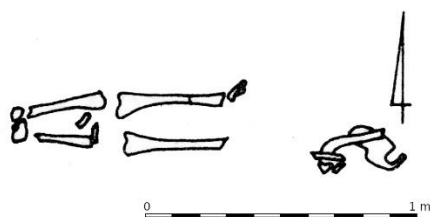


Fig. S30 Raciborowice-Kolonia site 2, grave 9 (Ślusarski and Ślusarska-Polańska 1988, Fig. 11B)

Grave 9 – An irregular outline of a burial pit oriented E–W discovered at a depth of 30 cm (Fig. S30). At the bottom of the grave (depth 70–75 cm) were remains, most probably of a woman aged 60–70 years, lying extended and supine with the head pointing to the east. The grave contained a flint scraper and a damaged copper bracelet. The remains were fragmentary and jumbled.

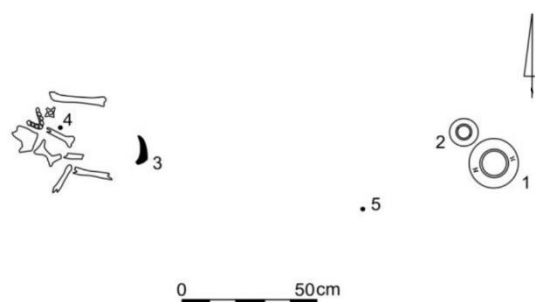


Fig. S31 Raciborowice-Kolonia, site 2, grave 10. 1, 2 – vessels, 3 – flint sickle, 4, 5 – faience bead (Juras et al. 2020, Fig. S14)

Grave 10 – A rectangular outline of a burial pit aligned E–W was found at a depth of 25–30 cm (Fig. S31). At the bottom of the grave were partially preserved remains, probably of a woman aged 16–18 years, lying extended and supine with the head pointing to the west. In the eastern part of the burial pit were two clay amphorae, in its central part – a flint sickle. The grave also contained two faience beads.

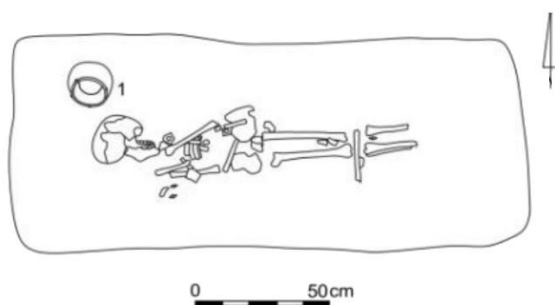


Fig. S32 Raciborowice Kolonia, site 2, grave 11. 1 – vessel (Juras et al. 2020, Fig. S15)

Grave 11 – At a depth of 40–45 cm a sub-rectangular outline of a burial pit oriented E–W and measuring 80 by 195 cm was discovered (Fig. S32). At the bottom of the grave (depth 115–120 cm) remains of a child aged approx. 14 years were discovered. According to the authors of the investigation, the deceased was lying extended and prone, with the head to the west. However, the drawing and photographic documentation indicates that the bones were mixed in prehistoric times. By the head of the deceased a barrel-shaped vessel was found.

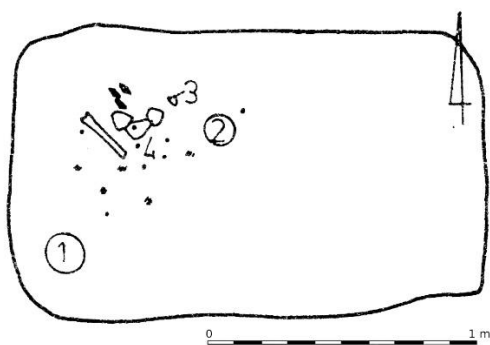


Fig. S33 Raciborowice-Kolonia site 2, grave 12. 1, 2 – vessels, 3 – flake, 4 – faience beads (Ślusarski and Ślusarska-Polańska 1988, Fig. 12B)

Grave 12 – A sub-rectangular outline of a burial pit oriented E–W and measuring 110 by 180 cm was found at a depth of 40 cm (Fig. S33). Filling the pit and the bottom of the grave (depth 60–65 cm) was charcoal. At the bottom of the grave were remains of a child aged approx. 7 years, lying extended and supine with the head pointing to the west. The skeleton was fragmentary. The grave contained two clay vessels (a vase-shaped vessel and a bowl), a retouched flake and eight faience beads.

