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New Evidence for Expansion of the Jomon Culture and the Ainu into the Kuril Islands: from IKIP 2000 Anthropological Research in the Kuril Islands

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Abstract This article presents the results of our 2000 IKIP fieldwork and focuses on applying Japanese archaeological knowledge to the consideration of Kuril prehistory. The characteristics of the distribution of both Epi-Jomon and Okhotsk cultures based on ceramics excavated on Matua Island, Kama River site on Urup Island, and the Peschanaya Bay Site on Chirpoi Island in terms of culture history are described (Table 1). It was noteworthy for us to find terminal Jomon and Epi-Jomon cord-marked ceramics in the stratigraphy that extend the geographic distribution of this culture farther northeast in the Kuril Islands than had previously been known. The expansion of Epi-Jomon pottery into the middle part of the Kuril islands can be linked archaeologically with the rapid spread of the expansion of contemporary human settlement northward into Sakhalin and eastward into the Kuril Islands. Specifically, this article discusses the significance of this expansion during the Epi-Jomon period.

This article also deals with the Kuril Ainu's sea mammal ritual that has previously been little researched. New evidence of the intentional arrangement of fur seal skulls according to their creed system in the animal ritual of the Ainu is antithetical to currently and widely accepted models of "the Bear Festival Complex" which assume that the bear festival occupies the core of Ainu culture (Watanabe 1972).

Key words: Kuril Islands, Jomon culture, Epi-Jomon culture, Jomon pottery, Ainu culture, sea mammal ritual, bear ceremony, maritime adaptation

Introduction

From late July to mid August 2000, IKIP project anthropologists and geologists carried out a survey at a number of locations. This was the first full-scale, collaborative international anthropological field research in this area with joint American, Russian and Japanese participation, although a preliminarily IKIP research effort preceded this (Allen and Fitzhugh 1999). The results of this research, together with the results of other projects since the 1980's, has provided us a new source of knowledge from which to better understand Kuril prehistory. Besides, it should be added that parts of the results have already been published (Fitzhugh *et al.* 2002, 2004; Ishizuka 2001; Tezuka 2001). Our publication in 2002 (Fitzhugh *et al.* 2002) outlined the results of the 2000 IKIP fieldwork overall and introduced new AMS radiocarbon dates but did not much discuss the cultural implications of pottery or sea mammal features. This current article's primary focus is on the Jomon pottery and ritual site of sea mammal viewed from the standpoint of recent Japanese archaeology.

Field Sites and Methods

During this field season the archaeological research design was granted priority and the researchers were able to investigate a total of 14 locations on 11 Kuril Islands of high archaeological potential from Shumshu to Urup (Fig. 1). The field season was limited to three weeks, and the survey was constrained to brief visits to 14 landing spots on 11 islands. This article mainly deals with three sites where cord-marked artifacts and superimposed sea lion crania as ritual features were excavated. Regular procedures consisting of stratigraphic observations of profiles, mapping features, and sampling organic materials for radiocarbon dates were done on each site. Archaeological artifacts from each spot were brought back to the *Okean*, the research vessel of the Russian Academy of Science, to be washed, numbered, measured, drawn and photographed by the end of the field season.

Cultural Chronology of the Kurils

Previous research in the Kurils and Hokkaido has identified four general periods of prehistoric occupation:

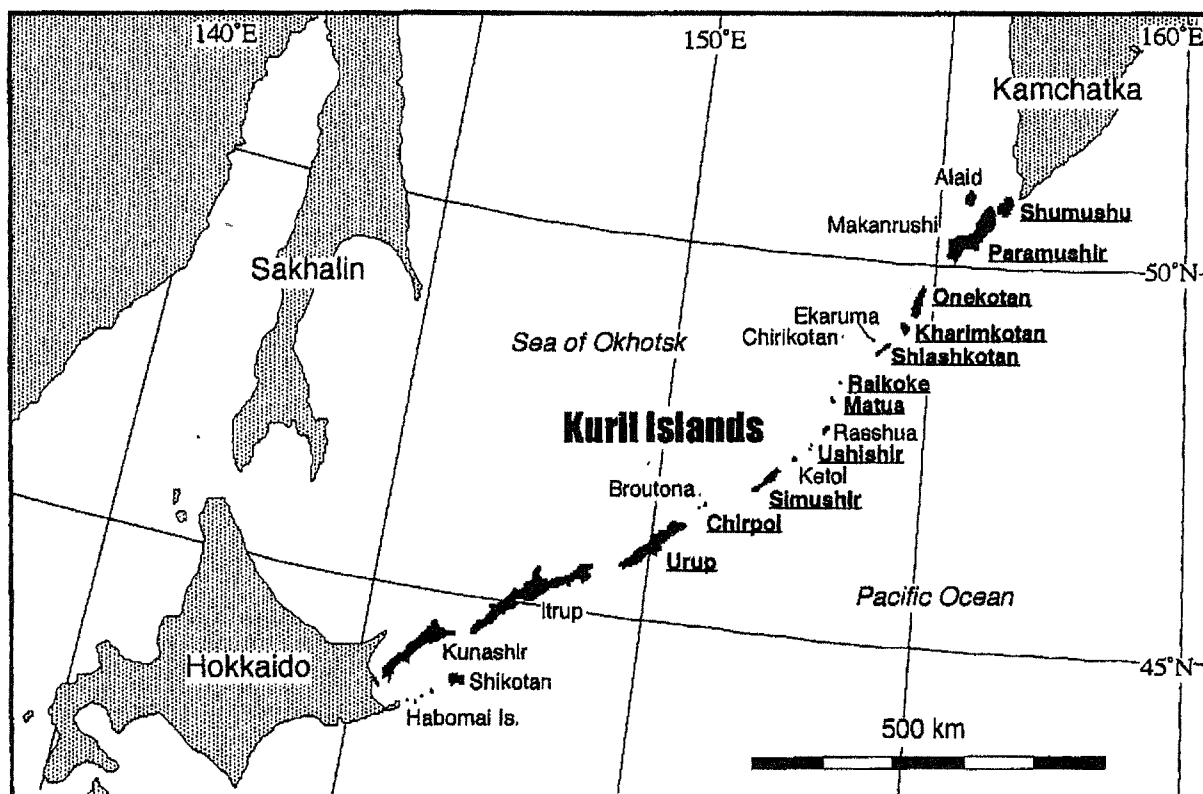


Figure 1. Map of IKIP 2000 study area.

Table 1. Prehistoric cultural chronology of Hokkaido cited in this article.

