RADIOCARBON CHRONOLOGY OF THE SCHUROVO BURIAL MOUND CREMATION COMPLEX (VIKING TIMES, MIDDLE OKA RIVER, RUSSIA)

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ABSTRACT. Excavation of the Schurovo archaeological site, located on a ~12-m river terrace, has revealed 3 occupation periods: 1) as a dwelling site of the Migration period (4th–5th centuries AD); 2) as local burial mounds (termed "houses of the dead" in Russian); 3) and as a ground burial period, which left a cremation layer directly on the ground and is now covered by the Little Ice Age overbank alluvium. The latter 2 periods contain few artifacts, which makes radiocarbon dating more appropriate for establishing their chronology. The burial mounds were dated to the mid-6th to mid-7th centuries AD. The accumulation of colluvium in mound ditches points to a rather long (at least a century) pause between the construction of burial mounds and the appearance of ground burials. Dates from the cremation layer (ground burials) span a wide range from the 8th to 13th centuries AD. As the younger dates do not correspond to regional historical and archaeological contexts, we believe them to be rejuvenated due to their long exposure before burial to the young alluvium. The ground burials are dated to the mid-8th to mid-10th centuries AD, the so-called "dark ages" in the Moscow region characterized by very few archaeological data. An isolated ancient branch of the Oka River near the archaeological site was radiocarbon dated and found to be active until the mid-10th to later-12th centuries AD, meaning that it was likely used as a local harbor on the transit river route throughout the site's occupation.

INTRODUCTION

One of the most difficult and still unanswered issues in Russian Medieval history is the so-called "dark centuries" problem. In the Moscow region, this is the span between the disappearance of the Late Dyakovo and Moschino cultures (mid-7th century) and the emergence of the earliest Slavonic settlements (mid- to late 11th century), corresponding to the Viking times in Europe and Khazar Khaganate domination in the steppe region. This is a period characterized by a dearth of archaeological material, disrupting the archaeological continuity from the Early Middle Ages to the Pre-Mongol period.

This chronological gap was the focus of research for quite a long time. Various scholars approached the problem by either arguing to "rejuvenate" the dates of some Late Dyakovo materials, or by pushing back the beginning of Early Slavonic colonization. Nevertheless, in the recently published review of radiocarbon dates on Dyakovo-type sites in the Moskva River catchment (Krenke 2011: 228–9) the 8th–10th centuries AD time gap is clearly visible. However, the author states that the territory could not be totally depopulated during that time as the now-existing pre-Slavonic toponymy would not have survived in that case (Krenke 2011:228). Therefore, archaeological evidence from this period is still needed. Our study is aimed at filling this gap (at least partly) by investigating a new site from this period, identifying the peculiarities of its material culture and working out its chronology on the basis of scientific methods.

STUDY AREA: THE SCHUROVO SITE

The Schurovo burial mound (55°2.19′N, 38°45.73′E) is one of the few archaeological sites belonging to the little-known study period. It is located on the right bank of the Oka River, 7 km upstream from the Moskva River mouth, on the river bank opposite the town of Kolomna (Figure 1). The site

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occupies the edge of a Late Pleistocene river terrace composed of alluvial sands. The terrace surface is 5–6 m above the floodplain and 11–12 m above the river at its low stand. Three archaeological periods were distinguished in the site's history. First, it was a dwelling site of the Migration period. Later, a burial mound was built at the same place with wood construction, the traces of which were excavated in our study. The mound was surrounded by ditches and contained remnants of burial fireplaces (the "houses of the dead" in Russian literature). The last stage of the site's occupation was a ground cremation period where cremated bone was strewn on the ground surface (ground burial).