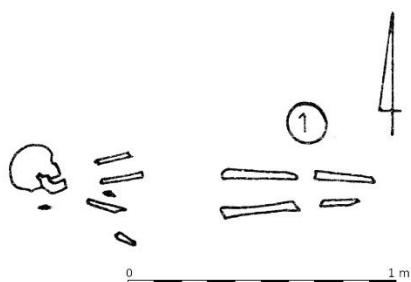


Fig. S34 Raciborowice-Kolonia site 2, grave 14. 1 – vessel (Ślusarski and Ślusarska-Polańska 1988, Fig. 13B)

Grave 14 – An elongated outline of a burial pit oriented E–W discovered at a depth of 20 cm (Fig. S34). At the bottom of the grave (depth 50–55 cm) were fragmentary human remains, lying extended and supine with the head pointing to the west. The remains were missing. To the left of the skeleton, by the lower limbs, a clay amphora was discovered.

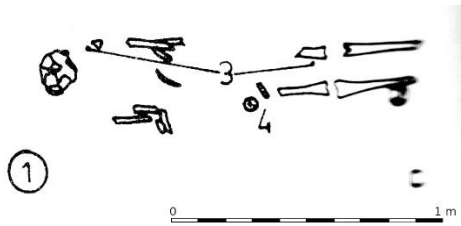


Fig. S35 Raciborowice-Kolonia site 2, grave 16. 1-2 – vessels, 3 – faience beads, 4 – spindle whorl (Ślusarski and Ślusarska-Polańska 1988, Fig. 15)

Grave 16 – A deposit of burnt clay forming an irregular quadrangle measuring approx. 160 by 240 cm and aligned E–W was discovered at a depth of 20 cm (Fig. S35). Below was a sub-rectangular burial pit measuring 130 by 280 cm filled with burnt clay and charcoal. At the bottom of the grave (depth 80 cm) were partially preserved remains, most probably of a woman aged 25–30 years lying extended and supine, with the head pointing to the west. The grave contained two clay vessels – an amphora placed near the deceased's head and a beaker by her feet; a clay spindle whorl and two faience beads.

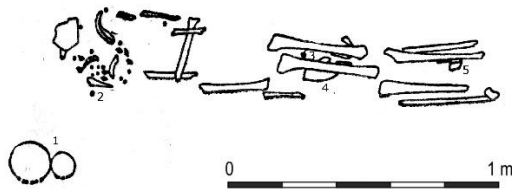


Fig. S36 Raciborowice-Kolonia site 2, grave 21. 1 – vessels, 2 – faience beads, 3 – pendant made of a wild boar's tusk, 4 – flint sickle, 5 – fragments of sheets made of a wild boar's tusk (Polańska 1987, Fig. VI)

Grave 21 – A four-sided outline of a burial pit with the longer axis oriented E–W was discovered at a depth of about 40 cm (Fig. S36). At the bottom of the grave there were partially preserved remains, most probably of a man aged approx. 30 years, lying extended and supine with the head to the west. Two clay vessels were found in the head area – an amphora and a bowl. The grave also contained about a dozen faience beads, a copper bead, a flint sickle, as well as a pendant and fragments of sheets made of a wild boar's tusk.

Rogalin site 15 (50°50'43.7"N 24°04'48.9"E). The site is located in an exposed area in the edge zone of the Bug valley, on the slope descending towards the south, within the mezoregion of the Horodło Bar, in the western part of the Volhynian Upland. Between 2009 and 2018, rescue excavations were carried out; they yielded nineteen graves (Hyrchała 2015, 52-79; 2021, 63-83; Przysańska et al. 2017; Lorkiewicz-Muszyńska et al. 2021, 85-109).

