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Preliminary Report of Archaeological Investigations on Shumshu Island, the Northern Kuril Islands

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1. Introduction

Recent archaeological study has revealed that the occurrence of the Kuril Ainu is assigned to a period between the mid-15th century and the mid-17th century and in this phase they occupied not only in the Northern Kurils but also in a wide area of Southern Kamchatka (Takase 2013, 2015, Takase and Lebedintsev 2016). However, their "bold retreat" from Kamchatka could be seen in the beginning of the 18th century. Since the amount of natural resources in the Kuril Islands is much smaller than that in Kamchatka, their subsistence must have been changed from the self-sufficient one to the trade-based one after they stopped using Kamchatka. One of objectives of Kuril Ainu Archaeology Project ("KAAP") supported by JSPS KAKENHI (15H01899) is to trace this economic change through examinations of faunal remains. For this purpose, we conducted the fieldwork on Shumshu Island in 2016; here we present the preliminary results of these archaeological investigations.

2. Sites investigated

The main study area is the west part of Shumshu Island: Chibuinyi Cape (*Shiomigawa*), Bolshoe Lake (*Bettobu*), and Baikovo (*Kataoka*). These areas have been known as large concentrations of archaeological sites on this island as Baba (1934) had reported that he found about 200 pit dwellings in Shiomigawa and Bolshoe areas and about 40 pit dwellings in Baikovo. Although the Imperial Japanese Army has disturbed a lot of sites in these areas, there still remain pit dwellings and shell middens. We excavated twenty-seven test pits at nine archaeological sites, and at least thirteen test pits yielded good components of faunal remains.

(1) Shiomigawa 1. This site is situated on a marine terrace in the northwest part of the island. We excavated six test pits and found several intact shell middens in test pits 1, 5, and 6. They are mainly consisted of *Nucella* and animal bones. We found a lot of stone flakes from cultural deposits (including middens). Unfortunately no potsherds were discovered, limiting our ability to provide immediate cultural attributions or chronological estimates. Several ash deposits were found that may provide tephrochronological resolution to some cultural layers with additional study.

In test pit 1, we found more than 10 pre-20th century cultural layers between approximately 75 cm and about 2.5 meters below the surface. This included a nearly complete human burial almost 2 meters below surface. Human bones still remained although the condition of preservation was not good. The top cultural layer (below 20th century military deposits) was a shell layer, perhaps of Okhotsk age based on prior radiocarbon dating from an excavation nearby (Fitzhugh *et al*. 2007). The bottom of cultural deposits rests on a thick tephra layer from the Kuril Lake (KO, 7600 BP) provided by one of the world's largest volcanic eruption in the Holocene. We found additional cultural layers with charcoal and lithics between the burial and KO tephra. No archaeological material was found below the KO tephra in any excavation from 2016.

The test pits 2 and 3 were excavated about 80 m inland from the modern edge of the marine terrace to find cultural layers related to a stone point and debitage found scattered on the surface of an adjacent dirt road. Cultural layers found in these test pits bracket an undated volcanic cinder deposit, which fell either during or between occupations. If these layers are dated (charcoal samples were collected for radiocarbon dating), it may be possible to isolate the interval of occupation of this area of the site and infer the probable age range of the lithics found on the road surface. Micromorphology samples were collected from the contact between the cultural layers and the cinder lens to explore the interval of time elapsed between the deposit of each layer (through microanalysis of soil formation) and evaluate the possibility that the cultural occupation was interrupted

by the cinder eruption and whether the cultural deposits above and below the cinder can be treated as part of a single occupation episode. This analysis remains to be completed. Shell middens in the test pit 4 were completely disturbed by a trench of the army.