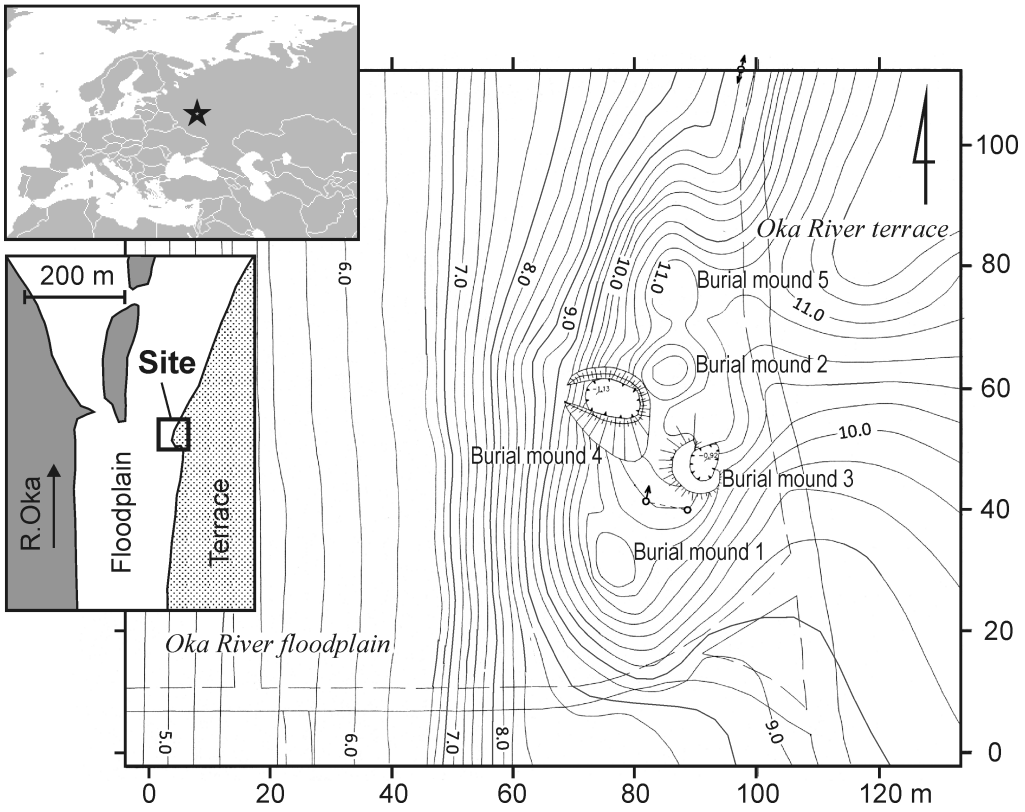

Figure 1 Map and topographic plan of the Schurovo site. Contour lines at 0.2-m intervals, showing elevation above the river during its low stand.

Dwelling Site Period

The total stock of material analyzed up to the present indicates that the site existed in the late 1st millennium AD, with a more accurate constraint between the mid-4th and mid-5th centuries AD. Precise dates are available for fibula of the Chernyahovo type (Figure 2: 1) and the Pil'viny type, which could date the beginning and the end of the period (Figure 2: 10). Other artifacts have wider age ranges but nevertheless fit the Late Dyakovo (Moschino) time (Figure 2: 2–9, 11–15).

"Houses of the Dead"

There are 5 "houses of the dead," as they are known locally, 4 of which contain circle constructions and in 1 case it was impossible to localize the construction. Only 3 of the 5 "houses" contain burials, the others being damaged dramatically. A characteristic feature of such burials is the lack of burial