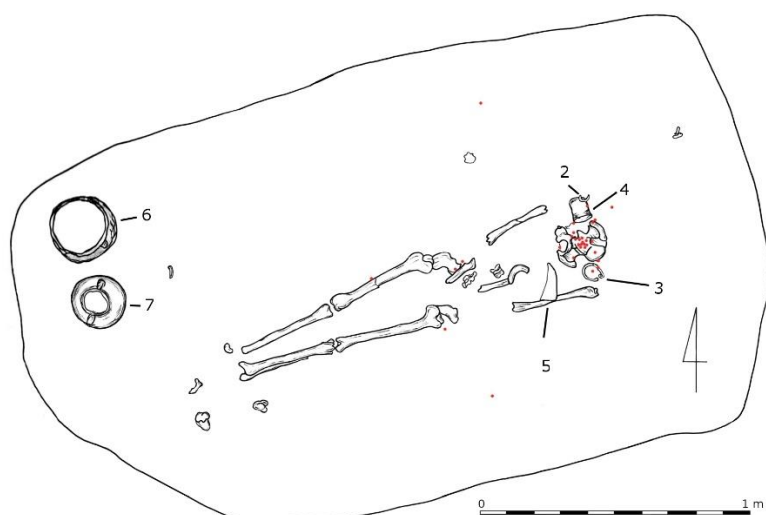


Fig. S37 Rogalin site 15, grave 1. 1 – faience beads, 2, 3 – temple rings, 4, 6, 7 – vessels, 5 – flint sickle (Hyrchała 2015, Fig. 3)

Grave 1 – A sub-rectangular burial pit with rounded corners discovered at a depth of 25 cm from the present surface of the ground (Fig. S37). It measured 270 by 160 cm, its longer side being oriented E–W, with a slight deviation. The grave contained a skeleton of an adult man aged 40–45 years, lying supine with the head pointing to the east. Bones of the upper part of the skeleton were jumbled, with ribs partially surviving. By the skull there was a beaker, and by the feet lay a vase and amphora. In the head area two temple rings made of copper wire and thirty-six faience beads were found. On the chest, above the left humerus, a flint sickle had been deposited.

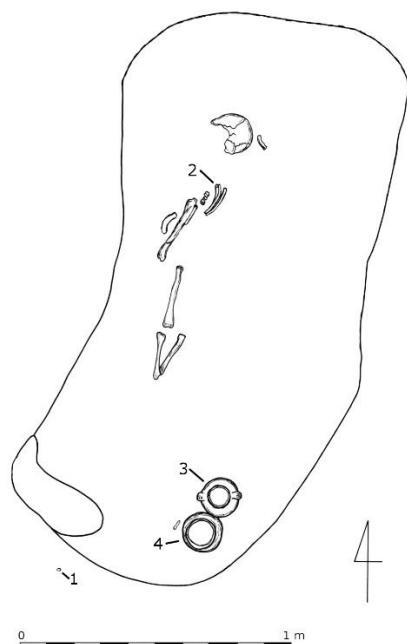


Fig. S38 Rogalin site 15, grave 3. 1 – bone bead, 2 – pendant made of a wild boar's tusk, 3, 4 – vessels (Hyrchała 2015, Fig. 6)

Grave 3 – A burial pit discovered at a depth of 25–35 cm, measuring 210 by 110 cm and aligned N–S, contained a fragmentary skeleton of a girl aged 9–10 years, lying supine with the head pointing to the north (Fig. S38). Originally, on the girl's neck there was a pendant made of a wild boar's tusk. The grave

also contained two clay vessels (an amphora and a pot with an S-shaped profile) and a bead made of animal bone.

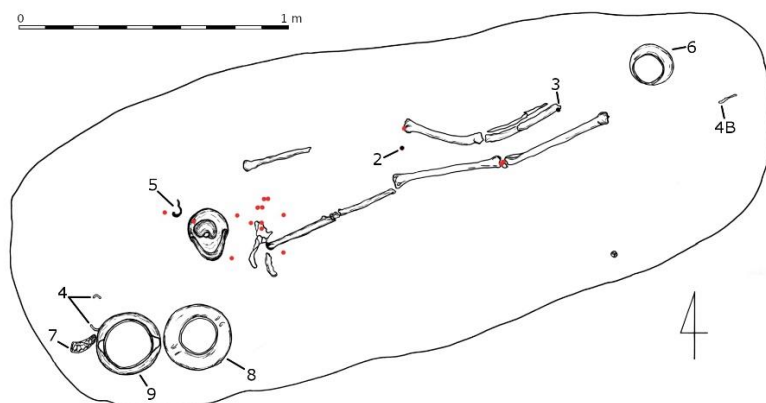


Fig. S39 Rogalin site 15, grave 4. 1 – faience beads, 2, 3 – bone beads, 4, 5 – temple rings, 6, 8, 9 – vessels, 7 – flint sickle, 4B – single bone of a girl aged *Infans I* (Hyrchała 2015, Fig. 7)

