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Itinerary of Expedition to the Southern Kuril Islands (2009–2012)

Tomoko Fukuda

Department of Botany, National Museum of Nature and Science, 4-1-1, Amakubo, Tsukuba, Ibaraki 305-0005, JAPAN
E-mail: t-fukuda@kahaku.go.jp

Abstract Expedition to the southern Kuril Islands was conducted for the purpose to estimate present condition of fauna and flora of these islands. In 2009–2012, we visited Shikotan (2010), Kunashiri (2009, 2012) and Etorofu (2012) Islands under the arrangement of visa-free visit between governments of Japan and Russia. General outline of each expedition including plan, participants and studied localities are described.

Key words: Etorofu (Iturup), fauna, flora, Kunashiri (Kunashir), Shikotan, southern Kurils

Introduction

The Kuril Islands are a string of islands between Hokkaido and the Kamchatka peninsula. Because of its geographic position and unique biological condition as islands, its fauna and flora have been intensively studied by Japanese and Russian specialists (e. g. Miyabe 1890; Kudo 1922; Tatewaki 1957; Alexeeva 1983; Vorobiev 1956; Voroschilov 1985. See Takahashi 1996 for details). International Kuril Island Project (IKIP: http://www.burkemuseum.org/static/okhotskia/ikip/), held by three countries (USA, Japan, Russia), provided additional knowledge on its fauna and flora (e. g. Takahashi et al 1997, 2002; Barkalov 2000, 2009; Barkalov et al. 2009). At the same time, these studies revealed some problems on ecology of the islands, including presence of some invasive species, not native to these islands.

In 2009–2012, we had expeditions to Shikotan (2010), Kunashiri (2009, 2012) and Etorofu (2012) Islands of the southern Kuril Islands on the theme "joint research on the invasive species and rare & endangered species of the southern Kuril Islands" under the arrangement of visa-free visit between governments of Japan and Russia. One of the most important purpose of the expeditions was to survey ecological condition of these islands. During the study, we provided special attention to the rare and endangered species, as well as invasive species, which has potential risk to the ecological condition of the islands. In this itinerary we describe plan, participants and studied localities of these expeditions.

Itinerary

1. Expedition to Shikotan Island (Aug. 21 - 30, 2010)

［Participants］

From Japan: TAKAHASHI Hideki (T), SATO Hiroyuki (S), ABE Tsuyoshi (A), NOBETSU Takahiro (N), FUKUDA Tomoko (F).

From Russia: ANTIPIN Maxim, LOGUNTSEV Andrei, TARAN Alexandr, ALEKHIN Alexandr, CHABANENKO Svetlana.

［Summary］

From the base village of Krabozavodskoye, we visited Mt. Shikotan, Tserkovnaya Bay, Mt. Ploskaya, E coast of the Island and Mt. Otradnaya. The expedition was basically conducted by two groups - land group (T, S, F) and sea group (A, N). We visited several times Mt. Shikotan, the highest mountain of this island (alt. 412m). To visit Mt. Ploskaya and Tserkovnaya Bay of the west of the island, where no roads for cars, we used caterpillar tcuck. Plant surveys were conducted by observation with photographs. Details are as in Table 1 and Fig. 1.

2. Expedition to Kunashiri (Kunashir) Island (Oct. 20–29, 2009)

［Participant］

TAKAHASHI Hideki (T)

［Summary］

Expedition was conducted at NE part of the Kunashiri Island, mainly around rivers Saratovskaya and Tyatina, whose river mouth on Pacific ocean side. Details are as in Table 2 and Fig. 3.

