

## RADIOCARBON CHRONOLOGY OF ARCHAEOLOGICAL SITES OF THE KURILE ISLANDS

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One of the theories of Paleo-Indian migration from Asia to America (Chard 1963) proposes that the most probable route was along the coast of the Sea of Okhotsk through Japan, Kamchatka and the Aleutian islands. To study the problem of New World population origins, we are attempting to correlate archaeological sites in this region. Our aim is to examine connections of the earliest cultures of the Far East and Siberia with the cultures of Sakhalin, the Kurile Islands, Japan and America.

Until recently, the Kurile Islands were little studied, and were missing from discussions of the Pacific Ocean cultures (Vasilevskiy 1975). Though excavations began at the end of the 19th century, Kozyreva (1967) initiated systematic archaeological research of the islands. More recent studies have provided new information regarding ethnographic and chronological correlations of the Kurile Islands and continental cultures. Steshenko and Gladyshev (1977) and Golubev (1989) recognized Neolithic, Okhotsk and Ainu periods in the region. Despite the great amount of material collected by the beginning of the 1980s, the chronology of the cultures of the Kurile Islands was little known because of the paucity of  $^{14}\text{C}$  dates for the area.

The chronology of site occupation in the Kurile Islands and Sakhalin is based mainly on typological and stratigraphic correlations with cultures of Hokkaido, Japan. Samples for  $^{14}\text{C}$  dating were collected from Sakhalin.  $^{14}\text{C}$  analysis was conducted in the Novosibirsk (SOAN) and Magaden (MAG) laboratories; results were published by Shubin and Shubina (1984). Based on  $^{14}\text{C}$  dates, it appears that occupation of Sakhalin began *ca.* 5000 BC.

Since 1982, Yu. V. Knorozov and A. B. Spevakovskiy have conducted annual excavations in the Kurile Islands. Figure 1 shows site locations. Charcoal and human and animal bones collected for  $^{14}\text{C}$  dating were analyzed by liquid scintillation counting at the laboratory of the Institute of the History of Material Culture (LE) for 30 min. Because the samples were collected in a volcanically active region, they were treated first with standard (acid-base-acid) treatment with HCl and NaOH, and then with HCl-HNO<sub>3</sub> (3:1) solution for 30 min.

Most samples were collected from Iturup Island, where many settlements in different parts of the island were investigated. Previously, the earliest date was  $4220 \pm 160$  BP for the Kasatka settlement (Knorozov *et al.* 1989; Zaitseva, Markov and Knorozov 1989), but 1988 excavations provided a sample from the Yankito settlement, which dated to  $6980 \pm 50$  BP, the oldest result. Therefore, the Neolithic chronology of the Far East islands needs correction, because Neolithic sites on Sakhalin were once considered the oldest (Vasilevsky 1989).

Table 1 lists the 45 available  $^{14}\text{C}$  dates for the Kurile Islands. These dates indicate that the Neolithic cultures of the Kurile Islands existed *ca.* 2000 yr earlier than was previously thought. These dates will also allow us to compare cultural chronologies and determine cultural origins and relations. Undoubtedly, further studies of Kurile Islands chronology will enable us to assess our current interpretations.