Epi-Jomon:		ca. 2nd c. BC – 6th c. AD
Okhotsk: four stages subdivided in terms of typology:		
Early Okhotsk:	circular punctuations with round sticks from the outside:	ca. 5th – 6th c. AD
Middle Okhotsk:	short successive incisions by sticks:	ca. 7th c. AD
Late Okhotsk:	shallow lines or tube decoration:	ca. end of 7th – 9th c. AD
Terminal Okhotsk:	Fusion type between the Okhotsk and Satsumon cultures:	ca. 9th – 12th c. AD
Satsumon:		ca. 7th – 12th c. AD
Ainu:		ca. 13th c. – to the present

Jomon, Epi-Jomon, Okhotsk, and Ainu. It is generally accepted that the Satsumon culture was the direct ancestor of the Ainu. However, there were other influences as well from the main island culture and from cultures of the northeast Asia, including the Okhotsk culture (Watanabe 1972, 1974). The oldest culture in the Kurils is thought to belong to paleolithic age, though its definite evidence remains still unknown. Cultural chronology relevant to human occupation in the Kurils is outlined as shown in Table 1.

The known distribution of Jomon pottery is restricted to the southern Kuril Islands (Nomura and Sugiura 1995). Epi-Jomon pottery such as Simodanosawa, Utsunai and Kohoku-types were found in the Kurils. Lithic labrets and stone figurines are often observed in the assemblages of Epi-Jomon culture in the Kurils, which are influenced from the Tarya culture in Kamchatka. While sites of the Okhotsk culture are distributed throughout the Kuril Islands, the difference in the pottery designs and quantities

between the northern Kurils and the southern Kurils are reported archaeologically (Sugiura 1999, p.184–185). Between 10th and 12th centuries, the Okhotsk culture was assimilated into the Satsumon culture in the southern Kurils as well as the eastern part of Hokkaido.

The Satsumon culture replaced the Epi-Jomon culture in southern and central Hokkaido in about the 7th century. The site locations of the Satsumon culture show inland orientation rather than the seaside location and its pottery was dispersed to the southern part of Sakhalin, and Tohoku area of the main island, Honshu, and even into the southern islands of the Kurils. After the 13th century when the Satsumon culture disappeared, archaeological evidence became very scarce on Hokkaido. One of the exceptions is earthenware pots with inner lugs which were recovered from a large number of sites in the Kurils. They are thought to be imitations of iron pots brought into Hokkaido, and they fill in an otherwise archaeologically sparse phase of the Ainu

culture in the Kurils. These pots continued into the historic Ainu period.

I. Expansion of Epi-Jomon Period into the Kuril Islands

Results

1. Pottery on Matua Island

We identified two archaeological deposits in Ainu Bay on Matua Island. The first is Ainu Bay 1 and the second one is Ainu Bay 2.

The cultural layer of the columnar section at Ainu Bay 2 (00MAT-5 lat.48°02.511'N. long.153°13.768'E) yielded cord marked shards of Jomon Pottery and a radiocarbon date from charcoal of 2345 ± 37 BP (AA-40943; see Fitzhugh *et al.*, 2002, Fig. 2).

The Jomon shards are characterized by the following 3 characteristics:

- 1) Inclined impressions with cords (LR) on the surface of the shards.
- 2) Parallel double impressions with cords (*Josenmon*) around the rim.
- 3) Absence of small nodules made with round sticks from the inside.

Judging from these characteristics, these pieces can be classified into types associated with the terminal Jomon to Epi-Jomon periods, probably to early Shimodanosawa-type 1, which are assigned to the early Epi-Jomon period in Hokkaido chronology of archaeology (Kumaki 2000, p.44).

Because cord marked ceramics discovered in the past farther northeast beyond Chirpoi Island are limited to surface collection, such as cord marked shards of Jomon Pottery found on Shiashkotan Island (Ishikawa 1894, p.129; Torii 1903, p.26) and on Shumshu (Nomura and Sugiura 1995, p.64), it is noteworthy that cord marked ceramics presented here were definitely



Figure 2. A cord-marked fragment of pottery affiliated with terminal to Epi-Jomon period at Ainu Bay 2 on Matua Island.

confirmed in the cultural layer of the stratigraphic deposit (an illustration of the stratigraphic profile is presented in Fitzhugh *et al.* 2002, Fig. 5).

2. Pottery from cliff exposure near the Peschanaya Bay site on Chirpoi Island

The Peschanaya Bay site is located on a dune at the foot of a hill on the eastern end of Chirpoi Island. The western edge of the dune is actively eroding and contains several intact cultural and natural strata in an exposed section at least 5 m deep.

Two thick and obvious cultural layers can be recognized in this section (called the "Camp Profile"). These layers can be divided into an upper level (more clearly exposed in the south of the profile) and a lower level (with several occupation lenses) including Epi-Jomon period ceramics. Radiocarbon dates from this section range from 2290 ± 43 BP (AA-42205) near the base to 1272 ± 58 BP (AA-42203) in the stratigraphically superior deposit in the southern end of the section. The majority of the exposed section yielded radiocarbon dates between 1800 and 2200 BP (radiocarbon; see Fitzhugh *et al.* 2002, Fig. 8).

Epi-Jomon earthenware from the Camp Profile section has the following characteristics used to identify the lower cultural layer and supported by radiocarbon dates presented above (Fig. 3):

- 1) Inclined impressions with cords (LR) on the surface of the pots.
- 2) Protuberant ornamentation of small clay attached to the outside of the rim.

3. Kama River Site on Urup Island

Two test trenches named Kama Profile 1 and 2 along the Kama river valley on the southwest end of Urup Island were mapped and tested. The cultural strata and the typological information on the artifacts from the trenches can be outlined as follows.

Kama Profile 1 has 6 cultural levels of which Cultural Level 2 with a radiocarbon date of 916 ± 38 BP (AA-44269) produces Okhotsk (Haritsukemon) Type pottery shards (Fig. 4) and the lower Cultural Level 6 with date of 1621 ± 37 BP (AA-44270) yields pottery belonging to the Epi-Jomon period (a second date on the same charcoal sample is rejected at 1016 ± 38 BP, AA-40949).

Kama Profile 2 also has multiple cultural levels. There are two cultural levels which contain ceramics. One is 120 cm deep from the surface and the other is 200 cm deep. Since most of the pottery is devoid of any diagnostic decoration or design except for an example from the upper layer with horizontal and inclined triple impressions at equal intervals with cords (*Josenmon*) corresponding to the Epi-Jomon period (Fig. 5), it is difficult for us to determine the period based on ceramic typology. Radiocarbon dates from this profile supporting an Epi-Jomon attribution range from 1731 ± 47 BP to 2157 ± 37 BP (Fitzhugh *et al.* 2002, Tab. 2).

