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Published in:
 Geochronometria

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
 Publisher's PDF, also known as Version of record

Publication date:
 2002

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

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SOME PROBLEMS IN THE STUDY OF THE CHRONOLOGY OF THE ANCIENT NOMADIC CULTURES IN EURASIA (9TH - 3RD CENTURIES BC)

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Key words:
NOMADS,
SCYTHIAN TIME,
EURASIA,
RADIOCARBON
DATES

Abstract: This research is focused on the chronological investigations of ancient nomads belonging to the Scythian cultures which occupied the steppe and forest-steppe zones of Eurasia during the 9th-3rd centuries BC. The ¹⁴C dates for the pre-scythian and early scythian time in both Europe and Asia are presented and compared to their chronological position based on archaeological evidence. The first ¹⁴C dates have been produced for the Scythian time monuments located in the Lower Volga River basin, Urals and Transurals regions. Their chronological positions are compared with the position of the monuments of Southern Siberia and Central Asia. It was shown that the nomadic cultures belonging to the Scythian culture began to exist over the wide territory of Eurasia from the 9th-8th centuries cal BC and there are some monuments which may be synchronous to the Arzhan royal barrow (the oldest monument known). A list of new ¹⁴C dates and a map of the monuments are presented.

1. INTRODUCTION

The chronology of the nomadic tribes, which occupied the steppe and forest-steppe zones of Eurasia during the 1st millennium BC is very important. The tribes are traditionally connected with the Scythian cultures which have different names in different regions of Eurasia: the Scythians in Europe, the Suromathian in the Lower Volga River Basin and Southern Ural regions, the Tasmola in the Transural regions and the different mosaic cultures in Altai, Southern Ural and Central Asia. The majority of sites associated with these cultures are located between ~ 40 °-55°N and 30°-110°E. The connections between European and Asian Scythian cultures, and their interaction is testified by the similarities between both European and Asian Scythian artefacts, the dynamics of these interactions can be solved on the basis of chronological research.

For a long time, the chronology of the Eurasian Scythian cultures was based on a variety of different archaeological approaches due to a lack of ¹⁴C dates for the European monuments. Recently the first radiocarbon dates for these monuments have been produced by AMS dating.

It is necessary to note that about 20 years ago, M.P.Gryasnov picked out 11 geographical zones in the history of Early Scythian cultures (9-7 centuries BC): 1) Northern Black Sea region, 2) the Northern Caucasus region, 3) the Aral Sea region, 4) Central and Northern Kazakhstan, 5) Semirech'e, Tien Shan and the Pamirs, 6) steppe and forest-steppe zones to the North and West from Altai Mountains, 7) Altai Mountains, 8) South Siberia, 9) Tuva, 10) Mongolia, 11) Ordos (Gryasnov, 1983).

It was found that these local zones contained features of later chronological periods, but it was necessary to add two additional geographical zones – the Lower Volga and

Southern Urals regions – to the list of zones. These latter additions may be considered as distinctive intermediate points for cultural and ethnic pulses between the two main macro-regions of the Scythian World – Western and Eastern.

One should also not forget that the Lower Volga nomads have close relations with European Scythians to the west, on one hand, and that Southern Urals barrows have many similar features with the Aral Sea region, Kazakhstan, and Southern Siberia materials to the east, on the other hand (Ochir-Gorayeva, 1988).

Such conclusions have been drawn on the basis of archaeological evidence. Now we have produced the first ^{14}C dates for the monuments in these regions and can compare the radiocarbon chronology of the key Scythian monuments for Eurasia focusing special attention on determining the first appearance of the Scythian culture.