Grave 4 – A burial pit measuring 280 by 115 cm contained remains of a woman aged approx. 35–40 years, lying extended and supine (Fig. S39). The skeleton was laid along the E–W axis with a slight deviation to the south, the head was pointing to the west. Both arms of the deceased were extended along the body. Chest bones were missing, the skull was tilted and stood on the fontanelle. A pot with an S-shaped profile was found by the deceased's feet. Next to it was a single bone of a girl aged *Infans I*, and close to the head two amphorae had been deposited. Next to the vessels was a flint sickle with a broken tip. In the head area there were two copper temple rings, in the chest area were sixteen faience beads and near the lower limbs were discovered two bone beads.

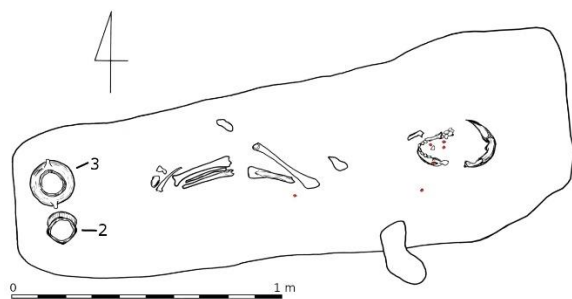


Fig. S40 Rogalin site 15, grave 3. 1 – faience beads, 2, 3 – vessels (Hyrchała 2015, Fig. 9)

Grave 5 – A burial pit measuring 200 by 75 cm and oriented E–W contained remains of a boy aged 9–11 years (Fig. S40). The deceased was lying extended and supine, with the head to the east. Bones of the upper part of the skeleton were jumbled, surviving only in small fragments. The deceased was equipped with two vessels placed by the feet – an S-shaped pot and an amphora. In the head area seven faience beads were discovered along with small fragments of copper wires. The skull bore traces of contact with copper objects.

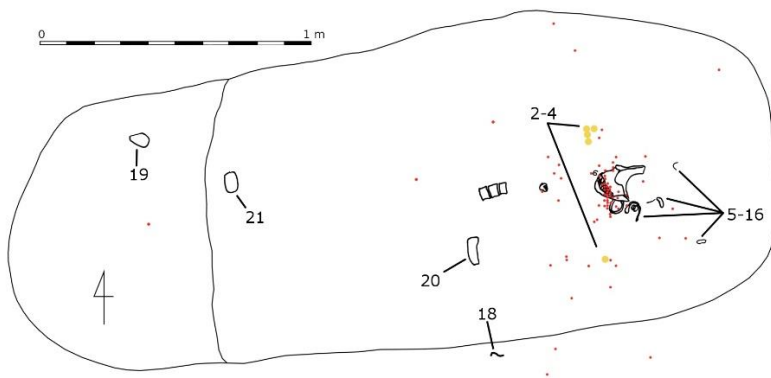


Fig. S41 Rogalin site 15, grave 6. 1 – faience beads, 2-4 – shell pendants, 5-18 – copper ornaments, 19 – fragment of vessel, 20 – flint sickle, 21 – grinding plate (Hyrchała 2015, Fig. 11)

Grave 6 – A burial pit measuring 260 by 120 cm and roughly oriented E–W contained remains of a woman aged 18–20 years (Fig. S41). What survived at the moment of discovery was part of the skull, several cervical vertebrae, several lumbar vertebrae and single bones of the rest of the skeleton. The surviving part of the skull and some artefacts from this grave bore traces of fire. Right by the skull an assemblage of copper ornaments was discovered. This included temple rings or earrings made of wire rolled into a circle with one end being terminated with a coil, leaf-shaped temple rings made of sheet and wire, a series of large and small rings, and a fitting made of a copper sheet, probably fastening a headband at the end of the head. The grave also contained ninety faience beads, five shell pendants of Glycymeris type, a flint sickle, a stone grinding plate and fragment of a vessel. Additionally, on the eastern side the burial pit, small fragments of a skeleton of a girl aged between 7–9 years were discovered by the deceased's head.