Discussion

Synthesis of archaeological collections from several archaeological sites on Urup, Chirpoi, Simushir and Matua reveals that there was a distinctive expansion and stable maritime adaptation of terminal Jomon to Epi-Jomon culture into the middle part of the Kuril Islands. It is currently impossible to know if this occupation was intermittent or continuous; however, the recurrence of Epi-Jomon occupation layers in many of these locations suggests a presence that was successful for several centuries, in whatever form it took.

These facts show that the distribution of pottery from the terminal Jomon period to the first half of the Epi-Jomon period, including the Shimodanosawa type, certainly expands farther northeast in the Kuril Islands than had previously been known. While the extent of the earlier Jomon pottery so far appears to be restricted to Hokkaido and southern Kuril Islands (Kumaki 2003, p.69), the early Epi-Jomon people could succeed in enlarging their territory. This demonstrates the features characteristic of the Epi-Jomon culture that inherited the tradition of Jomon and developed further, adapting aptly to the environment (Kimura 1982, pp.162–163). From this evidence it is natural that the chronology and knowledge of Hokkaido archaeology can at least apply as far as the middle part of Kuril Islands. Recent research on the Holocene paleoceanography reveals that the climatic conditions in the southwestern part of the Sea of Okhotsk were cooler in the phase of transition from terminal Jomon to Epi-Jomon than in the several hundreds of years before and after that phase (Shimada *et al.* 2000). It is essential to examine more thoroughly the reason why Epi-Jomon people could expand their territory into the central Kurils during this phase.

Calibrated AMS radiocarbon dates (B.C. 481–379; Fitzhugh *et al.* 2002, p.39) from Ainu Bay 2 on Matua Island seem to roughly coincide with early Epi-Jomon period which was dated back to ca 2200 years B.P. in the traditional cultural chronology of Japan (Kimura 1982, p.143; Utagawa 1995, p.180). However, the beginning of Epi-Jomon period might be reexamined in the near

future because a claim is recently advocated that the beginning of Yayoi, and hence the end of Jomon, should be advanced by 500 years based on new calibrated AMS radiocarbon dates (Harunari 2003, pp.7–8; Fujii 2003, p.8).

It is widely known that the Epi-Jomon period was characterized by the expansion and peopling from the Cold-temperate Zone in the previously uninhabited sub-Arctic habitats such as the Kuril Islands and Sakhalin, which are greatly different from Hokkaido (Kumaki 2003, p.69), and it suggests the development of subsistence adaptation to a broader environment including marine resources during that time period. Kohoku culture in the latter half of the Epi-Jomon period further extended southward even to the main island Honshu. The Kuril data suggests that it was difficult to complete full-scale maritime adaptation during the terminal Pleistocene and early Holocene, although it seems likely that sites older than 2500 BP may have existed and may still remain to be discovered in the geologically active Kuril Chain. Regardless of the possibility of older occupations, the results of the 2000 IKIP research provided us new clues for understanding the highly adaptable maritime capabilities of the Epi-Jomon culture. More importantly from the multi-disciplinary and biogeographical perspective of the IKIP project, these findings suggest that at least one major taxa (humans) colonized the Kurils during the Holocene (compare with Pietsch *et al.* 2003).

II. Sea Mammal Sending Ritual on Chirpoi

Results

A Pit Dwelling on Chirpoi Island

House 31 is a semi-subterranean house pit located on the eastern side of a hill and its floor is approximately 4 m in diameter (Fig. 6). The material evidence from the house itself, including a deteriorated gun mechanism and mica fragments, indicates an early colonial occupation

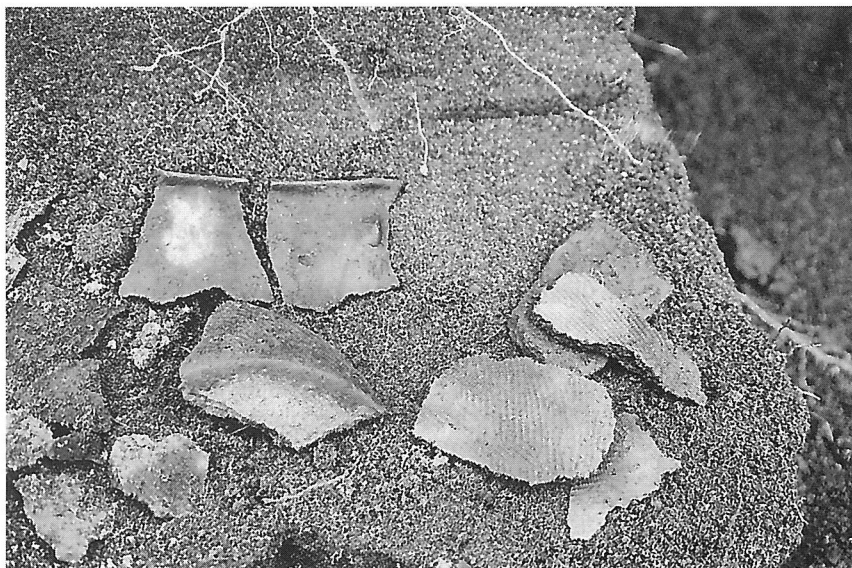


Figure 3. Epi-Jomon pottery chronologically assigned to Shimodanosawa type from the camp profile at Peschanaya Bay 1, Chirpoi Island.



Figure 4. Okhotsk (Haritukemon) type pottery from cultural level 2 of Kama profile 1, Urup Island.



Figure 5. Epi-Jomon pottery from Kama profile 2, Urup Island.

(a radiocarbon date from the hearth is 162 ± 40 BP, AA-40945). Two sets of paired sea lion crania were found just outside of the house walls at the northern and western corners (Fig. 7). Those skulls appear to have been associated with the house pit, based on their placement and best guess marine reservoir effect corrections of radiocarbon dates made on the sea lion crania (Fitzhugh *et al.* 2002, p.79 and Endnote 3). As to the potential ritual significance of these sea mammal features, we will examine that later in the Conclusion.

Discussion

As it is reported in many publications about the ideology of Ainu's Bear Sending Ceremony (or *Iyomante*), the Ainu people believed that all animals hunted daily by them are gods who come from heaven to give them food and furs, and that each type of game has its own spirit: such as the bear with the spirit of the mountain god, the killer whale or the dolphin with the

spirit of the god of offspring, the owl with the spirit of the guardian god of the settlement (Kôno 1935, p.12–13; Sato 2001, p.113–114).