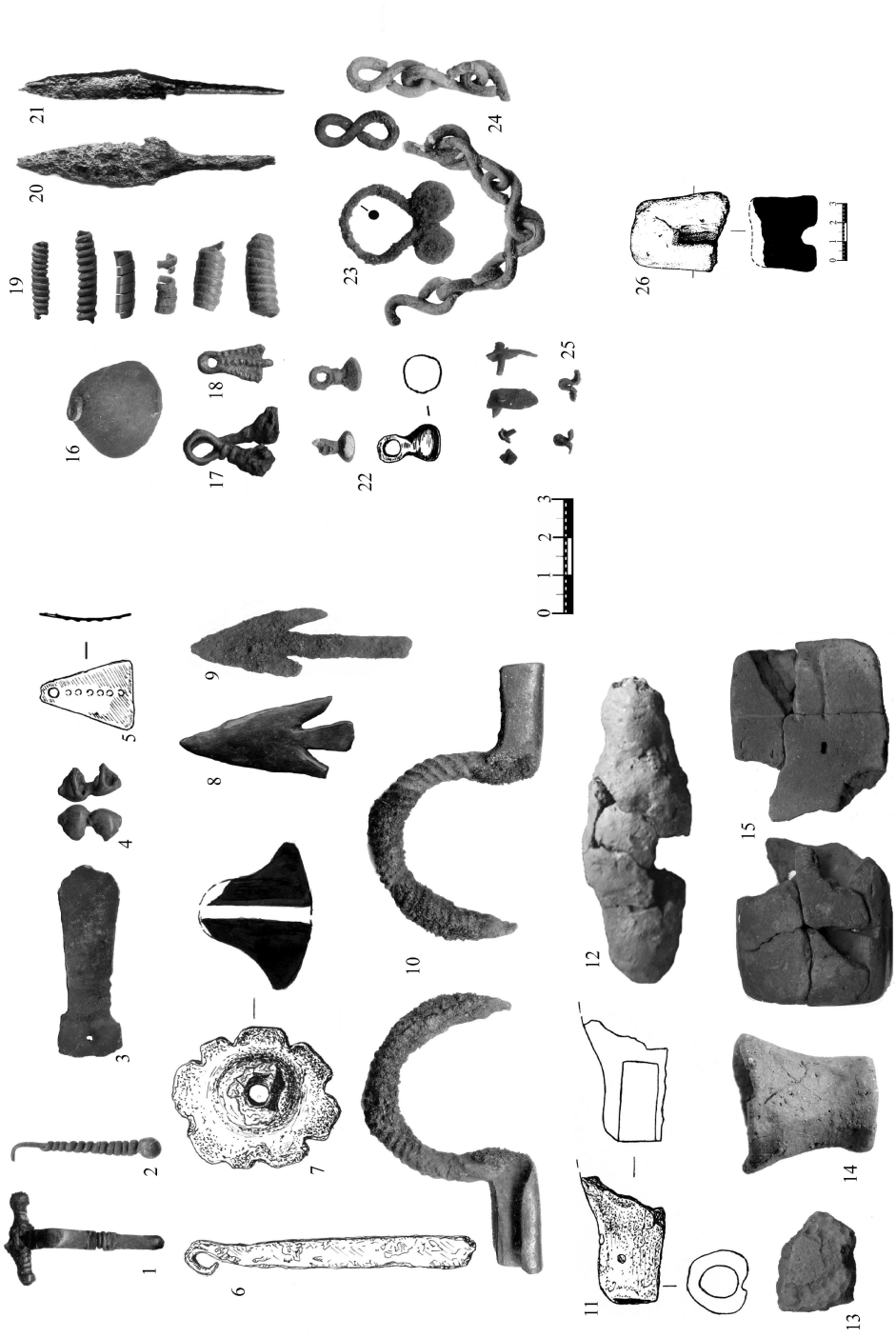

Figure 2 Artifacts from the dwelling site period (1–15) and from ground cremations or presumably dated to this period (16–26): 1 – iron+copper alloy; 7–10, 20, 21, 23 – iron; 3–5, 16, 17, 19, 22, 24, 25 – copper alloy; 2 – copper alloy+white metal; 18 – tin alloy(?); 6, 11–15, 26 – pottery.

stock and low cremation temperatures (<700 °C), which allowed preservation of quite large bone fragments. The cremation layer is rich with archaeological material, but the finds date mainly to the Late Dyakovo. The chronological interpretation suggests 2 alternatives: (1) burial constructions could be erected during the Late Dyakovo and the artifacts are synchronous to the "houses of the dead"; or (2) the Late Dyakovo material had diffused into the cremation layer by soil processes. All these artifacts (even if they were attached to the burials) have too wide a chronological range to give precise dates for the burials themselves. Furthermore, there are no analogs to this burial tradition in the neighboring areas.

Ground Burials

Ground burials were identified at the site only recently after 6 yr of investigations. These cremations were mostly thin bone lenses often found right under the turf. The burials were placed above small pits, inside pits, and in 1 case, in an urn. The depth of their bedding is minimal and we are lucky to have excavated the volume of the burial site that survived after later plowing. Their preservation was possible due to their burial under overbank fines that coated the lower locations during the high floods of the Little Ice Age, presumably in the 17th–19th centuries. We do not know what happened with the burials until the 17th century. They could have been located directly under the grass, slightly turfed; in some cases the remains may have been placed in organic containers. When it became evident that the remains of cremations were located on the periphery of burial mounds or on the mounds themselves, the question arose whether the ground burials are synchronous to the "houses of the dead." If not, what is the time gap between them, what is the absolute age of ground burials, and to which cultural context do they belong?

Ground burials are sometimes found without artifacts, but not very often: of 20 bone assemblages known by the end of 2010 only 4 lacked artifacts. Nevertheless, the stock of artifacts is very specific. First, these are unshaped fragments made of copper alloy or silver (see Figure 2, 16–26). Beads represent the most numerous artifacts from ground burials. Blue and light-blue colors dominate. Among small beads, the dominant category is blue chopped minute beads, while among the large beads, octahedrals predominate. In some cases, the preservation of beads was so poor that color determination was not possible. According to the results of chemical analysis and morphology, the beads date to the Viking times, the late 8th to beginning of 10th century (Syrovatko and Todorova 2009; Syrovatko and Troshina 2010).

It follows from the above that we deal with a site where the most interesting objects have no analogies with neighboring territories, and the most urgent question is that of chronology. One of the main tasks was to determine whether the 2 types of burials were created shortly one after another, thus dealing with a biritual site, or if the 2 burial types were separated by a rather long time gap. For establishing the chronology of these new archaeological objects, we relied on ^{14}C dating. To distinguish local conditions, which may be important for site interpretation, we use also palynological data and reconstruction of Oka River migrations, which would likely influence the activity of ancient dwellers.