2. RESULTS

In total, samples for dating have been collected from about 40 Eurasian Scythian monuments, many of them having not been previously dated. As well, additional ^{14}C dates were produced for some well-known Scythian monuments: Oguz, Solokha, and Chertomlyk, the Pazyryk group barrows, Arzhan, Dogee-Baary-2 and others. The map of monuments dated is presented in **Fig. 1**. The ^{14}C dates produced during the last two years and dates which were not published previously now are presented in **Table 1**. Earlier there was a broad sweep of territory in which the Scythian monuments had not been dated including

the Lower Volga River basin and the Southern Ural regions. Now this gap has begun to be filled. There have also been a considerable number of samples collected for Scythian time monuments in Southern Siberia. It is important to note that before the end of 1990's, only the elite barrow Arzhan, Dogee-Baary-2 and Kopto barrows had been ^{14}C dated (Alekseev *et al.*, 2001). Now there are about 10 Scythian-time monuments in this region dated by ^{14}C . Discussion of the interpretation of these results now follows.

3. DISCUSSION

Steppe and Forest-steppe regions of Europe

For the prescythian time of European Scythia, the monuments of the so-called Chernogorovka culture dated by archaeological finds to pre-scythian time play the most important role. Until recently there were no ^{14}C dates for this culture. In 1971 the Vysokaja Mogila barrow (graves number 2 and 5) was excavated in the Lower Dnieper River basin (steppe area). At first this monument was dated by archaeological materials. Grave number 5 dates to the late Chernogorovka period (900-750 BC according to Terenozhkin, 1976) and grave number 2 to the younger Novoчеркасск period (750-650 BC). There are contradictory opinions on the absolute chronology of these two monuments: for example, 25 years ago A.I.Terenozhkin dated them both to *ca* middle 8th century BC, but S.A.Skory together with other archaeologists now date Vysokaja Mogila, grave 2 from the late 8th to the early 7th centuries BC (Skory, 1999). ^{14}C dates of both graves