Prayer at the Ainu Bear Ceremony

"O thou divine one, thou didst come into this world for us to hunt. O thou precious little one, we worship thee; pray hear our prayers. We have nourished thee and brought thee up with great pains and care, and all because we loved thee so much. Now, as thou hast grown big, we are about to send thee to thy parents. When thou comest to them, please speak well of us and tell them how kind we have been to thee. We beseech thee to return to us once more, that we may again entertain thee." ("Ainu Life and Lore" Batchelor J. 1927, p.207)

The Ainu bear (*Ursus arctos*) sending off ceremony or ritual known as "Iyomante," occupied an important position in Ainu ceremonialism. It was divided into two categories, one was performed when and where adult bears were hunted, and the other was carried out during winter at a settlement after raising a bear cub for a few years.

Although animals other than bear were usually treated in the same way as the hunted bear, there were a few cases in which the head was brought back to a settlement. Whenever an animal's spirit was sent off at a settlement, the animal head was fixed and tied with strings of shavings in a crook in the top of a pole leaned against a fence set up at the *nusa* place just outside a dwelling.

Origin of the raising bear ceremony has provoked a great deal of controversy and still remains an unsolved problem (Tezuka and Ikeda 2001). It can be traced back to the Okhotsk culture (Watanabe 1974; Amano 1990; Wakusaka 1993), or to the Satsumon culture (Nishimoto 1989, Nisihomoto and Sato 1991; Sato 1993). On the other hand, there is an argument that the ceremony could have been transferred from the lower Amur basin to the Ainu of Sakhalin and Hokkaido during the 16-17th centuries (Ohya 1997). Harunari thought otherwise based on the same continental origination theory. He believes that when a custom of raising pigs and their ritualistic treatment originated in the Mohe culture of northeast Asia (c. A.D. 563–742), it spread to Hokkaido, where the custom was transformed to apply to bears in the Okhotsk culture (Harunari 1995).

In the northern part of Hokkaido, components of species remained unchanged (Fig. 8), while in eastern Hokkaido from the Late Okhotsk period they eventually became more complicated with newly added animals such as deer and sea mammals (Fig. 9). It is further suggested by some archaeologists that a predominant religious practice from the end of the Okhotsk period involved display of skulls and mandibles of bears rather than those of various animals outside of a house from the end of the Late Okhotsk period was predominant in its religious practice (Harunari 1995, p.86). Here we wish to consider the extent to which the system of animal ritual, as suggested by the Late Okhotsk components, had an influence upon the Ainu culture which followed.

There is a difference between the Ainu and the

Table 2. Comparison of the Okhotsk and Ainu cultures in terms of animal ritual.

Elements / Culture	Okhotsk Culture	Ainu Culture
Accumulation of Bones	Indoors Dominant	Outdoors Dominant
Skull Piercing	Scarcity of Regularity	Difference of Treatment by Sex
Raising Bear Cub	Less than One Year	A Few Years

Okhotsk cultures (Tab. 2; Fig. 10) based on the evidence of animal rituals. While the former seldom built an accumulation of hunted animals in a dwelling, the latter accumulated such remains in front of the innermost back wall of a house.

However, there were a few cases in which the Okhotsk people piled up skulls and other bones on the outside of dwellings as seen in the stone piling structure built on the paved floor of the abandoned pit house No.2 at the Kabukai A site on Rebun Island, and the accumulation of mainly bear skulls poured into house pit No. 11 at the Sakaeura 2 site in Tokoro, and so forth (Oba and Ohyi 1976, 1981). The stone piling structure, consisting of numerous cobbles, has a round plan some 3 m in diameter and 20 cm in depth, at the base of which

7 skulls of pilot whales and the skull of a dolphin forming a circle were found forth. The scholar reporting this site considers that this structure was involved in rites for whale hunting (Oba and Ohyi 1981). An arrangement of two skulls of seals was confirmed at the back of the oldest pit dwelling No.2 at the Kabukai A site on Rebun Island, dating to the Middle Okhotsk period, along with some bear skulls. On the other hand, in the later pit dwellings there were only bear skull accumulations with no sea mammal skulls. The site reporter, Ohyi recognizes some changes in the ritual thought or treatment of sea mammals by the Okhotsk people (Oba and Ohyi 1981, p.478–479). This suggests that a dichotomy between sea mammals and bears was established in the latter half of the Middle Okhotsk period.