3. Expedition to Kunashiri & Etorofu (Iturup) Islands (Aug. 17–Sept. 10, 2013)

［Participants］

From Japan: TAKAHASHI Hideki (T), KATO Yukie (KY), SATO Hiroyuki (S), ABE Tsuyoshi (A), NOBETSU Takahiro (N), KOBAYASHI Takahito (KT), FUKUDA Tomoko (F)

From Russia: ANTIPIN Maxim, LOGUNTSEV Andrei, BOBYR Igori, BUDAEV Aleksandr (for Kunashiri)

GULIN Nikolai, KUPRIN Stanislav (for Etorofu)

［Summary］

The first half of the program in Kunashiri Island was based at Andreyevka watchhouse. From the base, we visited the Cape of Chetverikova, Semovodsk, SE wetland of Lake Peschanoye, Okhotsk seashore N of the lake, Lake Goryacheye, the Cape of Veslo, Stolbchatyy and Lake Aliger. Then we came back to Yuzhno-Kuril'sk, and visited Lake Serebryanoye and the Cape of

Sukacheva. Part of the participants moved to Iturup Island on 24 Aug., and other part of participants conducted expedition along Stolbovskyy road at Okhotsk coast around Tret'yakovo and Lake Serebryanoye.

In Etorofu Island, we visited Tornaya, Sof'a and Dobrynina - N bays on Okhotsk sea coast by boat from Reydovo.

After we came back to Kuril'sk, we visited lakes around Pioner (Kuybyshevskoye, Maloye and other ponds), Reydovo, Kasatka Bay, Lakes Bragodatnoye and Sredneye, Osennyaya River, foot of Mt. Baranskogo, and along the road from Kuril'sk to Pioner. Expedition to Mt. Atsonupuri was not conducted because of the bad sea condition for boating. Details are in Table 3 & 4, Fig. 2 & 3.

As a result of this expedition we confirmed ca. 500 plant species, ca. 40 species of fungi, ca. 45 species of algae and ca. 30 species of fishes.

Table 1. Program of expedition to Shikotan, Aug. 21–30, 2010.

Date	Locality	Attended:	Latitude	Longitude	No.
Aug. 21	Left from Nemuro port.				
	Stayed off the coast of Yuzhno-Kuril'sk (Furukamappu).	all	44° 01′ 09″	145° 50′ 35″	
Aug. 22	Arrived at Krabozavodskoye(Anama) .	all	43° 49′ 43″	146° 44′ 36″	
	Work at NE part of Krabovaya Bay (Anama-wan) .		43° 49′ 43″	146° 44′ 50″	1-1
	Work along forest path at SW part of Krabovaya Bay.		43° 48′ 42″	146° 44′ 44″	1-2
	Work along seashore at SW part of Krabovaya Bay.		43° 49′ 23″	146° 44′ 58″	1-3
	Work at south seashore of Otradnaya Bay.		43° 51′ 28″	146° 47′ 52″	2
Aug. 23	Work around village Krabozavodskoye.	all			3
	Work at Mt. Shikotan (Shakotan-yama) taking S route.		43° 52′ 10″	146° 51′ 32″	4-1
	Work at village Malokuril'skoye (Shakotan-mura).				
Aug. 24	Work at Dimitrova Bay (Inemoshiri-wan).	all	43° 48′ 17″	146° 49′ 59″	5
	Work at a mountain pass from Dimitriva Bay to Malokuril'skoye.		43° 49′ 10″	146° 49′ 09″	6
	Work at NW part of Mt. Shikotan.		43° 52′ 38″	146° 51′ 03″	4-2
	Work around village Krabozavodskoye.				3
Aug. 25	Work at Tserkovnaya Bay (Matsuga-hama) .	all	43° 44′ 24″	146° 41′ 23″	7-1
	Work at field station of Tserkovnaya Bay.		43° 44′ 09″	146° 41′ 08″	7-2
	Work at Larix forest (Shikotan-matsubara) at W of Tserkovnaya Bay.		43° 43′ 34″	146° 40′ 30″	8
	Work along the way from Tserkovnaya Bay to Krabozavodskoye.		43° 46′ 01″	146° 42′ 42″	9
Aug. 26	Work at Mt. Ploskaya (Masuba-yama, or Okkaibetsu-yama) .	T, S, F	43° 47′ 56″	146° 39′ 28″	10
	Work at Zvezdnaya Bay (Masuba-wan).	A, N	43° 46′ 17″	146° 36′ 14.5″	11
	Work around village Krabozavodskoye.				3
Aug. 27	Wrok at Chiboi (Chiboi-hama).	all	43° 49′ 50.2″	146° 54′ 16.8″	12
	Work at S seashore of Krab cape (Kurappu-misaki) .		43° 49′ 50″	146° 54′ 17″	13-1
	Work around light house of Krab cape.		43° 50′ 11″	146° 55′ 08″	13-2
	Work at N coast from Krab cape.		43° 50′ 24″	146° 54′ 39″	13-3
	Work at Kray Sveta cape (Etannotto-misaki) .		43° 50′ 49″	146° 54′ 51″	13-4
Aug. 28	Work at Mt. Shikotan, taking NW route.	all	43° 52′ 14″	146° 51′ 09″	4-3
	Work around village Krabozavodskoye.				3
Aug. 29	Work at NE part of Mt. Otradnaya (Matakotan-yama).	all	43° 51′ 43″	146° 45′ 47″	14-1
	Work at NE part of Mt. Otradnaya.		43° 51′ 44″	146° 45′ 51″	14-2
	Work at NE part of Mt. Otradnaya.		43° 51′ 56″	146° 46′ 29″	14-3
	Work around village Krabozavodskoye.				3
	Left from Krabozavodskoye.				
Aug. 30	Stayed off the coast of Yuzhno-Kuril'sk.	all			
	Returned to Nemuro.				