(2) Chibuinyi chasi. On the lower terrace of the east vicinity of the Chibuinyi Cape, 15 m high above the left bank of Shiomigawa stream, we discovered 2 visible on the modern surface, partly damaged pit dwellings and a thick shell midden in a long test trench. Stratigraphic analysis indicates that at least three pit dwellings overlap in the test pit. We found several pottery fragments of the Okhotsk Culture; they should be regarded as the middle stage of the culture (*Kokumon* phase). One of them has an ornament by an incised clay rope. It is notable that we found a large hearth surrounded by stones with a thick charcoal deposit. The possibility of a "chasi" fort or ritual area exists at the front of this location where a small promontory, roughly 6x6 meters in area is separated from the main site by a 2 meter wide and 2 meter deep trench. A test pit excavated on the tip of the cape revealed cultural layer with shells, faunal remains, and some artifacts. Military earthworks disturbed prehistoric cultural layers, and an excavation in the trench itself revealed a section of a wooden retaining wall (post and planks), probably placed by the Japanese military. It is hard to tell whether the trench was dug out by military or they used a moat created by Okhotsk people or the Ainu as expected of a chasi.

(3) Bolshoe 2. This site is located in the western part of Bolshoe Lake area 300 to 500 meters inland, on a low ridge sloping down to the north, terminating at the right bank outlet of a round pond. The ridge and site is cross-cut by three tank trap trenches created in World War II that separate our test pits. We excavated two test pits in different parts of this site approximately 160 meters apart. These were numbered "Test Pit 1" (just south and up-ridge of the tank trenches) and "Test Pit 2" (north and down-ridge of the tank trenches and adjacent to/east of the pond). These need to be carefully distinguished from test pits 1-3 excavated in 2006 by the Kuril Biocomplexity Project ("KBP"; Fitzhugh *et al*. 2007). From both test pits, we found cultural layers with faunal remains, although there were no ceramic shards.

Our 2016 Test Pit 1 was located about 500 m inland from the coast on the side of the main dirt road that currently connects the Shumshu interior to Chibuinyi Cape and the left bank of the Bolshaya River outlet. It was situated within a few meters of 2006 KBP "Test Pit 3." Test pit 1 (2016) was excavated as a 1x3 meter trench stretching east from the modern road to the outside wall of a deep military pit structure or crater. A thick shell midden deposit was found partially disturbed by 20th century activities over much of the length of the trench. A radiocarbon date from the shell deposit in the 2006 test pit 3 suggests an age of 3330±35 rcybp (OS-59198; Fitzhugh *et al*. 2007, 148). The disturbance from military activities and the placement of a buried electrical cable paralleling the road—made clear in the 2016 excavation—introduces some uncertainty about that date. Intact shell midden deposit was recovered from the eastern end of the trench (away from the road) and new dates from that portion of the excavation would help clarify the age of the midden. The cultural deposits in Test Pit 1 sit above a pair of tephra lenses (gray over white) that could provide a maximum age for the occupation in this location if they can be identified to known age eruptions.

(4) Bolshoe 10 and 11. Ten new archaeological sites (Bolshoe 3-12) were found in the northeast vicinity of Bolshoe Lake. Most of the sites are located on terraces on the north and west bank of the smaller part of Bolshoe Lake. Six test pits were excavated at the Bolshoe 10 and 11 sites. The distance from the Bolshoe 2 site is about 1 km. Some pit dwellings could be seen on the surface, but there might be some modern pits made and reused by the Japanese troops. In six test pits, we found cultural layers with some bone fragments. However, there was no good bone component. In test pit 1, we discovered a point made of chalcedony from a cultural layer. In the test pit 3, several cultural strata were found, including a distinct cultural layer with two red ochre lenses and charcoal and lithics just above the KO tephra. This suggests a mid Holocene age for this occupation. A micromorphology sample was collected from the bottom of the cultural deposit where it contacts the KO tephra to investigate the nature of the contact. E.g., Did soil formation occur? Was the cultural deposit laid on top of or cut across the bedding of the tephra deposit?

(5) Bolshoe 4 (Besshonuma). This site is located on the right bank of an unnamed small stream connected to

Bolshaya River. The stream originates in two tributaries, one flowing north along the eastern edge of the Bolshoe 2 site and the other draining the pond on the northwest and north edge of that site. On a low terrace between wetland marshes in west, north, and east and the Bolshoe 7 and 10 sites in south, several large pit dwellings including "Ainu-like" multi-roomed houses can be seen on the surface. In this site, we excavated one test pit on the edge of the terrace facing north ("point 1") and found at least four cultural layers; some of them contained small shell middens. Although we found porcelain fragments and iron tools from the upper cultural layer, there was no clay vessel fragment from the lower cultural layers.