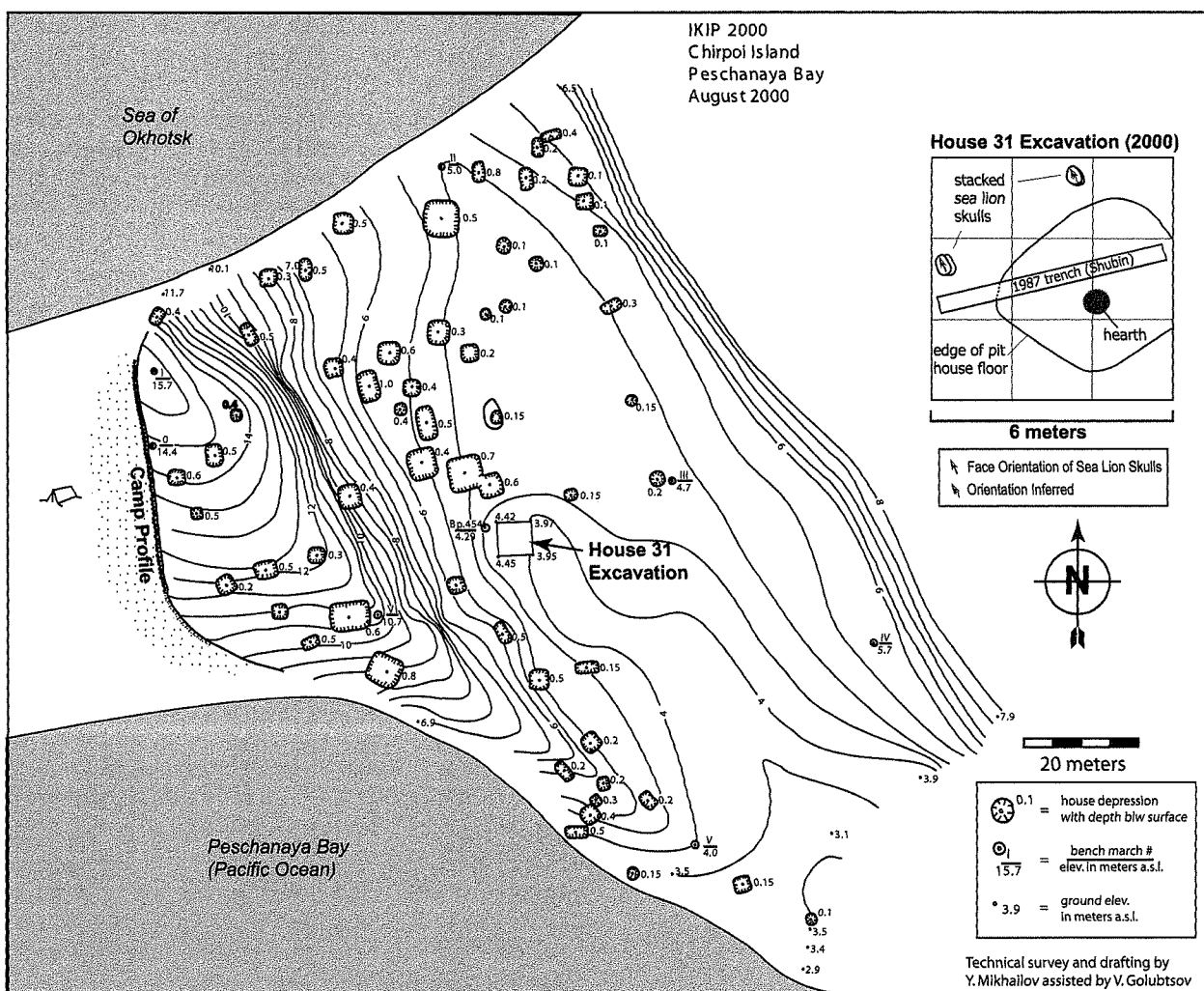


Figure 6. Technical surface map of Peschanaya Bay 1, Chirpoi Island (from Fitzhugh *et al.* 2002, Fig. 6).



Figure 7. Stacked sea lion skulls at the western corner of House 31 at Peschanaya Bay 1 on Chirpoi Island.

Table 3. Regional variations of grave pits of the Okhotsk culture (based on Takabatake 1999).

Element / Loc.	Rebun Is.	Esashi	Abashiri	Shiretoko-Nemuro
Body Position	Flexed	Stretched	Flexed	Flexed
Head Orientation	NW	W-SW	NW	NW
Pot Covering	Absent	Dominant	Dominant	Rare

Conclusion

On the basis of the discussion, it is appropriate to consider the connection between the Chirpoi example and Kuril Ainu's Sea Mammal Ritual. The Okhotsk evidence from Hokkaido and Rebun Island is very instructive since it seems to match the placement of the two sets of sea lion skulls (*Eumetopias jubatus*) placed outside of a semi-subterranean dwelling dating to the late Ainu period (probably about 200 years ago, #1) at the Peschanaya Bay site on Chirpoi Island. We think this is evidence for the first important case of an outdoor ritual site found in the Kuril Islands. The sea lion skulls were from adults.

These skulls were placed 100 cm outside of the north and west corners of the dwelling with the heads facing northwest. It seems probable that the Ainu inhabitants of the house concerned themselves with the sending off practice of the spirits of sea lions. Evidence that the Ainu's ritual treatment of animal and human skulls resembles each other can be seen in an example of Tokachi district presented by Kôno (1935). The NW direction is predominant in all grave sites of the Okhotsk culture except in the Esashi district (Tab. 3; Fig. 11). It is reported that the head orientation of a total of 16 Ainu grave pits is not E but W direction on Shumshu Island (Kodama 1939, p.45), the truth is consistent with the ethnographic data for Kuril Ainu (Hayashi 1953, p.340). The Kuril Ainu's head orientation may have something to do with the Okhotsk tradition since the Hokkaido Ainu's head orientation in their graves generally concentrates on East-South East directions (Tamura 1983, p.54; Hirakawa 1984, p.410).

As is supported by some archaeologists, some traits of the Okhotsk culture were inherited by the Hokkaido Ainu by way of the Satsumon people, whereas the Sakhalin Ainu or the Kuril Ainu derived other traits directly from the Okhotsk culture (Kikuchi 1984, p.345; Utigawa 2001, p.466).

However, it is not clear under present conditions whether two sets of sea lions were pointing in a NW direction intentionally or casually. Furthermore, those skulls are several hundreds years later than the last Okhotsk people. In any event, in order to reach a stable conclusion, it is necessary to have several more cases.

Since the Kuril Ainu were adapting to a remote and isolated environment, it might be thought that they depended primarily on marine resources. However, ethnographic data on the Kuril Islands from the 19th century suggests that they did not really develop a significant ritual and creed system for sea mammals. It is hence difficult to confirm the positive cultural relationship between the Kuril Ainu and sea mammals and birds from the ethnographies and reports dealing with them. The influence of the Russian Orthodox Church is pointed out for this reason (Sasaki 1996). Although it is not possible to assume from ethnographic data on the modern Kuril Ainu, the Kuril Ainu in an earlier stage before the contact period must have adopted the tradition with respect to sea mammals' rituals from the Okhotsk culture.

The Ainu culture originated in northern Japan about 800 yr BP. The routes and times of the spread of their culture through the Kuril Islands are relatively well