METHODS

Radiocarbon Dating

Despite the fact that cremation was performed directly on the site, there exists little datable material. Until 2010, mostly charcoal was sampled for ^{14}C dating. First, any firm charcoal fragments were collected and only later did it become possible to sieve several samples of bones from ground burials

that were thought to directly date the objects. In 2010, we sampled the cultural layer in pit 9 (from top to bottom, 4 samples) to correlate stratigraphically all earlier ^{14}C dates and to test the hypothesis of the ground cremations' initial surficial position. While collecting samples, we recorded their taphonomic features. Most dates were obtained in the ^{14}C laboratory of the Geological Institute, Russian Academy of Sciences, Moscow (lab code GIN) using standard methods of pretreatment and calculation (Zaretskaya et al. 2001, 2007). Other samples were dated in the Kiev Radiocarbon Laboratory, Ukraine (lab code Ki). For calibrating dates, we used the OxCal v 4.1 program (Bronk Ramsey 2009) and IntCal09 calibration curve (Reimer et al. 2009).

Pollen Analysis

Pollen analysis was used to characterize local vegetation and its anthropogenic disturbance. A special task linked to the total chronology problem at the site was to obtain supplementary data for estimating the time elapsed between the creation of the "houses of the dead" and ground burials. Stratigraphical data suggest that ground burials appeared when the burial ditches had become almost totally silted. This is indicated by the cremation layer found in the upper parts of the ditch fillings. The cremation layer represented by black-colored sand is spread over the entire excavated area and covered only by alluvial sediments dated to the Early Modern period. In some cases, the cremation layer in the ditches was split into 2 layers by sterile sand (Figure 3b). Therefore, the time dividing the "houses of the dead" and the ground burials equals the duration of siltation for the burial ditches. The time needed for ditch colluvial filling may be roughly estimated from the degree of climatic and/or anthropogenic transformation of the local landscapes. Local environments and their changes may be indicated by pollen spectra changes within the ditch fill. Given the interruptive character of colluvial sedimentation and its local origin, it was not possible to correlate the obtained pollen spectra with regional pollen diagrams. Therefore, we did not use palynological data as a stratigraphic tool or paleoclimate proxy.

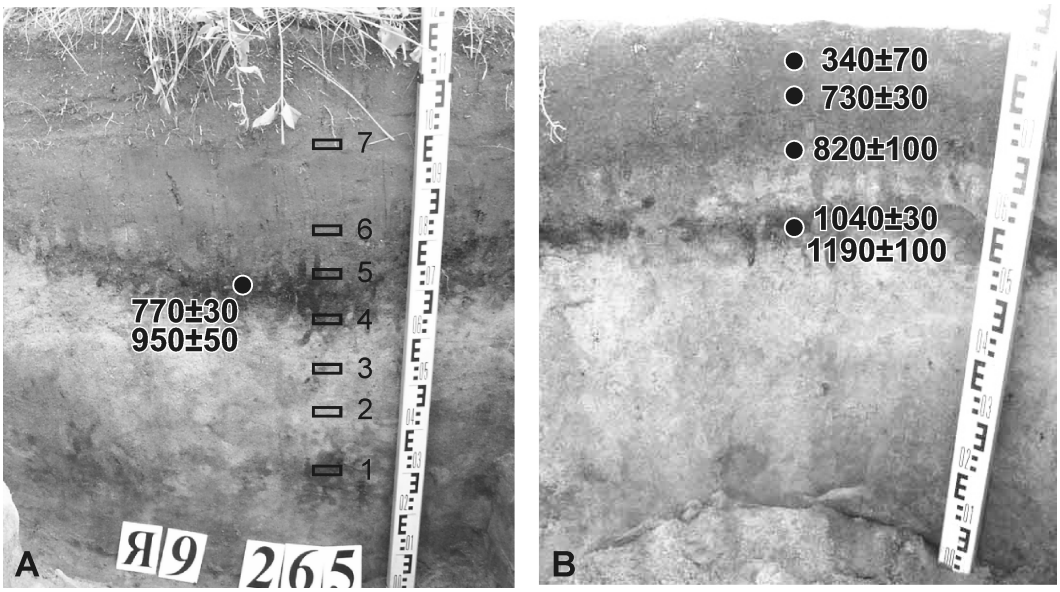

Figure 3 Section of ditch fill (burial mound 2) in 2009 (A) and 2010 (B): rectangles = pollen samples; circles = ^{14}C dates (see Table 1). Note the splitting of the cremation layer by sterile colluvium in the 2010 exposure (between the 2 lower samples).

Samples from ditch fillings were taken in 2009 and 2010, in both cases from pit 9 in the northwest segment of the burial mound 2 ditch. This is the place where the sediments of the ground mound and the layer of ground cremations are stratigraphically well pronounced (in Figure 3a, the layer of ground burial is the charcoal layer between samples 4 and 5). Laboratory pretreatment included heating in 10% hydrochloric acid, 10% alkali, and centrifuge treatment in heavy liquid (iodine cadmium solution with specific weight of 2.2). For pollen counting, an Olympus BH-2 microscope with 400× magnification was used.