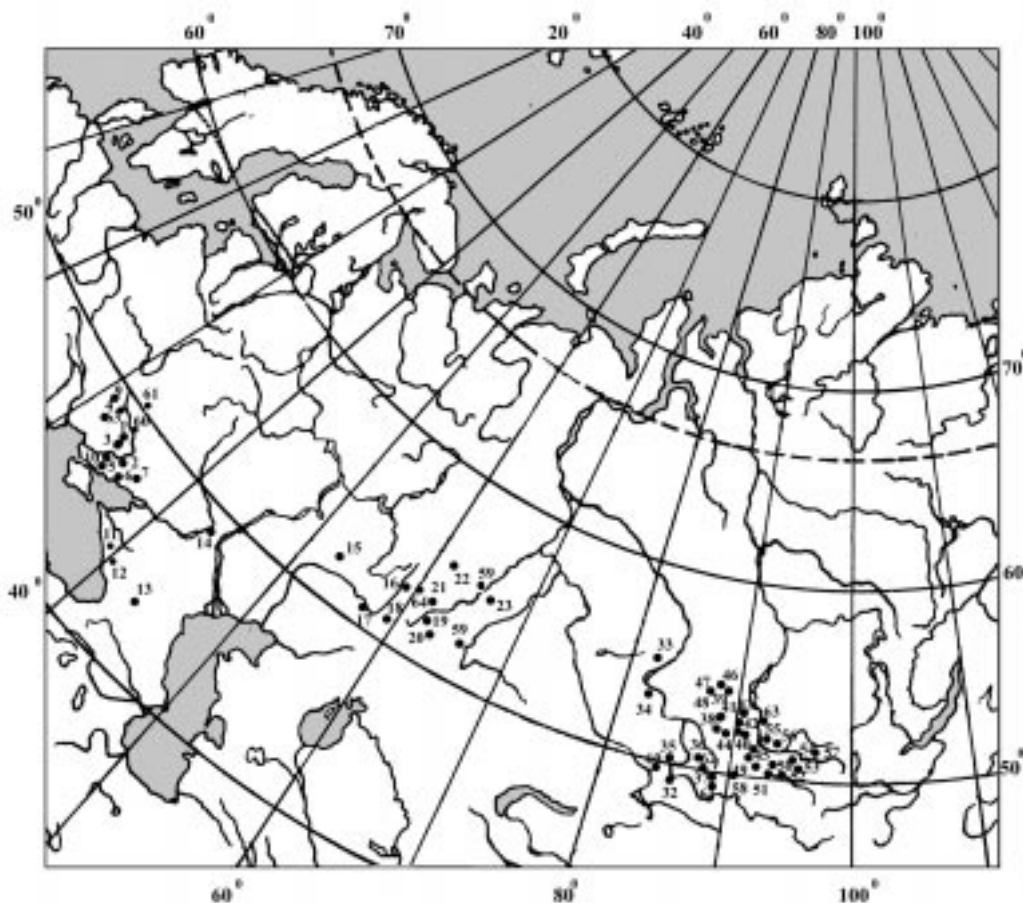


Fig.1. Map of location of the Scythian time monuments dated by ^{14}C .

produced recently are very close and give earlier results: grave 5, Ki-8425, 2765 ± 50 BP (calibrated 1007-815 cal BC, 2σ), and grave 2, Ki-8424, 2740 ± 50 BP (calibrated 997-805 cal BC, 2σ). This evidence would suggest that the modern archaeological “short” chronology is not quite correct.

Another important monument for European Scythia also dated to the early period is barrow 15 of the Steblev group located in the forest-steppe area. This was established as the oldest Scythian grave and dated by archaeologists to the late 8th century BC (Klochko and Skory, 1993). The ^{14}C dates produced for this barrow (2620-2580 BP) testify to the earlier Scythian association (the late 8th century cal BC).

For a long time, the oldest monument for all Eurasia was the royal barrow Arzhan (Central Asia and Tuva Republic). About 30 ^{14}C dates were produced which lay in the interval from 2800-2666 BP, testifying that this monument was erected during the 9th century cal BC (Zaitseva et al., 1998). Now there is the possibility to compare the radiocarbon chronology of the Arzhan barrow and European prescythian time monuments (Vysokaja Mogila and Steblev, grave 15). One can enter the same time intervals for their existence (Table 1).

Very interesting results have been obtained for the classical Scythian royal tomb Solokha, one of the four greatest Scythian barrows in the northern Black Sea region. Because the construction of any tomb occurred over a rather short time, it was very important to obtain a precisely calibrated calendar interval for ^{14}C dates and to compare the archaeological data and radiocarbon chronology. According to archaeological data, this barrow can be dated to 400-375 BC (Alekseev, 1992). Eleven ^{14}C dates for this famous barrow have been produced. Taking into account the complicated character of the calibration curve, which has a wide plateau for the intervals 2600-2400 BP, and impossibility of using in this case the wiggle matching method to establish the more precise calendar time of this tomb construction, we used the combine dates obtained by the OxCal calibration program. The combined ^{14}C date from the eleven individual dates is 2333 ± 15 BP which corresponds to 400-395 cal BC (1σ) and to 403-390 cal BC (2σ) (Fig. 2). These results are generally in good agreement with the archaeological dates.

The Lower Volga River basin

The Lower Volga nomads have close relations with European Scythians to the West. They also have many similarities with the nomads of the Aral Sea region, Kazakhstan and Southern Siberia to the East. Now we present the first ^{14}C dates for the monuments in these regions (Table 1).

There are numerous nomadic graves of the Scythian era in the Lower Volga River region belonging to the so-called “Sauromatian” culture and one of them is the Aksenovski burial ground discovered in 1966 by V.P. Shilov (Shilov, 1997). According to archaeological data, the dates of all Aksenovski barrows and graves lie in the range of ca 450 – 375 BC.