Table 2. Program of expedition to Kunashiri, Oct. 20–30, 2009.

Date	Locality	Attended:	Latitude	Longitude	No.
10/20	Left Nemuro port to Kunashir, arrived off the Yuzhno-Kuril'sk.	T			
10/21	Landed on Yuzhno-Kuril'sk (Furukamappu) .	T			15
	Meeting at the Nature Reserve Center.		44° 2' 25.2″	145° 51' 33.9″	
	Left Yuzno-Kuril'sk.				
	Remontnyu Cape (Kinakai-zaki)		44° 6' 38.7″	145° 53' 57.7″	16
	Arrived at the watchman hut of Saratovskaya River (Seoi-gawa)		44° 15' 56.9″	146° 6' 23.2″	17
10/22	Between Saratovskaya River and Tyatina River (Onnebetsu-gawa) .	T			
	Mouth of Tyatina River				
	Bear Observation site at Tyatina River		44° 16' 3.3″	146° 9' 14.3″	18-1
10/23	Around Saratovskaya River.	T	44° 16' 13.0″	146° 9' 29.6″	18-2
	Toisusu trees site.				
10/24	Between Saratovskaya River and Tyatina River.	T			
	Around Saratovskaya River.				

10/25	Around Saratovskaya River.	T			
10/26	Between Saratovskaya River and Tyatina River. Around Saratovskaya River.	T			
10/27	From Saratovskaya River to Yuzhno-Kuril'sk. Between Yuzhno-Kuril'sk and Mendleyevo airport.	T			
10/28	Friendship House of Yuzhno-Kuril'sk. Several points around the city Yuzhno-Kuril'sk. Okhotsk Sea side, N of Mt. Geyzery (Rausu-yama)	T	44° 1' 39.6″ 44° 1' 56.4″	145° 51' 34.7″ 145° 42' 8.0″	15 19
10/29	From Yuzhno-Kuril'sk to Nemuro port.	T			

Table 3. Program of expedition to Kunashiri, Aug. 17–27, 2012.