Paleochannel Studies

Paleochannel investigations were undertaken due to the site's location at the entrance into a small ancient branch of the Oka River (Figure 4a). This paleochannel is now isolated from the active channel and filled with sediments with only a few remaining water pools. However, in the past, when connected to the main channel, this branch was likely involved in the economic activity of the local population, likely as a dock at the Oka River waterway. The existence of this local landscape feature could be a reason for the ancient people to have chosen the location for initial settlement and further

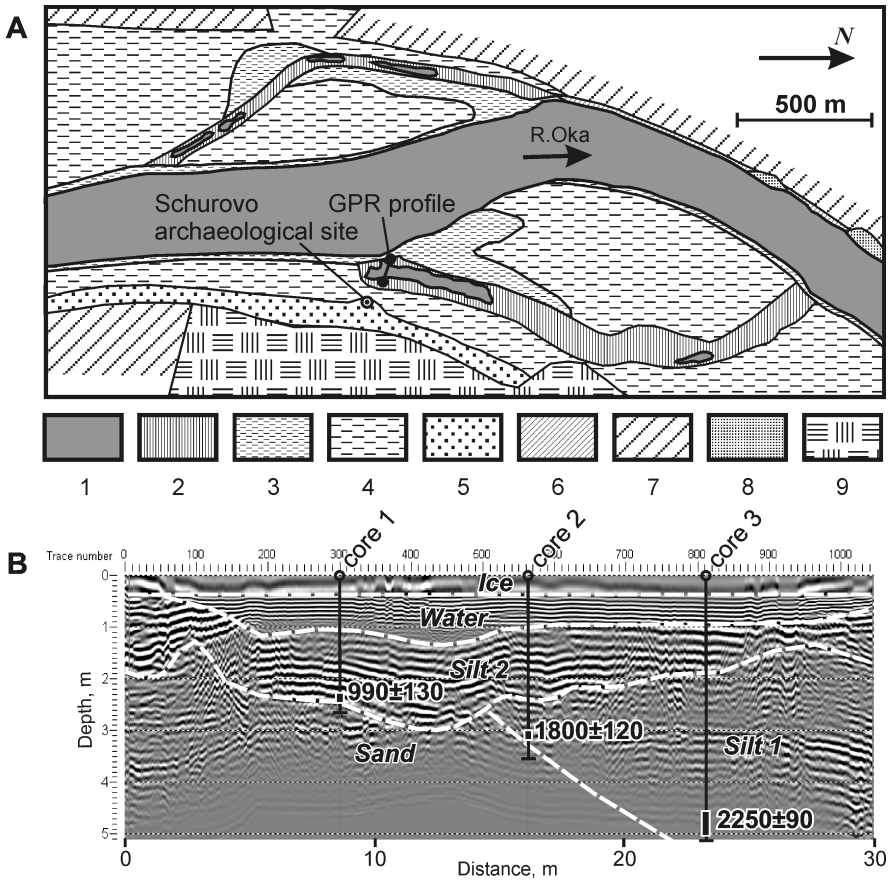

Figure 4 Geomorphic scheme of the Oka River valley at the Schurovo site (A) and GPR profile across the ancient river branch (B). Legend: 1 – river and lakes; 2 – ancient river branches; 3 – low floodplain (1–3 m above the river); 4 – high floodplain (5–8 m); 5 – Late Pleistocene river terrace (11–14 m); 6 – erosion benches; 7 – valley sides; 8 – riverside embankments (docks); 9 – recultivated dolomite quarry.

activity. The first step to test this hypothesis is to establish the chronology of the ancient river branch development: when it appeared, when it was isolated from the main channel, and how the period of its active functioning coincided with the chronology of the archaeological site.

To reconstruct the paleochannel history, we made 3 hand cores in one of the water pools from ice in January 2011, and sampled the base of alluvial silts for ^{14}C dating. Ground penetration radar (GPR) survey allowed correlation between the cores and construction of the geological section (Figure 4b). We used a Zond-12e georadar (Radar Systems, Inc.) with a 300-mHz shielded antenna. Field data were processed using the RadExplorer v 1.4 software (DECO Geophysical Co. Ltd.).

RESULTS

Radiocarbon Dating

^{14}C dates are grouped into 4 sets characterizing different objects (see Table 1).

Table 1 ^{14}C dates from the Schurovo site.