Barrow number 10 (grave number 1, where two women were buried) also dates back to this time. Two bronze

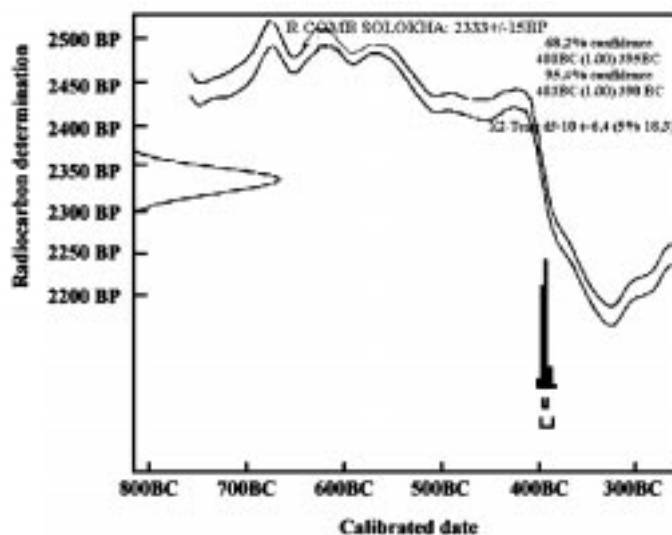


Fig. 2. Combined ^{14}C date for the Solokha barrow and its position on the calibration curve.

mirrors were found, however, which according to archaeological data belong to an earlier time – the 7th-6th centuries BC and what is more, one of these mirrors belongs to a special group of so-called “indicators” of the Early Scythian culture (Alekseev, 1992).

A sample for AMS radiocarbon dating was taken from wooden fragments of one of the mirror-cases. One of the ^{14}C dates (Ua-16869) gave us the general chronological period from the 9th to 5th centuries cal BC (2σ). In more detail, the calibration intervals are the following: 9th-6th century cal BC, early 5th century cal BC, or second half of the 5th century cal BC. Each of these intervals is in a good agreement with the known archaeological date. A second ^{14}C date (GrA-16832) is earlier – from the 9th to the beginning of the 8th century cal BC. It is important to note that combined date (2640 ± 41 BP) gives also the same range. One explanation is that the samples perhaps came from the central part of the trunk. In any case, results of radiocarbon dating show that *terminus ante quem* of the construction of this wooden artifact is the late 5th century BC.

Southern Urals and Southern Transurals regions

The ancient nomadic culture in the Southern Urals was located in the centre of the “steppe belt” of the Scythian cultures and it was subjected to a certain influence from the nomads from the West (the Pontic Sea area) and from the East (Central Asia, Altai and Southern Siberia). The most important and famous barrow for the late prescythian and early Scythian periods is the Great Gumarovo barrow (grave number 3) excavated in 1980 by R. Ismagilov (Ismagilov, 1988). This monument can be archaeologically dated on the late 8th to the early 7th centuries BC. Samples for ^{14}C analyses (AMS) were taken from four leather fragments and one wooden fragment from the quiver.

The agreement between archaeological and ^{14}C dates is good, except sample Ua-16867, 2750 ± 75 BP, which gave an earlier chronological age – from the late 12th to the

Table 1. The ¹⁴C dates produced for the Scythian time monuments of Eurasia.