Date	Locality	Attended:	Latitude	Longitude	No.
8/17	Left Nemuro port to Kunashir, arrived at Yuzhno-Kuril'sk (Furukamappu).	all			
8/18	Start from Yuznho-Kuril'sk to the mouth of River Andreyevka.	all	43° 53' 16.1″	145° 37' 28.1″	20-1
	Collection at Cape Chetverikova.		43° 53' 3.5″	145° 37' 22.5″	20-2
	Collection between Cape Chetverikova and a watchhouse at the mouth of River Andreyevka.		43° 53' 16.1″	145° 37' 28.1″	
	Collection between a watchhouse at the mouth of River Andreyevka and the wet meadow on the hill.		43° 53' 22.77″	145° 37' 28.10″	20-3
	Collection at coastal meadows around Semovodsk.		43° 54' 28.4″	145° 38' 50.9″	21
	Collection at wet meadows at SE of Lake Peschanoye(Tofutsu-ko).		43° 54' 54.1″	145° 38' 32.8″	22
	Collection between wet meadows at SE of Lake Peschanoye and a watchhouse at the mouth of River Andreyevka.				
8/19	Collection between wet meadows at SE of Lake Peschanoye and a coastal meadows at NW of Lake Peschanoye.	all			
	Collection at coastal meadow, NW of Lake Peschanoye		43° 56' 59.6″	145° 35' 15.5″	23-1
	Collection along the sea coast between NW of Lake Peschanoye and Cape Znamenka (Nihon-iwa).		43° 56' 35.7″	145° 33' 39.4″	23-2
	Collection between NW and SE of Lake Peschanoye.				
8/20	Collection between the entrance of climbing route to Mt. Golovnino (Tomari-yama) and Lake Goryacheye(Ichibishinai-ko).	all	43° 49' 43.7″	145° 33' 07.9″	24-1
	Collection at S coast of Lake Goryacheye.		43° 51' 48.5″	145° 30' 37.1″	24-2
8/21	Collection at E of Lake Veslovskoe, meadows and lakeside.	all	43° 43' 10.8″	145° 33' 23.3″	25-1
	Collection between Lake Veslovskoe and Cape Veslo(Keramui-zaki).		43° 42' 31.8″	145° 33' 34.5″	25-2
	Collection at Cape Veslo.		43° 39' 10.7″	145° 32' 41.4″	25-3
	Collection at N of Lake Veslovskoe.		43° 43' 48.8″	145° 33' 32.6″	25-4
8/22	Collection around a watchhouse at the mouth of River Andreyevka	all			20-1
	Collection at coniferous-broadleaved forests, W of a watchhouse.		43° 52' 46.26″	145° 36' 27.03″	20-4
	Collection between 13km village(Yaitai-kotan) and Cape Stolbchatyy (Zaimoku-iwa).				19
	Collection at Cape Stolbchatyy.		44° 01' 32.1″	145° 40' 35.8″	26
	Collection at NW side of Lake Aliger (Arigeru-ko).		44° 02' 49.6″	145° 44' 25.3″	27-1
	Collection at sea coast, W of Lake Aliger.		44° 02' 55.8″	145° 44' 20.4″	27-2
	Seacoast at W of Lake Legunnoye(Nikishoro-ko).		44° 03' 33.3″	145° 44' 47.8″	28
8/23	Collection at Yuzhno-Kuril'sk, Lake Serebryanoye(Furukamappu-numa).	KY, S, KT	44° 03' 05.69″	145° 49' 18.51″	29-1
	Collection at Cape Sukacheva (Chikappunai).	A, N	44° 04' 41.66″	145° 52' 48.07″	30
8/24	Move to Iturup by ship "Etopirika".	T,A,N,KT,F			31
	W of village Goryachiy Plyazh(Seseki), along branch of Lesnaya River (Shojin-gawa).	KY, S	43° 59' 57.60″	145° 46' 04.94″	29-3
8/25	Collection at Stolbovskyy Ecological Road.	KY, S	44° 00' 25.91″	145° 40' 59.94″	31-1
	Collection at S coast of Cape Stolbchatyy (Shimanobori-kaigan).		44° 00' 42.0″	145° 40' 37.8″	31-2
	Collection along coastal line from S coast of Cape Stolbchatyy to Tret'yakovo (Chibukaribetsu).		43° 59' 22.36″	145° 38' 59.15″	31-3
8/26	Collection at Yuzhno-Kuril'sk, Lake Serebryanoye.	KY, S	44° 03' 24.21″	145° 50' 14.88″	29-2
8/27	Return to Nemuro port.				