(6) Bolshoe 1 Left Bank. Sand dunes distribute along the Okhotsk Sea coast and Bolshaya River area. Archaeological features in these dunes are partially destroyed by natural erosion. We found archaeological materials scattered on the surface of a deflated area about 25 meters north of the river and 100 meters west of the river outlet. Inside this area, we found some Naiji pottery fragments and animal bones, although distinct cultural layer was eroded away. Potsherds were refitted and restored as almost half of a whole clay pan. Typological features indicate that it is dated to type II period (after the beginning of the 18th century). Also, we excavated a dog skeleton that was partially exposed on the wall of the deflation area. It is possible that this was the remains of a dog burial because anatomical position of bones was preserved, though there were no artifacts associated with the skeleton.

(7) Bolshoe 1 Right Bank. On the right bank of Bolshaya River, we discovered over 50 house pits on the surface extending along the top and south flank of the dune ridge from the westernmost bend in the river (location of an early 20th century Japanese hydroelectric dam – now destroyed) past the river outlet, road and modern cabin and continuing for more than 100 meters to the east along the inland side of the dunes overlooking the wetland marshes. In several places where erosion into the road or river bank have exposed cultural layers, we found artifacts and faunal remains on the eroded surface of sand dune: localities 1 to 4. Shell layers in the localities 2 and 4 were very thin, while localities 1 and 3 yielded good bone components. Additionally, some Naiji pottery fragments were discovered in locality 1; thus our collection seems to contain faunal remains of the Kuril Ainu Culture period. Although it is difficult to estimate the date of Naiji pottery because all ceramic shards are small, coarse building technique and thick wall suggest that they are also fragments of type II pottery.

(8) Baikovo. Baikovo is located on the western coast of the island facing to the Second Kuril Strait. The distance of the narrowest place of the strait is about 2 km, and the direct distance between Baikovo and Severo-Kurilsk on Paramushir Island is about 6 km. We excavated 4 test pits in this site; two of them are on the slope of the marine terrace in the left bank of a river (test pits 1 and 2) and two are located on the right bank of a river (test pits 3 and 4). Shell middens were found in test pits 1 and 2, but there was no ceramic fragment. Test pit 3 was located about 3 meters east of the edge of the eroding bluff approximately 150 meters north of the outlet of Baikova stream and ca. 40 meters above the shore. Charcoal and a couple of flakes were found in an excavation inside of a Japanese military zig-sag trench. Test pit 4 was located in ruins of Baikovo village about 75 meters from Baikova stream and 10-12 meters above sea level. In test pit 4 below historic debris, we discovered a cultural layer 20 cm above KO, complete with a bright red ochre lens and some stone flakes.

(9) Kurbatova. This site is located on a sand dune in the Kurbatova Cape, the northernmost point on the island. The distance of the First Kuril Strait between the cape and Kamchatka is only 12 km. Natural processes such as strong wind have disturbed this site; thus a lot of artifacts and faunal remains scatter on the eroded surface ground. We collected some artifacts and bones at this site without excavation. Similarly, we collected some faunal remains on the eroded surface of pit dwellings on a marine terrace in Takeda-zaki between the Kurbatova and Pochtareva Capes.

3. Perspectives

Although pottery fragments were found from some sites, the detailed dates of each cultural layer and bone component are still unclear. During 2017 and 2020, we will obtain radiocarbon dates and tephrochronological correlations for them. At present, however, we believe that faunal remains of the Okhotsk Culture and the Kuril