Nr	Location	Material	Lab nr	^{14}C age (BP)	Calibrated age 1σ
Burial mounds					
1	Burial mound 1	Charcoal	GIN-12721a	1500 ± 20	AD 552–592
2	Burial mound 1	Charcoal	GIN-12721b	1490 ± 40	AD 561–600
3	Burial mound 3, Sector 3, layer 5	Charcoal	GIN-13292	1460 ± 40	AD 575–639
4	Sector 5, segment 7, layer 5	Charcoal	GIN-14379	1380 ± 20	AD 646–661
Ground burial layer					
5	End of the ditch, burial mound 3, sector 3, layer 3	Charcoal	GIN-13542	910 ± 90	AD 1034–1207
6	Ditch of burial mound 2, pit 9, cremation layer	Charcoal	GIN-14142	770 ± 30	AD 1227–1274
7		Charcoal	Ki-16218	950 ± 50	AD 1025–1154
8	Ditch of burial mound 2 (pit 9), alluvium layer	Charcoal	GIN-14383	340 ± 70	AD 1481–1634
9	Ditch of burial mound 2 (pit 9), above the sterile stratum	Charcoal	GIN-14385	730 ± 30	AD 1263–1286
10	Ditch of burial mound 2 (pit 9), coal layer above the sterile stratum	Charcoal	GIN-14384h+c	820 ± 100	AD 1050–1280
11	Ditch of burial mound 2 (pit 9), coal layer below the sterile stratum	Charcoal	GIN-14384a-c	1190 ± 100	AD 711–966
12		Charcoal	GIN-14384a	1040 ± 30	AD 986–1021
Individual ground burials					
13	Sector 2, burial in sq. 334–335, level 2	Charcoal	GIN-14144	1160 ± 30	AD 782–944
14		Charcoal	Ki-16217	960 ± 50	AD 1022–1153
15	Sector 2, frame of the “urn” burial	Charcoal	GIN-14144	1760 ± 20	AD 241–323
16		Charcoal	Ki-16219	2070 ± 40	AD 163–42
17	Sector 2, burial in sq. 314–315	Charcoal	GIN-14143	1290 ± 70	AD 656–803
18	Sector 2, sq. 297–292	Charcoal	GIN-14145	940 ± 30	AD 1034–1153
19	Sector 5, segment 2, pot fragment	Ceramics	Ki-15870	1580 ± 100	AD 388–593
Late objects					
20	Sector 2, segment 16, pit 37	Charcoal	GIN-14381	110 ± 20	AD 1694–1890
21	Sector 2, segment 15, pit 36	Charcoal	GIN-14382	300 ± 30	AD 1522–1646
22	Sector 2, segment 15, pit 36	Charcoal	GIN-14382h	360 ± 60	AD 1459–1631
Alluvium of Oka River abandoned branch					
23	Core 1 (left part), 2.8–2.9 m depth	Silt (bulk)	GIN-14422	990 ± 130	AD 947–1186
24	Core 2 (center), 3.0–3.1 m depth	Silt (bulk)	GIN-14423	1800 ± 120	AD 84–349
25	Core 3 (right), 4.6–5.0 m depth	Silt (bulk)	GIN-14424	2250 ± 90	396–203 BC

There are 4 dates from burial mounds: 1500 ± 20 BP (GIN-12721); 1490 ± 40 BP (GIN-12721b); 1460 ± 40 BP (GIN-13292); and 1380 ± 20 BP (GIN-14379). Both GIN-12721 samples were taken from the same piece of charred wood, perhaps a branch, 1 m long, from the 2001 excavations (burial mound 1) and from a spot between the 2001 and 1993 excavated areas. The dates are identical. Sample GIN-13292 came from the lowest layer of burial mound 3, while GIN-14379 was extracted from the bottom of a cremation layer, burial 4. All these dates belong to the late 6th to mid-7th centuries; this is a rare case of closely grouped dates from different objects. Surely these are not the dates of burial, but these could be the dates of the burial fire wood. According to our observations, these charcoal fragments do not belong to big trunks, but rather short-lived twigs, which means that the dates should be close to the real age of the cremations.

The remaining dates refer to the later period of ground burials. To these dates belongs also the single urn burial. The urn was discovered in contact with the sterile soil, inside a charcoal find. There were 2 such spots, 2 m from one another. We could not define whether the urn was associated with one of the areas or if it was transferred into the layer with charcoal. Dates from charcoal were rather unexpected: 1760 ± 20 BP (GIN-14144) and 2070 ± 40 BP (Ki-16219). Though these dates obtained in 2 different laboratories do not coincide, they point to the beginning of the Late Dyakovo, which brings about a problem in interpretation. We still have no Dyakovo-type pottery and artifacts corresponding to the older date, while we did find net pottery of the first centuries AD and some artifacts of this period (Syrovatko 2009a:145, 191). We have a date from the second charcoal spot, 940 ± 30 BP (GIN-14145), which does not correspond to the other 2 dates. We therefore assign the urn to the general context of the ground burial and admit that the attempt to date its filling material was unsuccesful.