Table 4. Program of expedition to Etorofu, Aug. 25–Sep. 10, 2012.

Date	Locality	Attended:	Latitude	Longitude	No.
8/25	Landed on Kitvyy (Nayoka).	T,A,N,KT,F			
	Move to Kuril'sk (Shana).		45° 13' 38.8"	147° 52' 59.6"	32
8/26	Move from Kuril'sk via Reydovo (Bettobu) to Bay of Tornaya (Toro) by a boat.	T,A,N,KT,F	45° 16' 42.7"	148° 01' 06.4"	33
	Landed on Tornaya.		45° 19' 40.1"	148° 25' 17.3"	34–1
	Collection at Bay of Sof'a (Sokiya)		45° 23' 17.8"	148° 28' 50.0"	35
8/27	Collection at Bay of Dobrynina (Otoimaushi).	T,A,N,KT,F	45° 21' 38.6"	148° 27' 39.9"	36
	Collection at Bay of Senokosnaya (Shimonaibo–gyojo).		45° 20' 40.1"	148° 25' 48.4"	37
8/28	Collection at side of Lake Sopochnoye (Toro–numa).	T,A,N,KT,F	45° 19' 20.5"	148° 24' 43.6"	34–2
	Collection at the subalpine meadows beteen Bay of Tornaya and Senokosnaya.		45° 20' 02.3"	148° 25' 16.7"	34–3
	Collection at hill ridge, NE side of Lake Sopochnoye.		45° 19' 35.5"	148° 25' 26.3"	34–4
	Collection around the camp site at Bay of Tornaya.				
8/29	Move from Bay or Tornaya via Bay of Parusnaya (Porosu) through Vetrovoy Peresheyek (Rucharu–bara) to the Pacific side (Higashi–rucharu).	T,A,N,KT,F			
	Collection at Pacific side of Vetrovoy Peresheyek.		45° 13' 22.2"	148° 19' 23.6"	38
	Work at Balyye skaly (Bira–gyojo).		45° 16' 07.8"	148° 15' 17.6"	39–1
	Work at Chernyye skaly (Biyonotsu–gyojo).		45° 15' 31.6"	148° 10' 05.5"	39–2
	Work at 9km lot (Tokochiya–gyojo).		45° 15' 22.3"	148° 08' 05.5"	39–3
8/30	Collection at Lake Kuybyshevskoye (Rausu–numa).	T,A,N,KT,F	45° 04' 01.3"	147° 40' 07.7"	40–1
	N of Lake Maloye (Rubetsu–numa).		45° 05' 09.9"	147° 41' 41.8"	
	S of Lake Maloye.		45° 04' 33.4"	147° 42' 27.6"	40–2
	Collectin at a small pond around Pioner (Rubetsu).		45° 05' 26.0"	147° 41' 53.2"	40–3
	N coast (Benten–jima) of Lake Kuybysheskoye.		45° 04' 55.1"	147° 39' 44.1"	40–4
	Collection at small ponds around Pioner.		45° 05' 45.1"	147° 42' 36.4"	40–5
	Collection along Kuybyshevskoye River (Rubetsu–gawa).		45° 05' 48.2"	147° 42' 05.3"	40–6
8/31	Specimen work at Kuril'sk.	T,A,N,KT,F			
9/1	Collection wiithin the city of Kuril'sk.	T,A,N,KT,F			32
	Collection at Bay of Olya (Ohyo), N of Reydovo (Bettobu).		45° 17' 17.8"	148° 00' 46.3"	33