No	No on the Map	Lab. index	¹⁴ C Age [BP]	Monument	Material	Calibrated age [BC]	
						1	2
Ukraine							
Pre-Scythian time (Chernogorovskaya culture)							
1	60	Ki-8424	2740±50	Visoka mogila	Wood	910-826	990-806
2	60	Ki-8425	2765±50	Visoka mogila	Wood	978-834	1000-814
Earlier Scythian time							
3		Ki-7740	2490±50	Steblev, barrow 15	Animal bone	766-528	782-412
4	9	Ki-7741	2660±50	Steblev, barrow 15	Animal bone	892-794	906-778
5	9	Ki-8426	2620±60	Steblev, barrow 15	Wood	892-562	908-532
6	9	Ki-8427	2530±60	Steblev, barrow 15	Wood	794-534	804-414
7	9	Ki-8428	2580±60	Steblev, barrow 15	Wood	810-550	836-420
Scythian time							
8	63	Ki-8454	2180±60	Vishneva Mogila, barrow 11, grave 3	Organic remains	360-122	374-60
9	63	Ki-8454	2230±60	Vishneva Mogila, barrow 11, grave 5	Leather	368-202	396-120
10	63	Ki-8455	2210±60	Vishneva Mogila, barrow 11, grave 5	Wood	364-192	392-106
11	63	Ki-8456	2170±70	Vishneva Mogila, barrow 11, grave 5	Leather from shoes	358-110	382-44
12	63	Ki-8457	2250±70	Vishneva Mogila, barrow 11, grave 4	Leather	384-202	406-106
13	6	GrA-10163	2170±40	Oguz, grave 9	Grass,	354-118	364-66
14	6	Ki-7717	2230±50	Oguz	Skeleton bone	366-202	392-176
15	6	Ki-7718	2190±50	Oguz	Grass	360-178	380-100
16	7	GrA-10164	2330±50	Pastak, barrow 10	Wood from sword	476-214	750-202
17	10	GrA-10059	2180±40	Chertomyk	Wood from arrows	356-166	368-106
18	10	GrA-10203	2320±50	Chertomyk	Wood from arrows	408-210	516-200
19	10	GrA-10204	2350±50	Chertomyk	Wood from arrows	514-368	756-208
20	10	Ki-7720	2290±50	Chertomyk, embanment	Horse bone	398-210	404-200
21	10	Ki-7721	2170±80	Chertomyk, embanment	Sheep bone	360-108	388-8
22	10	Ki-7722	2335±80	Chertomyk, northern grave	Animal bone	520-206	762-192
23	10	Ki-7723	2130±70	Chertomyk, northern grave	Sheep bone	348-44	366BC-10AD
24	10	Ki-7724	2210±70	Chertomyk, northern grave	Horse bone	368-190	394-66
25	10	Ki-7725	2170±60	Chertomyk	Wool from clothes	358-112	370-54
26	10	Ki-7726	2310±55	Chertomyk	Skeleton bone	406-208	512-196
27	8	GrA-10060	2325±40	Solokha,	Wood from sword	406-264	484-206
28	8	GrA-10159	2270±50	Solokha	Wood from sword	390-208	398-200
29	8	GrA-10160	2350±50	Solokha	Wood from sword	514-368	756-208
30	8	Ki-7742	2370±55	Solokha	Wood from sword	746-380	762-254
31	8	Ki-7743	2295±55	Solokha	Wood from sword	400-208	474-192
32	8	Ki-7744	2310±55	Solokha	Wood from sword	406-208	512-196
33	8	Ki-7745	2350±55	Solokha	Wood from artefact	516-266	758-204
34	8	Ki-7746	2320±55	Solokha	Wood from artefact	410-208	522-198
35	8	Ki-7747	2380±55	Solokha	Grass rope	750-386	762-266
36	8	Ki-7748	2425±60	Solokha	Leather	756-402	764-394
37	8	Ki-7749	2300±55	Solokha	Wood from artefact	402-208	482-192
Northern Caucasus, Russia							
38	11	Ki-7769	2510±50	Uashkhitu, barrow 1	Wood	780-530	796-416
39	11	Ki-7770	2570±50	Uashkhitu, barrow 1	Wood	806-554	816-526
Lower Volga River Basin							
40	14.	Ua-16869	2595±75	Aksenovski	Wood from mirror	826-546	902-418
41	14	GrA-16832	2660±50	Aksenovski	Wood from mirror	892-794	906-778
Southern Ural and Transural regions (Orenburg, Chelyabinsk oblasts, Bashkortostan)							
42	15	GrA-15862	2320±50	Filippovka	Wood from the gold deer	408-210	516-200
43	15	GrA-15860	2940±50	Filippovka	Wood from the gold deer	1250-1046	1304-994
44	17	Ua-16866	2430±70	Gumarovo	Leather	758-402	766-394
45	17	Ua-16867	2750±75	Gumarovo	Organic	982-816	1112-796
46	17	GrA-12895	2500±70	Gumarovo	Organic	774-524	792-412
47	17	GrA-16829	2500±50	Gumarovo	Leather	770-530	792-414
48	17	AA-40434	2623±44	Gumarovo	Wood from arrow bow case	822-780	898-554
49	18	Ua-16870	2590±85	Solonchanka	Wood of shaft	830-536	900-414
50	64	AA-40432	2454±58	Small Klimovski	Wood from shaft	760-410	766-404
51	21	GrA-16831	2250±50	Temir	Wood	378-206	392-194
52	21	Ua-16868	2250±75	Temir	Bark-birch	386-202	408-64