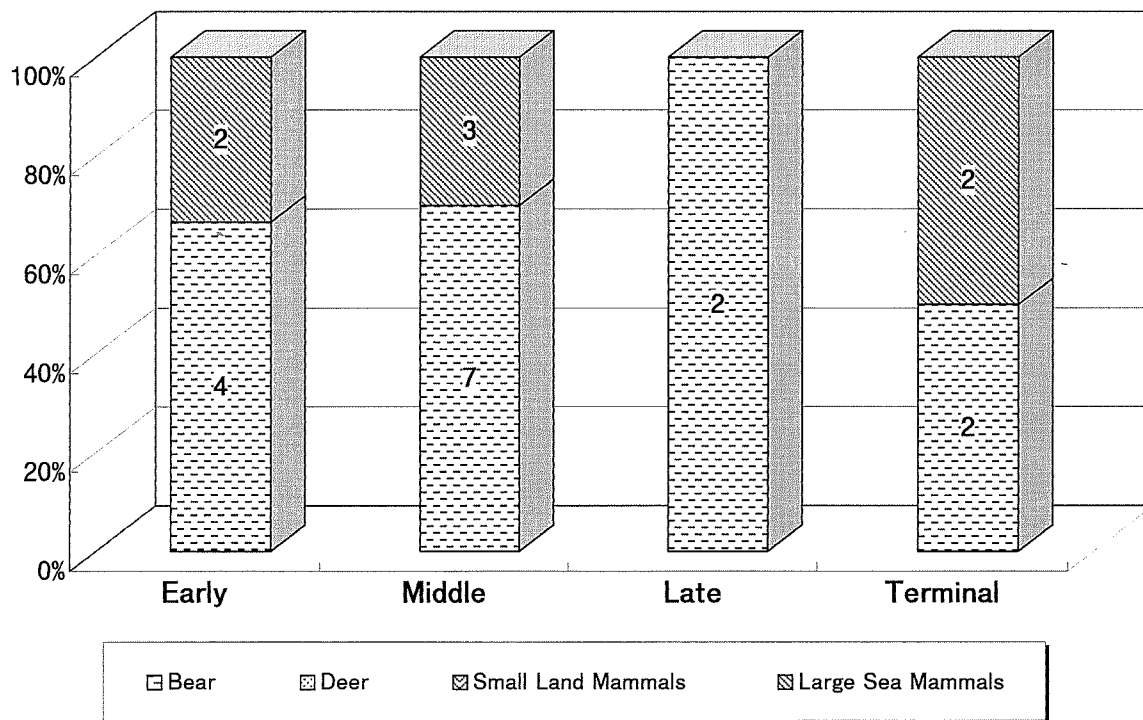


Figure 8. Change of species during periods of the Okhotsk culture based on bones from middens in the back of dwellings in northern Hokkaido (after Sato 2000).

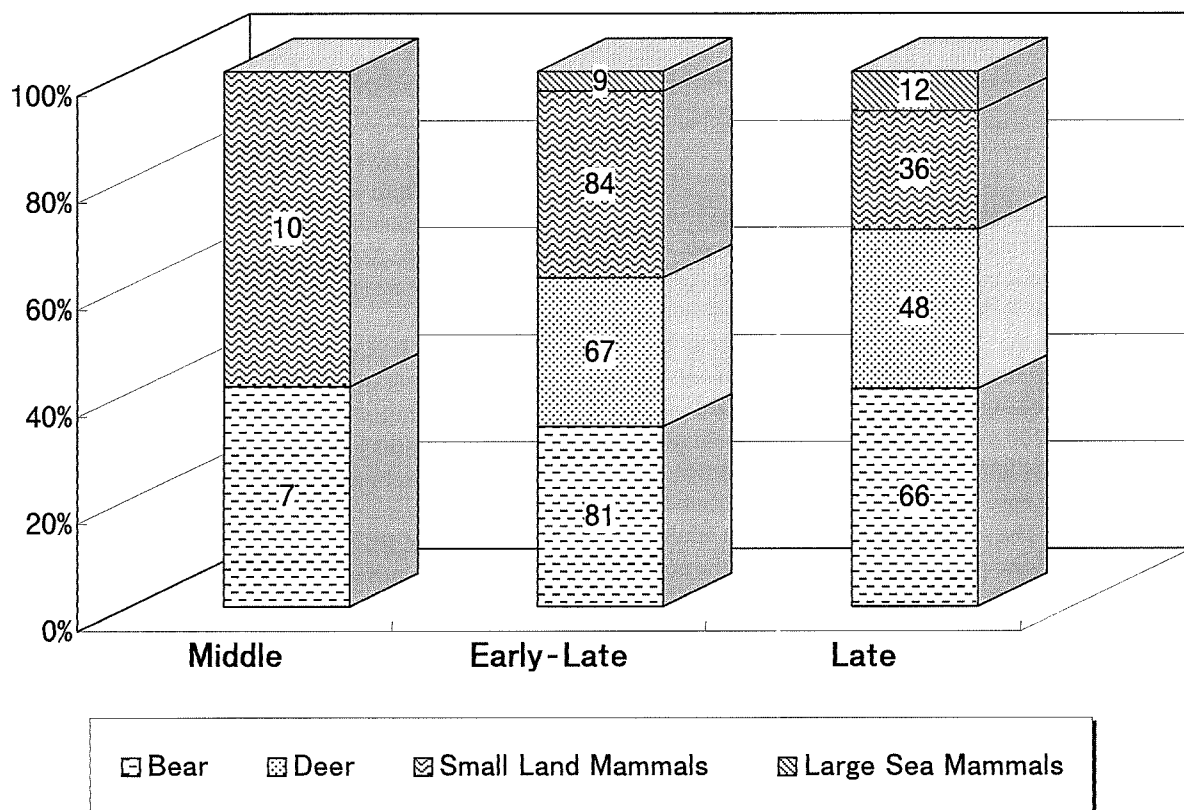


Figure 9. Change of species during periods of the Okhotsk culture based on bones from middens in the back of dwellings in eastern Hokkaido (after Sato 2000).

established (Kikuchi 1995, p.355), but not its manner of transition from the antecedent Okhotsk culture.

Discovery of two sets of sea lion skulls placed outside of a semi-subterranean house dating to the late Ainu period on the Peschanaya Bay site on Chirpoi Island

is a very rare but important opportunity not only to reconstruct the spiritual life of this isolated chain of islanders, but also to provide a specific clue to the comprehension of the cultural transition.

While these findings may represent localized

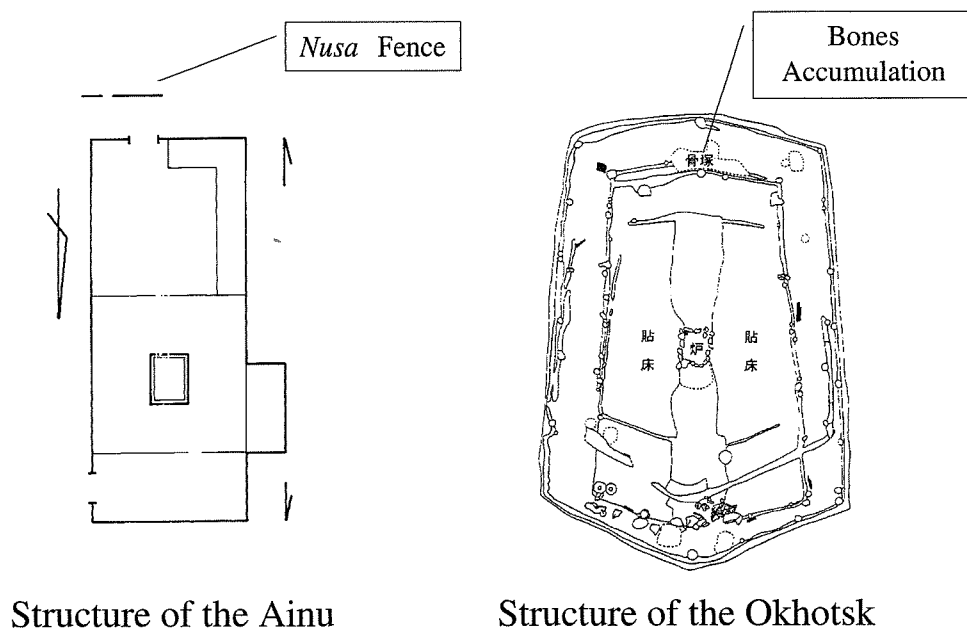


Figure 10. A comparison of dwellings between the Ainu and the Okhotsk cultures.