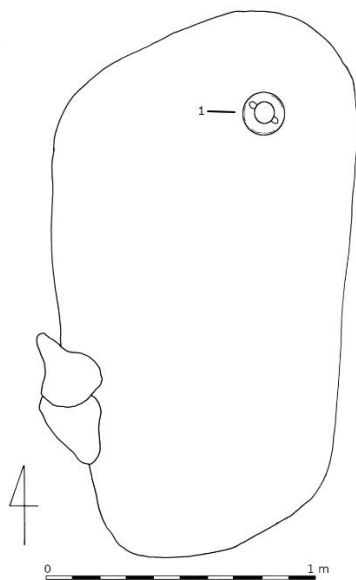


Fig. S42 Rogalin site 15, grave 7. 1 – vessel (Hyrchała 2015, Fig. 14)

Grave 7 – A burial pit measuring 200 by 110 cm and oriented N–S was found at a depth of 25 cm . Its shape and measurements indicate that it could have had a sepulchral function. In the north-east part an amphora decorated with cord impressions was discovered. No skeletal remains or other furnishings were discovered. The grave could have been robbed in prehistoric times.

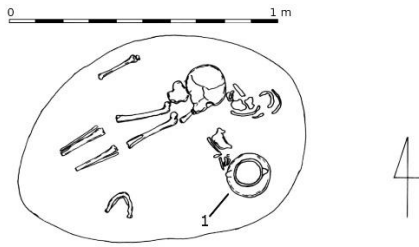


Fig. S43 Rogalin site 15, grave 9. 1 – vessel (Hyrchała 2015, Fig. 16)

Grave 9 – A burial pit measuring approx. 110 by 80 cm contained remains of a boy aged approx. 7 years. Leg bones were articulated and aligned E–W; the bones of ribs, upper limbs, and the skull were jumbled in the pelvis area. The only burial offering was an amphora.

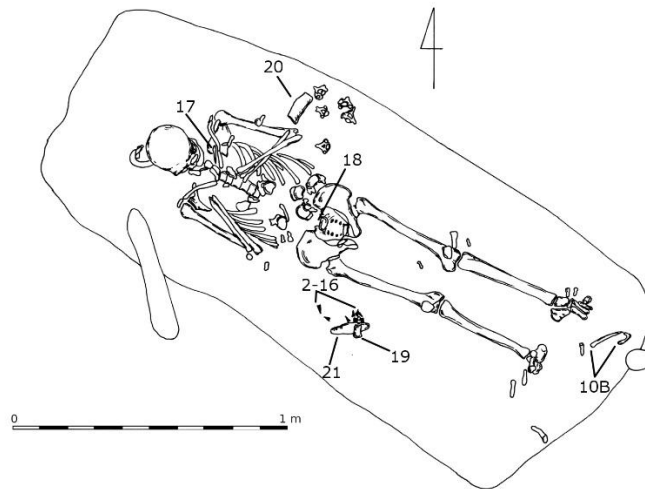


Fig. S44 Rogalin site 15, grave 10. 1-16 – arrowheads, 17 – bone pin, 18 – belt buckle made of bone, 19 – flint tool, 20 – flint sickle, 21 – flint knife blade, 10B – left ulna and the first right rib of a several-year-old girl (Hyrchała 2015, Fig. 18)

Grave 10 – Distinct, rectangular burial pit measuring 220 by 95 cm, its longer side oriented NW–SE, was discovered at a depth of 37 cm. The grave contained a skeleton of a man aged approx. 47 years, lying extended and supine with the head pointing to the north-west. By the left arm was a flint sickle with a broken tip. Near the right thigh lay a flint knife blade (projectile point) with a broken tip, a flint tool produced from a blade-like flake and sixteen arrowheads. In the pelvis area was a belt buckle made of bone, and on the left shoulder a bone pin with an eye was found. On either side of the skull green coating – copper oxide – was recorded. Additionally, near the upper part of the skeleton two faience beads were discovered. By the deceased's feet was a left ulna and the first right rib of a several-year-old girl.