Altai							
53	35	Le-5788	2200±40	Bashadar dendro- sampl, 80 tree-rings	Wood, 1-10 tree-rings	358-192	378-126
54	35	Le-5789	2200±20	Bashadar dendro- sampl, 80 tree-rings	Wood, 11-20 tree-rings	355-195	359-191
55	35	Le-5790	2175±20	Bashadar dendro- sampl, 80 tree-rings	Wood, 21-30 tree-rings	345-182	356-130
56	35	Le-5791	2145±25	Bashadar dendro- sampl, 80 tree-rings	Wood, 31-40 tree-rings	194-118	342-64
57	35	Le-5792	2160±50	Bashadar dendro- sampl, 80 tree-rings	Wood, 41-50 tree-rings	354-10	364-50
58	35	Le-5793	2152±25	Bashadar dendro- sampl, 80 tree-rings	Wood, 51-60 tree-rings	198-118	350-68
59	35	Le-5794	2170±20	Bashadar dendro- sampl, 80 tree-rings	Wood, 61-70 tree-rings	343-176	354-120
60	35	Le-5795	2190±40	Bashadar dendro- sampl, 80 tree-rings	Wood, 71-80 tree-rings	358-184	372-116
61	36	GU-8355	2340±60	Pazyryk-2	Wood, all tree rings	516-254	758-200
62	36	GU-8356	2360±50	Pazyryk-2	Wood, all tree rings	516-376	760-210
Southern Siberia							
63	40	Le-5838	2780±30	Tiger-Taidzhen, barrow1	Wood	980-848	992-838
64	43	Le-5646	2640±120	Kazanovka-3, barrow 2A, grave 2	Bone of skeleton	920-530	1030-400
65	45	Le-5669	2570±30	Taplaya, barrow 1, grave 2	Charcoal	802-610	806-552
66	46	Le-5679	2370±20	Cheremshino, barrow, grave 1, log, 4 layer from the centre	Wood	406-397	473-390
67	46	Le-5678	2400±20	Cheremshino, barrow, grave 1, log, 3 layer from the centre	Wood	484-401	516-399
68	46	Le-5677	2540±40	Cheremshino, barrow, grave 1, log, 2 layer from the centre	Wood	794-552	802-526
70	46	Le-5676	2710±60	Cheremshino, barrow, grave 1, log, 1 layer from the centre	Wood	900-812	990-796
71	46	Le-5680	2435±25	Cheremshino, barrow 1, grave 1, outside rings	Wood	746-410	756-404
72	46	Le-5670	2470±30	Cheremshino, barrow 1, grave 3	Wood	762-420	764-412
73	46	Le-5668	2530±25	Cheremshino, barrow 1, grave 2	Wood	786-554	792-542
74	46	Le-5671	2610±50	Cheremshino, barrow 1, grave 3	Wood	828-606	894-540
75	46	Le-5672	2660±60	Cheremshino, barrow 1, grave 1, outside rings	Wood	898-792	980-556
76	46	Le-5675	2700±50	Cheremshino, barrow 1, grave 1, central rings	Wood	898-808	926-796
77	47	Le-5651	2480±50	Pechische, barrow 3, grave 3	Bone of skeleton	764-518	770-412
78	48	Le-5652	2490±80	Sarala, barrow 2, grave 1	Bone of skeleton	770-516	790-410
Central Asia (Tuva)							
79	49	Le-5848	2440±30	Aldy-Bel, branch grave	Wood	752-410	760-402
80	49	GU-9181	2470±50	Aldy-Bel, branch grave	Wood	762-418	766-412
81	50	Le-5446	2880±120	Arzhan	Horse teeth	1210-910	1380-820
82	50	Le-5645	2750±35	Arzhan	Wood, fragment of upper log, 22 tree-rings	908-842	982-816
83	51	GU-8351	2310±60	Arzhan-Tarlak	Wood, fragment of upper log, 20 tree-rings	406-208	520-192
84	51	GU-8354	2360±50	Arzhan-Tarlak	Wood, fragment of upper log, 20 tree-rings	516-376	760-210
85	51	GU-8352	2410±70	Arzhan-Tarlak	Wood, fragment of upper log, 20 tree-rings	758-396	768-384
86	51	GU-8353	2470±60	Arzhan-Tarlak	Wood, fragment of upper log	762-418	768-408
87	51	Le-5450	2455±25	Arzhan-Tarlak	Wood, fragment of upper log	756-416	762-408
88	52	Ua-12968	2425±45	Dogee-Baary-2, barrow 10	Leather	752-404	762-396
89	52	Ua-12969	2435±45	Dogee-Baary-2, barrow 3	Textile	754-408	762-400
90	52	Ua-12970	2490±45	Dogee-Baary-2, barrow 1	Textile	764-528	782-414
91	52	Ua-12971	2420±45	Dogee-Baary-2, barrow 6	Textile	752-402	762-394
92	52	Ua-12972	2450±45	Dogee-Baary-2, barrow 15	Textile	758-410	764-404
93	54	Le-5603	2800±200	Suglug-Khem-1, part of artefact	Wood	1260-790	1430-410
94	55	Le-5566	2300±50	Saryg-Bulun, barrow 1, grave 5	Wood	402-210	408-200
95	56	Ua-15270	2190±70	Ust'-Khadyynyg-1- barrow 37	Bone	366-162	384-58
96	56	Ua-15229	2635±70	Ust'-Khadyynyg-1, barrow 4, grave 3	Wood from arrow	902-606	926-528
97	56	Ua-15228	2805±70	Ust'-Khadyynyg-1, barrow 4, grave 3	Leather from quiver	1016-844	1154-810
98	57	Ua-12973	2360±45	Chinge-2, barrow 22, grave 2	Textile	510-380	756-256