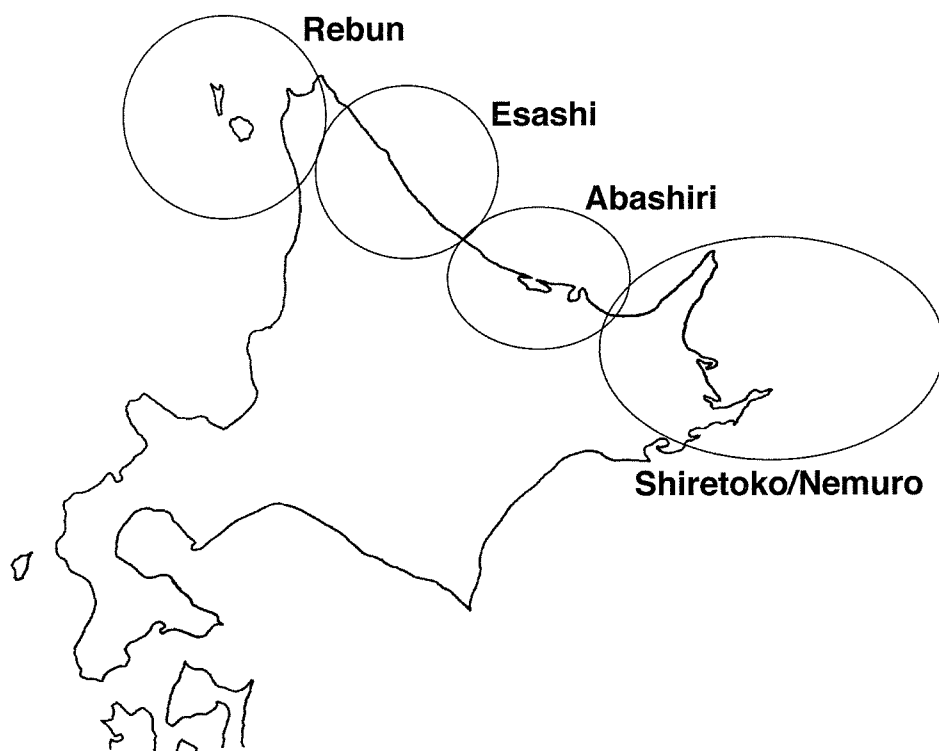


Figure 11. Regional groups of grave sites of the Okhotsk culture.

adaptations to special conditions on these islands more dependent on near-shore readily encountered and captured marine mammals than on land large mammals such as bears, they call for expansion of the understanding of Ainu animal rituals. While brown bear were predominant in Hokkaido ritual, sea lions and other marine mammals appear to have been important in Kuril Ainu ceremonies.

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Endnote

#1 The radiocarbon date from a fragment of one of the skulls returned a date of 825 ± 36 BP. (AA-40946). With reservoir correction, this calibrated date approximately

A.D. 1850 and is approximately consistent with the charcoal date from the hearth of House 31 (Fitzhugh et al. 2002, p.83).