	Collection at several places around Reydovo.		45° 16' 33.6"	148° 01' 22.5"	
			45° 16' 21.1"	148° 01' 22.7"	
			45° 16' 05.0"	148° 01' 35.9"	
			45° 15' 53.2"	148° 02' 28.7"	
			45° 14' 31.4"	148° 00' 49.8"	
	S of Lake Reudovoye (Seseki–numa), around River Mineralnaya (Onsen–gawa).		45° 14' 48.0"	148° 00' 49.4"	
9/2	Move to Zaliv Kasatka (Hitokappu–wan), collection around Chertova skala (Rakko–jima).	T,A,N,KT,F	44° 57' 38.8"	147° 37' 03.5"	41–1
	Collection around the central part of the coastal sanddune of Zaliv Kasatka.		44° 59' 03.6"	147° 38' 21.2"	41–2
	Collection between Lake Sredneye (Rebun–numa) and N lake (Yanke–numa).		44° 58' 32.0"	147° 44' 06.1"	42–1
	N coast of Lake Sredneye.		44° 58' 23.8"	147° 44' 10.8"	42–2
	Collection at Lake Bragodatnoye (Toshimoi–ko).		45° 01' 01.3"	147° 43' 04.9"	42–3
	Collection at Wetland with *Larix*, N of Lake Sredneye.		45° 00' 14.7"	147° 43' 39.6"	42–4
	Collection at riverside within Kuril'sk.				
9/3	Specimen work at Kuril'sk.	T,A,N,KT,F			
9/4	Collection at the mouth of River Osnnyaya (Oito).	T,A,N,KT,F	45° 00' 35.5"	147° 31' 31.4"	43–1
	Collection at three sites between River Osennaya and Pioner (Rubetsu).		45° 00' 05.8"	147° 34' 59.9"	43–2
			45° 00' 12.1"	147° 35' 45.9"	43–3
			45° 01' 11.3"	147° 39' 08.4"	43–4
9/5	Move to Mt. Baranskogo (Sashiusu–yama), sulphur volcanic site.	T,A,N,KT,F	45° 05' 34.2"	147° 59' 19.7"	44–1
	Collection at river hot spring.		45° 04' 38.7"	147° 59' 11.0"	44–2
	Collection at *Betula ermanii* forests on the pass.		45° 06' 24.5"	147° 59' 06.6"	44–3
	Collection at *Quercus crispula* forests at lower altitude.		45° 10' 29.4"	147° 57' 12.9"	44–4
9/6	Collection at several sites between Rybaki (Arimoi) and Pioner.	T,A,N,KT,F	45° 10' 35.7"	147° 47' 43.6"	45–1
			45° 10' 02.6"	147° 47' 43.0"	45–2
			45° 07' 50.5"	147° 47' 03.5"	45–3
			45° 06' 39.9"	147° 44' 12.9"	45–4
	Collection at *Quercus crispula* forest, S of Kuril'sk.		45° 12' 24.2"	147° 54' 33.1"	45–5
	Collection at the side of Lake Lebednoye (Shana–numa).		45° 13' 44.1"	147° 54' 40.5"	45–6
	Collection at the suburbs of city of Kuril'sk.		45° 13' 28.9"	147° 53' 52.2"	45–7