TABLE 1.  $^{14}\text{C}$  Dates from the Kurile Islands

Lab no.	Settlement	Location, material	$^{14}\text{C}$ date (yr BP)
<i>Iturup Island</i>			
LE-3230	Yankito	Cultural layer, charcoal	6980 ± 50
LE-4462	Kasatka	Hill, cultural layer, charcoal	4220 ± 160
LE-4220	Olya	Cultural layer, 0.4 m depth, charcoal	4020 ± 30
LE-4083	Ribaky	Cultural layer, charcoal	3980 ± 60
LE-2820	Beriozovka	Sand dune, cultural layer, 0.1 m, chr.	3610 ± 40
LE-2167	Olya	Cultural layer, 0.3 m depth, charcoal	3610 ± 40
LE-2374	Lesozavodsk	Ravine, 0.6 m depth, charcoal	3560 ± 40
LE-4459	Tankovoe Lake	Whaleback hill 3, 0.3 m depth, chr.	3550 ± 20
LE-2373	Lesozavodsk	Lowest cultural layer, charcoal	3020 ± 40
LE-4458	Tankovoe Lake	East shore, cultural layer, charcoal	2990 ± 110
LE-2369	Tankovoe Lake	East shore, last slope, charcoal	2930 ± 40
LE-3231	Kasatka	Cultural layer, charcoal	2720 ± 60
LE-2372	Tankovoe Lake	W. shore, lowest cultural layer, chr.	2710 ± 40
LE-2821	Beriozovka	Hill, 0.5 m depth, charcoal	2710 ± 40
LE-4460	Malaya Kuybishevka	Mound, charcoal	2710 ± 40
LE-2621	Tankovoe Lake	East shore, hill, charcoal	2520 ± 40
LE-3226	Tankovoe Lake	East shore, charcoal	2460 ± 40
LE-2419a	Olya	Cultural layer, 0.2 m depth, charcoal	2410 ± 40
LE-4081	Tankovoe Lake	West shore, hill, charcoal	2350 ± 80
LE-2368	Tankovoe Lake	East shore, burial, charcoal	2320 ± 40
LE-2371	Tankovoe Lake	East shore, hill, bones	2210 ± 40
LE-2370	Tankovoe Lake	Hill, lowest culture layer, charcoal	2170 ± 80
LE-4461	Malaya Kuybishevka	Fireplace, charcoal	2110 ± 80
LE-3224	Malaya Kuybishevka	Mound, charcoal	2050 ± 50
LE-2620	Tankovoe Lake	West shore, camp hearth, charcoal	2030 ± 40
LE-2623	Malaya Kuybishevka	Mound, charcoal	1930 ± 40
LE-4084	Reidovo	Pit 1, charcoal	1460 ± 160
LE-3229	Pioner II	Cultural layer, charcoal	1300 ± 50
LE-3221	Tankovoe Lake	Cultural layer, charcoal	1260 ± 40
SOAN-1128	Reidovo	Pit, 0.9 m depth, charcoal	1290 ± 40
SOAN-1129	Kurilsk	Cultural layer, charcoal	1060 ± 85
LE-4080	Olya	Cultural layer 2, ravine, charcoal	1000 ± 50
LE-2828	Beriozovka	West shore, culture layer, charcoal	940 ± 40
LE-4082	Isis	Cultural layer, charcoal	790 ± 70
LE-2817	Beriozovka	Hill, cultural layer, charcoal	510 ± 40

TABLE 1. (Continued)

Lab no.	Settlement	Location, material	<sup>14</sup> C date (yr BP)
<i>Shikotan Island</i>			
LE-4029a		Animal bones	2510 ± 20
LE-4029b		Human bones	2280 ± 20
LE-4547		Excavation, charcoal	1980 ± 130
LE-4546		Shell hill, charcoal	1910 ± 110
LE-4542		Excavation, charcoal	1750 ± 110
LE-3011		Shell hill, charcoal	930 ± 40
<i>Kunashir Island</i>			
LE-2367	Alekhino	Fireplace, charcoal	2460 ± 40
LE-2622	Alekhino	Hollow, charcoal	1790 ± 40
LE-2824	Furukamatu	Hill 1, charcoal	800 ± 40
<i>Paramushir Island</i>			
LE-4087	Savushkino	Charcoal	1160 ± 80

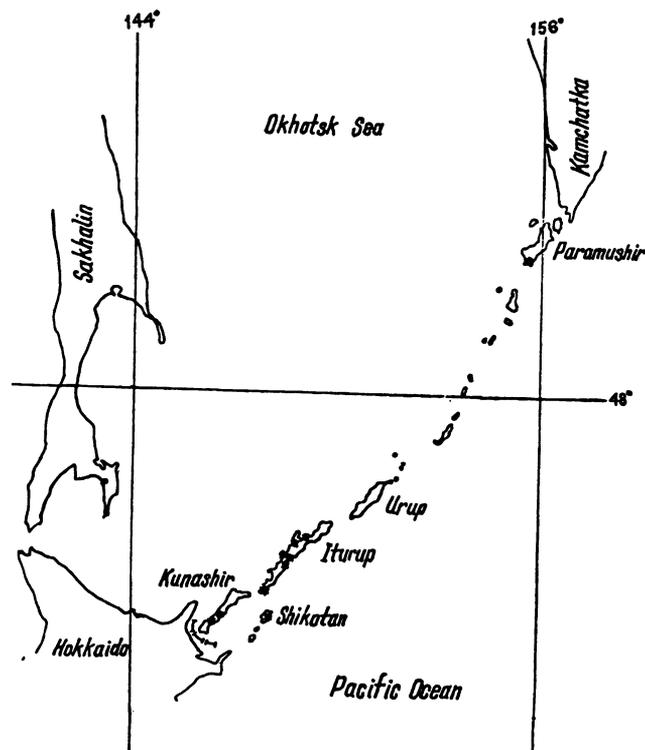


Fig. 1. Archaeological sites of the Kurile Islands

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