Ainu Culture were collected in 2016 campaign. Although some archaeologists, such as Kingo Hayashi (1953) and V. O. Shubin (Fitzhugh *et al*. 2016), so far have witnessed that they had found cord-marked ceramic fragments on Shumshu Islands, we discovered no clear evidence of the Epi-Jomon Culture in our fieldwork. Likewise, there was no evidence of the Paleolithic on this Island, while microblades have been discovered in southern Paramushir (Fitzhugh *et al*. 2016). Nevertheless, our investigations may provide important clues of Neolithic habitation on the island. In some test pits at the Chibuinyi 1, Bolshoe 10, and Baikovo sites, we found cultural layers near KO tephra. It is not surprising that Neolithic or Tar'ja Culture people occupied this island because a radiocarbon date of charcoal from the Test Pit 3 in KBP at the Bol'shoi site is 3330 ± 35 BP (MacInnes *et al*. 2014, Fitzhugh *et al*. 2016). However, it has been difficult to address archaeological culture of the period on this island because artifacts of the period are still unclear. Materials collected in 2016 investigations may enable us to clarify human occupation before the Okhotsk Culture on the Northern Kurils.

Fortunately, we could restore good bone components from test pits at several sites. We are testing the hypothesis on economic change of the Kuril Ainu through analyses of these bones and comparative study with those from Kamchatka. In particular, we focus on the change in ratio of sea otter because it can be a proxy for the degree of dependence on the fur trade. Combined analyses of KAAP collection with KBP collection (Fitzhugh *et al*. 2007) will help us test these and related hypotheses. We will obtain additional radiocarbon dates of bone-bearing components in the KBP collection during the Ainu Culture period using specimens that are not influenced by the marine reservoir effect, such as charcoal and ptarmigan bones. In addition, we could collect dog remains of various periods on Shumshu Island, which is very important since we can perform phylogenetic analysis of them. It provides useful information on the origin of the Kuril Ainu; this is also a research theme of KAAP.

References

Baba, O. 1934　A report of archaeological survey on Shumush Island, the Northern Kuril Islands (*Kitachishima Shumushuto ni okeru kokogakuteki chosa hokoku*), *Jinruigaku Zasshi*, 49(2), pp.39-63. [Reprinted in Baba, O. 1979 *Karafuto Chishima Koko Minzokushi1*, pp.33-66, Hokkaido Shuppan Kikaku Center.] (In Japanese)

Fitzhugh, B. *et al*. 2007 The Kuril Biocomplexity Project: Second Annual Report: Cumulative for 2005-2007, University of Washington.

Fitzhugh, B., E. W. Gjesfjeld, W. A. Brown, M. J. Hudson, J. D. Shaw 2016 Resilience and the population history of the Kuril Islands, Northwest Pacific: A study in complex human ecodynamics, *Quaternary International* , 419, pp.165-193.

Hayashi, K. 1953 Prehistoric cultures and peoples in Northern Japan (*Nihon hokuchi no kobunka to shuzoku)*, In Polonskij Aleksandr Semenovich (Translated by Embassy of Japan in Russia, noted by K. Hayashi) *Russia Jin Nihon Enboki*, pp.157-349, Naigaisha. (In Japanese)

MacInnes, B., B. Fitzhugh, D. Holman 2014 Controlling for landform age when determining the settlement history of the Kuril Islands. *Geoarchaeology*, 29, 185-201. http://dx.doi.org/10.1002/gea.21473.

Samarin, I. A. 2009 Archaeology of the Kuril Islands: Archaeological investigations (*Arkheologiya Kurilskikh ostrovov: Arkheologicheskie issledvaniya*), in V. M. Kotlryakov, P. Ya. Baklanov and N. N. Komedchikov *et al*. eds. *Atlas of the Kuril Islands* (*Atras Kurilskikh Ostrovov*), pp.24-26, Vladivostok. (in Russian)

Takase, K. 2013 Chronology and age determination of pottery from the Southern Kamchatka and Northern Kuril Islands, Russia, *Journal of the Graduate School of Letters*, 8, pp.35-61, Graduate School of Letters, Hokkaido University.

Takase, K. 2015 Naiji Pottery from the Southern Kamchatka Peninsula and Its Implications for History of the Kuril Ainu (*Kamchatka hanto nanbu shutsudo Naiji doki to sono chishima Ainu shijo no igi*), *Ronshu Oshorokko*, 4, pp.17-45. (In Japanese with English summary).