9/7	Specimen work at Kuril'sk.	T,A,N,KT,F			
9/8	Collection at the suburbs of city of Kuril'sk.	T,A,N,KT,F	45° 13' 28.4"	147° 53' 13.5"	32
9/9	Going aboard a ship "Etopirika" at Kitovyy.	T,A,N,KT,F	45° 13' 30.7"	147° 53' 39.7"	32
			45° 15' 25.9"	147° 53' 05.1"	
9/10	Procedures at "Etopirika" off Yuzhno-Kuril'sk, Kunashir. Return to Nemuro port.	T,A,N,KT,F			

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Fig. 1. Map of Shikotan Island, with localities of expedition (circle with locality numbers, as in table 1 of program).

Fig. 2. Map of a part of Kunashiri (Kunashir) Island, with localities of expedition (circle with locality numbers, as in table 2 & 3.

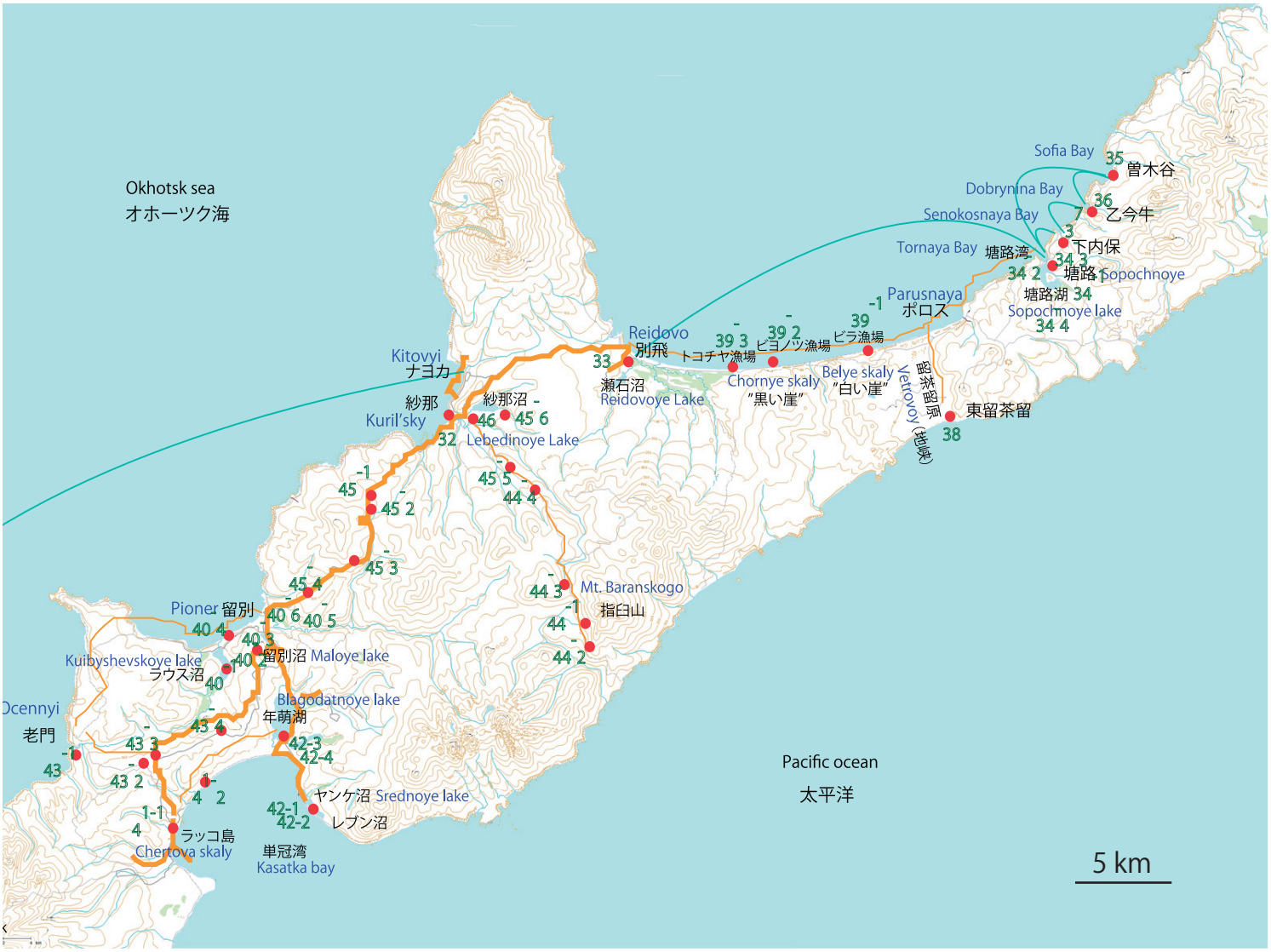

Fig. 3. Map of a part of Iturup (Etorofu) Island, with localities of expedition (circle with locality numbers, as in table 4 of program).