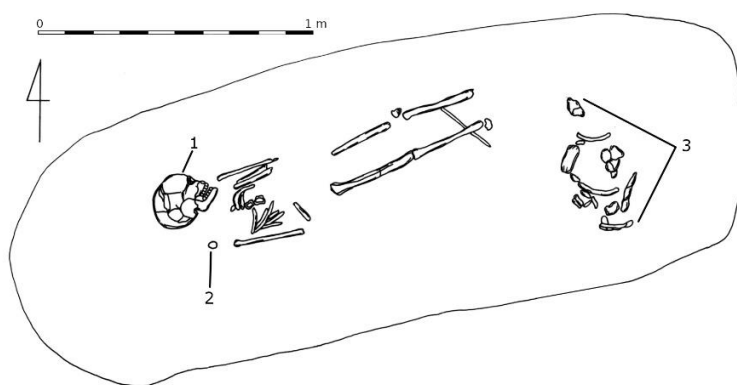


Fig. S45 Rogalin site 15, grave 9. 1 – copper ring, 2 – shell pendant, 3 – vessel (Hyrchała 2015, Fig. 21)

Grave 11 – A burial pit measuring 270 by 100 cm, elongated along the E–W axis with a slight deviation to the south contained remains of a child aged 12–14 years. Bones of the upper part of the skeleton survived partially and were jumbled. By the head pointing to the west burial goods were found: three faience beads, ring made of copper wire and shell pendants of *Glycymeris* type. By the feet there was a damaged vessel with an S-shaped profile. Nearby, remains of river mussels were discovered.

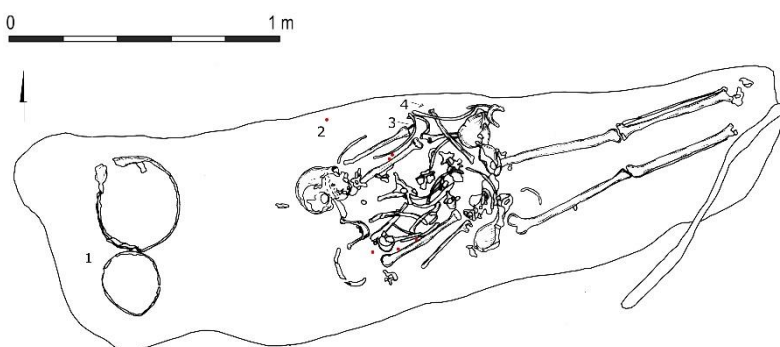


Fig. S46 Rogalin site 15, grave 15. 1 – vessels, 2 – faience beads, 3 – bone pin, 4 – arrowhead (Hyrchała 2021, Fig. 9)

Grave 15 – An elongated burial pit measuring 280 by 90 cm and oriented W–E was found at a depth of 25 cm. It contained remains of an adult man aged *Maturus* (45–55 years). The deceased had been laid supine with the head to the west. Bones of the upper part of the skeleton were jumbled, and those of the lower part (pelvis bones and bones of lower limbs) were in anatomical order. In the western part of the pit two vessels were discovered, their top parts being destroyed. The first one is a vase-shaped vessel, the other one is most probably a two-handled amphora. The deceased was equipped with a bone pin and a flint arrowhead – the objects were found on his left side, near the ulna.

Strzyżów site 28 (50°51'02.4"N 24°00'50.7"E). The site was discovered by S. Jastrzębski during surface surveys conducted in 1983. It is located in the edge zone of the Horodło Bar, which towers over the Bug valley. It has a southern exposure formed by two ravines which cut through the edge of the loess plateau. An accidental finder (A. Gosiewski) reported destroyed graves on the surface of the field. In 1995, A. Zakościelna and H. Taras conducted rescue excavations which yielded four burials of the SC (Zakościelna, Taras, 1996, 49-54; Kozak-Zychman, Tajer, 1997, 267-272).

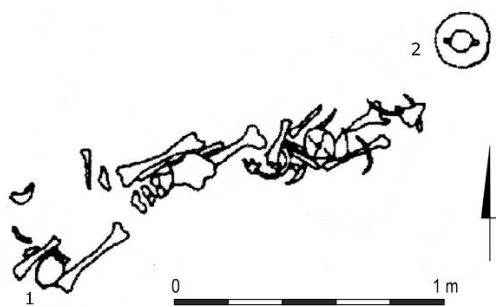


Fig. S47 Strzyżów site 28, grave 4. 1, 2 – vessels (Zakościelna and Taras 1996, Fig. 2)

Grave 4 – Indistinct burial pit, at a depth of 45–50 cm a disarticulated skeleton aligned SW–NE was discovered. The deceased was probably a woman aged *Maturus* (35–40 years); most of the ribs, vertebrae, hand and feet bones were missing. In the north-east part bones of the upper skeleton are dominant. In the south-west part lay those of the lower skeleton. In the south-west part a mug was found, and in the north-east part a clay amphora.

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