Takase, K. and A. I. Lebedintsev 2016 A study on pottery from Southern Kamchatka in T. M. Dikova and N. N. Dikov collections, *Journal of the Graduate School of Letters*, 11, pp.9-36, Graduate School of Letters, Hokkaido University.

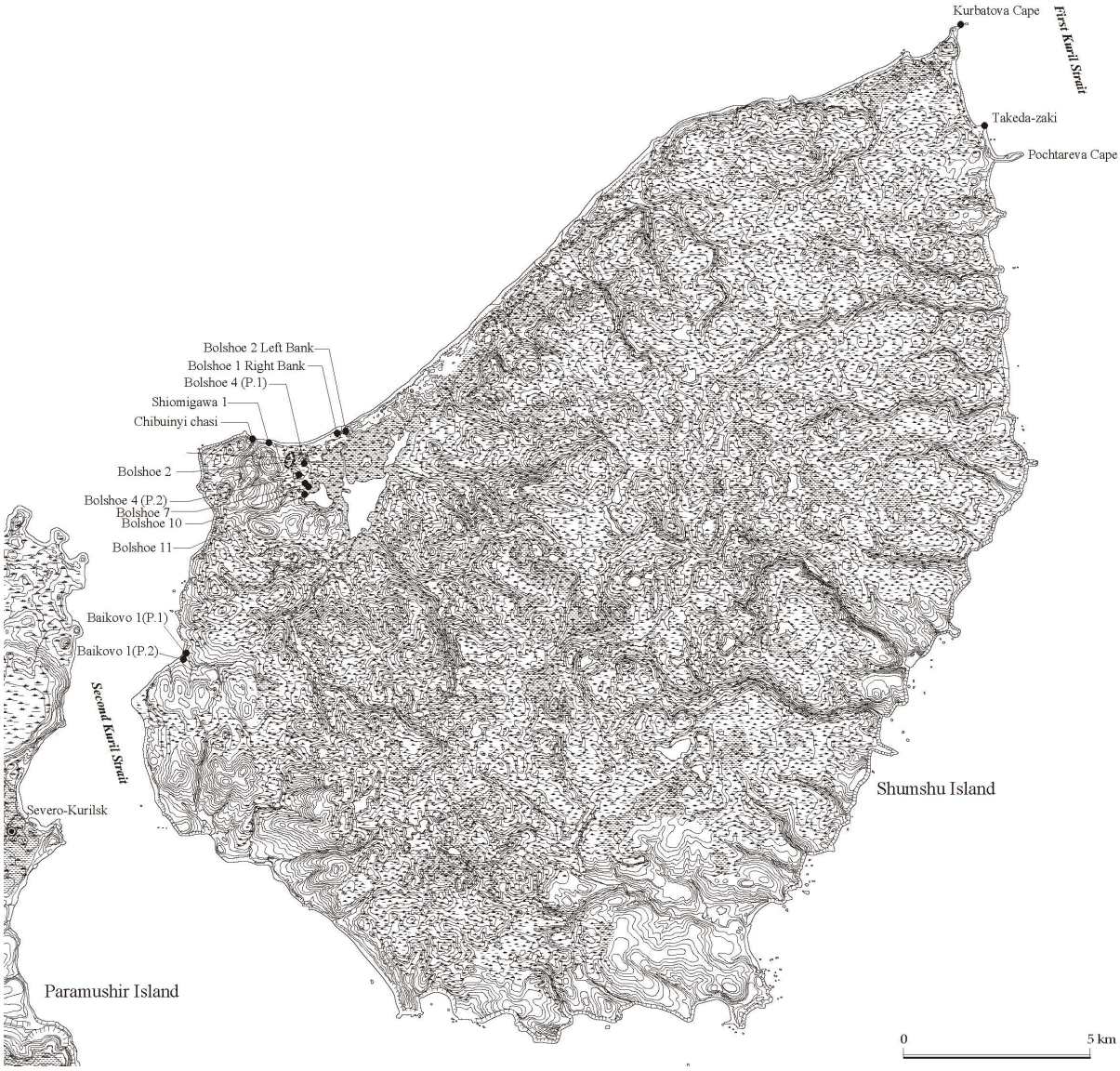

Figure Map showing the location of sites