References

- ALLEN, T. AND FITZHUGH, B., 1999. Report of archaeological activity during the International Kuril Island Project, 1999. (Unpublished site report. Washington: University of Washington, Department of Anthropology).
- AMANO, T., 1990. On the bear gall. *Cultural Antiqua* 42 (10), 26–35. (In Japanese.)
- BATCHELOR, J., 1927. *Ainu Life and Lore*. Tokyo: Kyo Bun Kwan Publishers.
- FITZHUGH, B., MOORE, S., LOCKWOOD, C., AND BOONE, C., 2004. Archaeological Paleobiogeography in the Russian Far East: The Kuril Islands and Sakhalin in Comparative Perspective. *Asian Perspective*. (In press.)
- FITZHUGH, B., SHUBIN, V.O., TEZUKA, K., ISHIZUKA, Y. AND MANDRYK, C.A.S., 2002. Archaeology in the Kuril Islands: Advances in the Study of Human Paleobiogeography and Northwest Pacific Prehistory. *Arctic Anthropology* 39 (1–2), 69–94.
- FUJII, S., 2003. Actual Age on beginning of Yayoi. *The Archaeological Journal* 510, 8–11. (In Japanese.)
- HARUNARI, H., 1995. Origin of the Bear Festival in Japan. *Bulletin of the National Museum of Japanese History* 60, 57–106. (In Japanese.)
- HARUNARI, H., 2003. Beginning Age of Yayoi Period. *Rekihaku* 120, 6–10.
- HAYASHI, K., 1953. Ancient Cultures and Tribes in Northern Japan. In HAYASHI (trans.), *Russians' Visit to Japan*. Tokyo: Hara Sho Bo Publishers.
- HIRAKAWA, Y., 1984. Archaeological Studies on Ainu Graves of Early Modern Age. In: K. ISHIZUKI, ed. *Study of Hokkaido* 2, 375–418. Osaka: Seibun Do Press. (In Japanese.)
- HISTORICAL MUSEUM OF HOKKAIDO, 1999. *The Formation of Ainu Culture (Guide of Main Exhibition 2)*. Sapporo: Historical Museum of Hokkaido. (In Japanese.)
- ISHIKAWA, S., 1894. Note of Expedition around the Kuril Islands. *Journal of the Tokyo Geographical Society* 16 (3), 117–137. (In Japanese.)
- ISHIZUKA Y., 2001. Volcanic Activity and Recent Tephra in the Kuril Islands: Field Result during the International Kuril Island Project (IKIP) 2000. *Report on file at the Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology, Tsukuba* 305–8567, Japan.
- KIKUCHI, T., 1984. Frontiers in Northern Japanese Archaeology. Tokyo: Rocco Shuppan Ltd. (In Japanese.)
- KIKUCHI, T., 1995. *The Study of Ancient Cultures in Northeast Asia*. Sapporo: Hokkaido Daigaku Toshokan Kokokai. (In Japanese.)
- KIMURA, H., 1982. Artifacts of Bone and Antler. In: S. KATO, T. KOBAYASHI, AND T. FUJIMOTO, eds., *Research of Jomon Culture* 6, 143–165. Tokyo: Yuzankaku Shuppan Ltd. (In Japanese.)
- KODAMA, S., 1939. Studies on Artificial Injuries of Ainu-skulls. *Studies from the Research Institute for Northern Culture* 1, 1–91. (In Japanese.)
- KÔNO, H., 1935. Problem of Human Skeletons from Shell-mounds Skeletons and Ainu's Iyomante. *Jinruigaku Zasshi* 50 (4), 11–20. (In Japanese.)
- KUMAKI, T., 2000. Re-examination of the Simodanosawa Pottery Types of the Epi-Jomon Culture in the Eastern Part of Hokkaido. *Material Culture* 69, 40–58. (In Japanese.)
- KUMAKI, T., 2003. Epi-Jomon Culture in Northeastern Hokkaido. In: H. Nomura and H. Utagawa, eds., *Ancient Hokkaido 2 Epi-Jomon and Okhotsk Culture*, 50–69. Sapporo: Hokkaido Shinbun Sha. (In Japanese.)
- NISHIMOTO, T., 1989. On the origin of Bear Ceremony. In: Editorial Committee for Essays in Honor of Prof. Watanabe, H on his 70th Birthday, ed., *Archaeology and Ethnography*, 215–226. Tokyo: Rokko Shuppan Ltd. (In Japanese.)
- NISHIMOTO, T. AND SATO, T., 1991. Faunal Remains Excavated from the Otakuiwa Cave Site. In: *Report of Historical Properties of Raus Town* 14, 247–264. (In Japanese.)
- NOMURA, T. AND SUGIURA, S., 1995. Northern Limits of Jomon Culture: Aspects in Kuril Islands. *Archaeology Quarterly* 50, 62–69. Tokyo: Yuzankaku Shuppan Ltd. (In Japanese.)
- OBA, T. AND OHYI, H., eds., 1976. *The Kabukai Sites 1. Studies on Okhotsk Culture 2*. University of Tokyo Press. (In Japanese.)
- OBA, T. AND OHYI, H., eds., 1981. *The Kabukai Sites 2. Studies on Okhotsk Culture 3*. University of Tokyo Press. (In Japanese.)
- OHYI, H., 1997. Concerning the Bear Festival. *Kokogaku Zasshi (Centennial Special Issue V)* 82–111. (In Japanese.)
- PIETSCH, T.W., BOGATOV, V.V., AMAOKA, K., ZHURAVLEV, Y.N., BARKALOV, V.Y., GAGE, S., TAKAHASHI, H., LELEJ, A.S., STOROZHENKO, S.Y., MINAKAWA, N., BENNET, D.J., ANDERSON, T.R., ÔHARA, M., PROZOROVA, L.A., KUWAHARA, Y., KHOLIN, S.K., YABE, M., STEVENSON, D.E. AND MACDONALD, E.L., 2003. Biodiversity and biogeography of the islands of the Kuril Archipelago. *Journal of Biogeography* 30 (9), 1297–1310.
- SASAKI, T., 1996. Maritime Adaptations seen in the Spiritual World of the Kuril Ainu. In: *The proceedings of the 10th International Abashiri Symposium "Peoples and Cultures in the Northern Islands"* Abashiri: Hokkaido Museum of Northern Peoples. pp. 19–39. (In Japanese.)
- SATO, T., 1993. The Tradition of "Iwomante" in Ainu Culture. *Bulletin of the National Museum of Japanese History* 48, 107–134. (In Japanese.)
- SATO, T., 2000. On the Origin of Bear Ceremony. In: *Report of the 7th Monbetsu Symposium "Meeting of the Circum-Okhotsk Culture"* Monbestu, Hokkaido. (In Japanese.)
- SATO, T., 2003. Archaeology of Owl Sending Ceremony. In: N. Akasaka, ed. *Tohokugaku* 3. Tokyo: Sakuhin-sha Ltd. pp. 112–130. (In Japanese.)
- SHIMADA, C., MURAYAMA, M., AOKI, K.,

- NAKAMURA, T., HASEGAWA, S. AND OBA, T., 2000. Holocene paleoceanography in the SW part of the Sea of Okhotsk: A diatom record. *The Quaternary Research* 39(5), 439–449. (In Japanese.)
- SUGIURA, S., 1999. Aspects of the Kuril Islands and Kamchatka. In: *The Proceedings of the Kushiro Symposium "Archaeology of the Straights and the North"* Kushiro, Hokkaido. pp. 183–208. (In Japanese.)
- TAKABATAKE, T., 1999. Graves of the Okhotsk Culture. In: *The Proceedings of the Kushiro Symposium "Archaeology of the Straights and the North"* Kushiro, Hokkaido. pp. 230–240. (In Japanese.)
- TAMURA, T., 1983. Funeral Regulations of Early Modern Age in Hokkaido. *Hokkaido Kokogaku* 19, 51–58. (In Japanese.)
- TEZUKA, K., 2001. A Study of Peculiar Structures with Peripheral Banks Located at Nemo Bay, Onkotan Island, Northern Kuril Islands: from Results of an IKIP Study in 2000. *Bulletin of the Historical Museum of Hokkaido* 29, 81–92. (In Japanese.)
- TEZUKA, K. AND IKEDA, T., 2001. The tradition of the bear sending ceremony. In: *Unknown Medieval Hokkaido*. pp. 26–29. Sapporo: Historical Museum of Hokkaido. (In Japanese.)
- TORII, R., 1903. *Kuril Ainu*. Tokyo: Yoshikawa Kobunkan. (In Japanese.)
- UTAGAWA, H., 1995. *Archaeology of Hokkaido*. Sapporo: Hokkaido Shuppan Kikaku Senta. (In Japanese.)
- UTAGAWA, H., 2001. *Study of Aynu Archaeology: Introduction*. Sapporo: Hokkaido Shuppan Kikaku Senta. (In Japanese.)
- WAKUSAKA, S., 1993. Traces of the Bear Ceremony at the Otafukuiwa Cavern in the Shiretoko Peninsula, Hokkaido. *Kodai Bunka* 45 (4), 40–49. (In Japanese.)
- WATANABE, H., 1972. Establishment of Ainu Culture: the Conflux of Ethnographic, Historic and Archaeological Studies. *Kokogaku Zasshi* 58 (3), 47–64. (In Japanese.)
- WATANABE, H., 1974. The Source of the Ainu Culture: Especially its Relationship with the Okhotsk Culture. *Kokogaku Zasshi* 61 (1), 72–82. (In Japanese.)