Samples from the ground burial layer were taken with no reference to individual burials because the burial layer is well defined stratigraphically and also usually no charcoal was found among the bones. The first dates turned out to be younger than expected: 910 ± 90 BP (GIN-13542) and 770 ± 30 BP (GIN-14142) (the last was duplicated: 950 ± 50 BP, Ki-16218). After obtaining these results, we decided to date the Schurovo dwelling site layer by layer. The best material for sampling were the sediments from pit 9 (ditch of burial mound 2), where the charcoal layer of the burial was divided into 2 horizons by a sterile sand stratum. The sample sequence was as follows (see Table 2): the lowest layer, from the charcoal layer under sterile lens, GIN-14384 (humic extract (h) + charcoal (c), which do not coincide), and GIN-14384 above the sterile stratum; then, GIN-14385 and -14383. The last sample was taken from the overlaying alluvium.

Dates from the charcoal layer span a wide range between 1190 ± 100 and 820 ± 100 BP (8th–13th centuries AD). The younger dates do not correspond to regional historical and archaeological contexts. We thus hypothesize that the samples, which were not covered with soil and remained exposed to the open air, were for a long time subject to external impacts such as precipitation, wind over the tree-less Oka River floodplain, fires of Medieval fishermen, and other accidental factors that could have influenced the isotopic composition of charcoal. From this point of view, the lowest sample, 1190 ± 100 BP (GIN-14384a–c), should be the most reliable, and it points to the 9th century AD. All the remaining samples located above the sterile sand stratum are regarded as being rejuvenated. Perhaps the previously obtained dates of 910 ± 90 BP (GIN-13542), 770 ± 30 BP (GIN-14142), and 950 ± 50 BP (Ki-16218), which come from poorly stratified deposits, are also incorrect due to the above factors. The dates 730 ± 30 BP (GIN-14385) and 340 ± 70 BP (GIN-14383) from the upper alluvial layer seem to exhibit the real chronology of accumulation and the older date demonstrates the time when the ground burial was overlain by river overbank sediments (no earlier than the 13th century AD).

The last group of dates was obtained directly from the burials. One of them represents a massive bone concentration that could result from repeated placing of bone material in the same place (squares 334–335, pit II), though there are no significant artifacts among the bones. There are 2 dates from this burial, 1160 ± 30 BP (GIN-14144) and 960 ± 50 BP (Ki-16217), which do not coincide. At the same time, the younger date may be united into a series with the dates GIN-3542, Gin-14145, and Ki-6218, while the older date (9th century AD) is closer to our expectations as it matches the archaeological context. The last date is very near the expected age, 1290 ± 70 BP (GIN-14143). It was also obtained from charcoal fragments separated from bones in the burial in squares 334–335 of sector 2.

The burial was accompanied by artifacts typical for this site: 45 melted beads, mostly blue and light blue. There are also some beads of gold, yellow, and green glass (the exact calculation is impossible because the beads were seriously damaged by fire). Among the artifacts there are also fragments made of copper alloy, and perhaps fragments of a necklace clasp. We should also mention the attempt of our Kiev colleagues to date the pottery itself (Ki-15870). The details of this method are described by Vybornov et al. (2008). Our experience in pottery dating, however, has been unsuccessful (Syrovatko 2009b). The date we obtained coincided with the GIN dates of the "burials," though it should refer to the later period.

Palynological Study

The studied section included the following layers (from the surface downwards, Figure 3a):

0.00–0.10 m – Layer 1. Contemporary turf: brown sand.

0.10–0.45 m – Layer 2. Young alluvium: gray-brownish sandy loam (*samples 6, 7*).

0.45–0.55 m – Layer 3. Ground burial layer: black sand with dispersed charcoal (in 2009: *sample 5* – in contact with layer 2; *sample 4* – in contact with layer 4. In 2010, we observed a sterile stratum that divided the layer into 2 horizons, with samples taken from each one).

0.55–0.85 m – Layer 4. Fill of burial mound ditch: light gray sand (*samples 2, 3*).

0.85–0.90 m – Layer 5. Base of the ditch fill: dark gray sand with unclear boundaries (*sample 1*).

0.90–1.15 m – Layer 6. Brownish loose sand. Sterile soil.

The discovery of fossil flora allow us to make the following conclusions. All the fossil spectra reflect the local phytocenose characteristic for the site's surroundings. According to the high percentage of grass and bush (22–48%) in the spore-pollen spectra (when productivity of herbaceous plants is lower than that of the trees), at all the stages of the site's life steppe groups dominated the vegetative cover represented by cereal forbs and meadow assemblages. They most likely occupied the Oka River floodplain, which like today was open landscape well viewed from the river. Close to the river grew alder forests. In comparison with broad-leaved plants, the productive capability of pines is high. Together with the possibility of birch pollen imported from northern regions, we conclude that broad-leaved taxa dominated the local forest: linden, oak, and filbert. We cannot exclude the possibility, however, that the taxa were combined with secondary birch forests. A high percentage of linden pollen (up to 66% in sample 4) is probably the result of anthropogenic activity. In central-eastern Europe, oak forests were often replaced by pure linden ones, exploited in beekeeping.