early 8th century cal BC, but it turns out that all the dates result in very wide calibrated intervals and so do not allow a more accurate age definition. The combined date (2562 ± 25 BP) gives a “narrower” calibrated range: 798-766 cal BC (1σ), 802-760, 676-662, 632-590 and 584-554 cal BC (2σ), and there is evidence that the quiver can be attributed to the period *ca* 800-750 BC or to the period from the 7th to the first half of the 6th century BC.

As one of the most famous monuments of this period we can identify the so-called Filippovka “royal” burial ground which was excavated in 1986-1989 by A. Pshenichniuk (2000). The most important site is barrow number 1 which is of 7 m height. Different weapons, horse bridles, golden plaques on wooden vessels, several gold and silver Iran vessels and 26 large, extraordinary wooden sculptures of deer which were covered by gold and silver were found. The majority of these objects are unique but at the same time, they demonstrate stylistic similarity with objects from other regions of the Scythian world – South Siberia, Altai Mountains, Central Asia, and Northern Caucasus (Korolkova, 2000). According to the archaeological data there are two similar dates proposed for the Filippovka burial ground – the 5th century BC (Korolkova (Chezhina), 1992) and the early 4th century BC (Pshenichniuk, 2000). Samples for ¹⁴C analyses (AMS) were taken from wooden fragments from inside the base of the deer sculptures.

Radiocarbon dates give different chronological ranges (GrA-15860, 2940 ± 50 BP; GrA-15862, 2320 ± 50 BP). GrA-15862 date is in perfect correlation with archaeological evidence. The combined ¹⁴C date 2630 ± 35 BP, calibrated to 832 – 774 cal BC (2σ) is earlier than the archaeological dating.

The comparison of the radiocarbon age for the Scythian time monuments of the Lower Volga River basin and the Southern Ural regions with the monuments of the Sayan-Altai (the Arzhan and Pazyryk group) presented in **Table 1** shows, that the radiocarbon age of these monuments is significantly younger than the Arzhan barrow but closer to the Pazyryk group barrows.

Southern Siberia and Central Asia (Tuva)

As mentioned above the oldest monument for all Eurasia is the royal barrow Arzhan (Central Asia and Tuva Republic). In 2000 the first radiocarbon dates were produced for other monuments belonging to the prescythian and early Scythian time.

The most interesting new date has been produced for the monument Tigir-Taidzhen, barrow 1: 2780 ± 30 BP (Le-5838). It is very important that, according to this date and to the archaeological finds, this barrow is synchronous with the Arzhan barrow and can be dated to the 9th cal BC.

Another interesting monument of the Tagar culture in the Southern Siberia (Minusinsk valley) is the Cheremshino barrow. According to the archaeological classification, this monument dates to the early stage of the Tagar culture. Now the first radiocarbon dates have been produced for this monument from the wooden barrow construction and have been used in the “wiggle matching” method to produce a precise determination of the

calendar interval. According to these data this barrow can be dated to the beginning of the 8th cal BC.

The so-called “aldy-bel” culture (Grach, 1983) existed in Central Asia (Tuva). One should note that the earliest Scythian barrow Arzhan is located in Tuva too. For a long time only this monument was dated by ¹⁴C. Now ¹⁴C dates have been produced for the Ust'-Khadyynyg-1 barrow. Dates 2635 ± 70 BP, wood from arrow (Ua-15229) and 2805 ± 70 BP, leather from quiver (Ua-15228) for barrow 4, grave 3 excavated by A.D. Grach in 1980 (Grach, 1983) can be correlated with the dates for the Arzhan barrow.

The key monument of the late stage of Scythian time, the so-called the uyuk-saglynsk culture, is the Dogee-Baary-2 barrow. A long series of ¹⁴C dates have been produced for this monument and the “wiggle matching” method has been used to determine its position on the calendar scale (Alekseev *et al.*, 2001). The results confirmed the archaeological ideas about the existence of this monument during the 5th-4th centuries BC. ¹⁴C dates for the Arzhan-Tarlag (Gu-8351-8354) and the Chinge (Ua-12973) barrows testify to their synchronicity. The Aldy-Bel' burial mound according to the ¹⁴C dates produced from the wooden barrow construction (Le-5848, and GU-9181) can be related to this time.

The first ¹⁴C dates produced for the monuments belonging to the pre-scythian and early scythian time of Southern Siberia and Central Asia testify that some monuments existed in this territory at the same time as the Arzhan barrow.

4. CONCLUSIONS

Since the 9th-8th centuries BC the Scythian cultures began to appear on the wide territory of the steppe and forest-steppe zones of Eurasia. Now there are some monuments, which, according to the radiocarbon dates, can be demonstrated to be synchronous to the Arzhan royal barrow. The ages of monuments located in the Lower Volga River basin, the Urals and Transurals regions are more synchronous to the Pazyryk group barrows.

ACKNOWLEDGEMENTS

We are very grateful to the staff of the State Hermitage Museum and to the archaeologists from the Chelyabinsk and Ekaterinburg Universities for the samples presented for dating. This research is supported by INTAS, project No 97-20362.

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