From the bottom to the top of the cross-section in the ditch (samples 1–3) and in the ground burial (samples 4–5), there is no objective change of percent proportion of defined microfossils and, consequently, no vegetation change dynamics can be traced. Nevertheless, on the basis of the received data we propose that between samples 1 and 4–5 there was an interval (not less than a century) when

the burial did not function and the ditch became swollen. This conclusion was proposed before the ^{14}C dates were received, and led to the hypothesis that we deal with 2 burials not 1.

It is interesting that in the sample taken in contact with the cremation layer and alluvium sediments, the fir pollen was dark (with traces of charring) and pine pollen had a normal color. Probably, branches of fir were used in the burial fire and brought from afar. Moreover, well-preserved *in situ* pollen indicate that the cremation layer is composed of "cold charcoal": this is not an autochthonous layer of cremation but the charcoal particles were brought either from elsewhere or were redeposited from the surface.

Paleochannel Reconstructions

Coring and georadar survey of the ancient channel branch revealed that its bottom is composed of silts underlain by alluvium of active channel facies (coarse sand) (Figure 4b). Silts were subdivided into 2 units: the older Silt 1 and the younger Silt 2. Silt 1 is found in the right part of the ancient channel only and is >3 m thick (core 3). These silts were deposited already during the active functioning of the paleochannel. A high degree of channel siltation is characteristic for the Oka River due to its high turbidity. In our case, siltation was promoted by the existence of a slow-flow zone at the convex bank determined by the channel planform (Figure 4a). The base of Silt 1 dates to 1800 ± 120 BP (GIN-14423) and 2250 ± 90 BP (GIN-14424) (Table 1). The younger Silt 2 covers the total width of the paleochannel and has accumulated since the isolation of the branch from the main channel. The start of its accumulation, and thus the upper constraint for the timing of paleochannel abandonment, is dated at 990 ± 130 BP (GIN-14422). Therefore, we believe that the ancient branch was initially formed no later than the 3rd–5th century BC, i.e. already in the Early Dyakovo, and had been functioning actively until its isolation no later than the mid-10th to late 12th centuries AD.

DISCUSSION

The main controversy at Schurovo is the dating of the ground burials. ^{14}C samples from the 2010 column reveal that the correct dates are only those obtained from charcoal, which was buried shortly after its deposition on the surface. Samples located stratigraphically higher or those taken from a poorly stratified layer provided rejuvenated (too young) dates. Consequently, the lowest samples from the section and the samples from the burials, which date to the second half of the 8th century to first half of the 10th century AD, seem to be the most reliable due to their position in the layer. These dates are confirmed by the few archaeological artifacts found (dating to the late 8th to early 10th centuries AD).

The "houses of the dead" were ^{14}C dated to the interval between the mid-6th to mid-7th centuries AD, though we cannot exclude a slightly later age (beginning of 8th century AD). The coincidence of the dates was the result of the deep burial of dated materials, unlike the ground burials. Most probably, the 2 types of burials belong to different epochs and were conducted by different population groups. Finally, the dwelling site layer, which is perturbated by burials, lacks complexes and scientific data but is dated using several artifacts to between the mid-4th and mid-5th centuries AD.

The archaeological site is located at the entrance of an ancient branch of the Oka River, which was functioning actively during all 3 epochs of site activity. This river branch with its relatively slow flow and safe conditions during the spring floating ice period could be exploited by local dwellers or travelers as a convenient dock or safe winter harbor. There is some probability that this favorable landscape was the reason why this place was chosen first as the location of the Migration period settlement (Late Dyakovo time), and later for funeral purposes. A close coincidence between the time

of the latest activity at the site (ground burials, mid-8th to mid-10th centuries AD) and the time of the ancient branch abandonment (no later than mid-10th to late 12th centuries AD) points to a possible explanation as to why the site was not exploited in later times. It was likely a safe location near the river after abandonment of the side branch area.

CONCLUSIONS

^{14}C dates show that the 2 burial mounds are related to the "dark centuries" and thus fit this period of archaeological "emptiness." No reliable dating is possible using artifacts; therefore, ^{14}C plays an important role in establishing the site chronology. Multiple dates and their control by stratigraphy revealed a rejuvenation of dates in the shallow buried organic samples.

The few artifacts that were found in the ground burial show that the local population—though few in number—was involved in the "East Route" trade and thus may not be regarded as outsiders during the Viking times. However, this argument leads to 2 possibilities for interpretation: either the population was autochthonous (Finnish or Slavonic) or strictly specialized to serve the transit trade.

The specific form of burial ritual (previously unknown in this territory) partly explains the phenomenon of "archaeological emptiness": cremation remains scattered on the surface were mostly destroyed by erosion and ploughing and those that survived could not be found due to the lack of experience with like objects. This fact does not exclude, however, the decrease in population during this period; the high degree of archaeological study and the small amount of archaeological sites complement each other and result in the limited knowledge of the period and region studied.

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