



HOKKAIDO UNIVERSITY

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**THE "OSHORO MARU" CRUISE 030
TO EAST OF THE TSUGARU STRAIT
(IBURI / HIDAKA OFFING)
IN SEPTEMBER 2016**

1. Cruise Itinerary

Cruise 030

Departure from Hakodate and start of oceanographic research	Sep. 26, 2016
Start of bottom trawl research (OST1601)	27
End of bottom trawl research (OST1604)	28
End of oceanographic research	30
Return to Hakodate	Oct. 01

Total coverage 567.2 miles

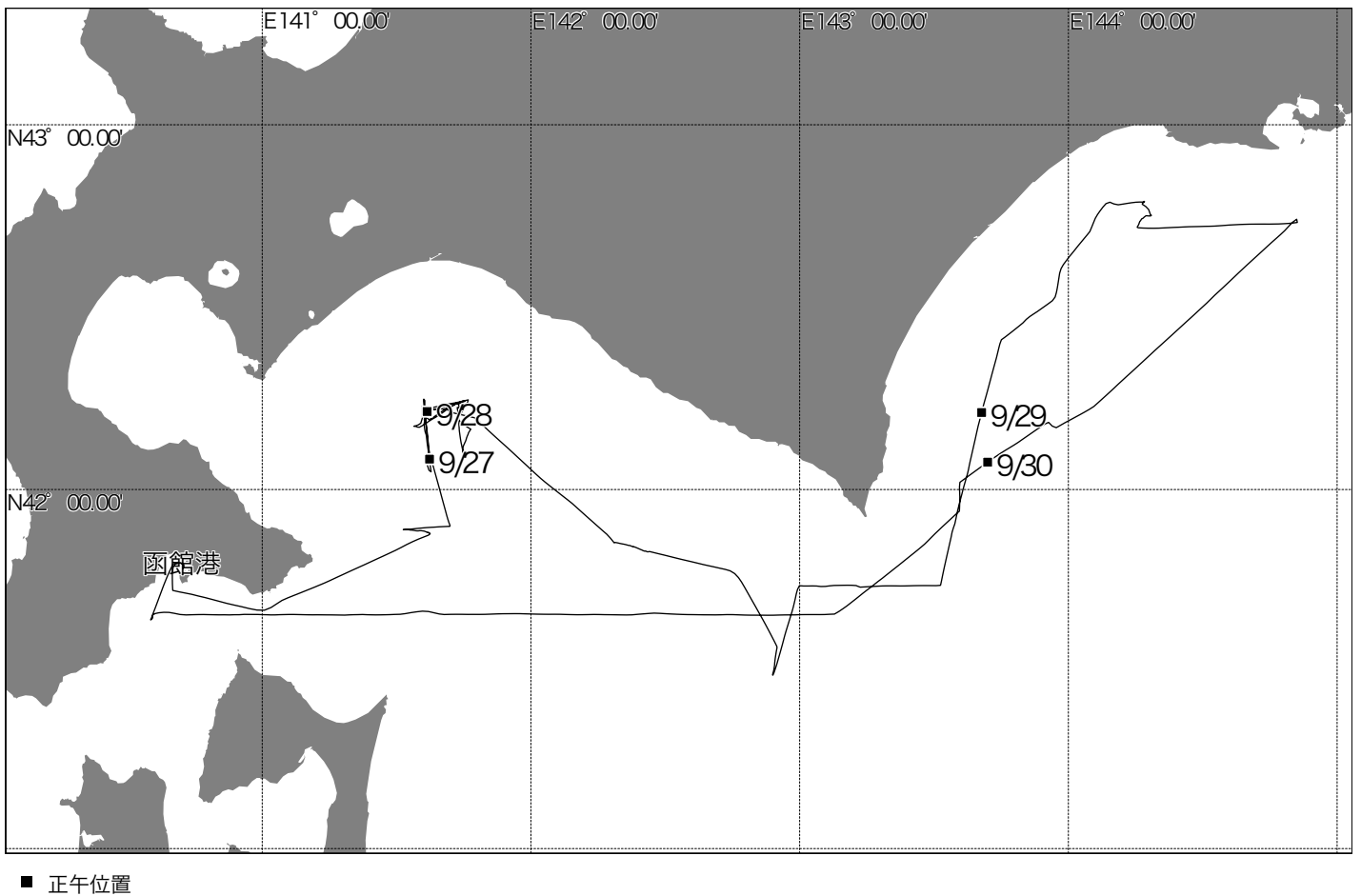


Fig.1 Noon Position

2. Vessel Personnel

Crew:	Captain:	Associate Professor	Shogo Takagi
			And 30 persons
Under Graduate instructor:	Associate Professor (Laboratory of Marine Biology and Biodiversity, Hokkaido University)		Hisashi Imamura
	Associate Professor (Laboratory of Marine Bio-resources Ecology, Hokkaido University)		Takashi Matsuishi
	Associate Professor (Laboratory of Marine Environmental Science, Hokkaido University)		Atsushi Ooki
	Associate Professor (Laboratory of Marine Biodiversity, Hokkaido University)		Atsushi Yamaguchi
	Associate Professor (Laboratory of Marine Bioresource Science, Hokkaido University)		Orio Yamamura
Teaching Assistant:	10 persons		
Under Graduate Student:	45 persons		

3. Items of Research

A short cruise to conduct shipboard training in hydrographic observations, plankton samplings, sighting survey of marine mammals and biological processing of trawl for undergraduate students in the department of marine biological science.

Bottom trawl observantions:

Two operations of the stern otter bottom trawl were carried out.

These operations were supervised by the captain, Deck officer, Science officer, crew, research staff, and cadets were engaged in the work.

4. Result of Bottom Trawl Research

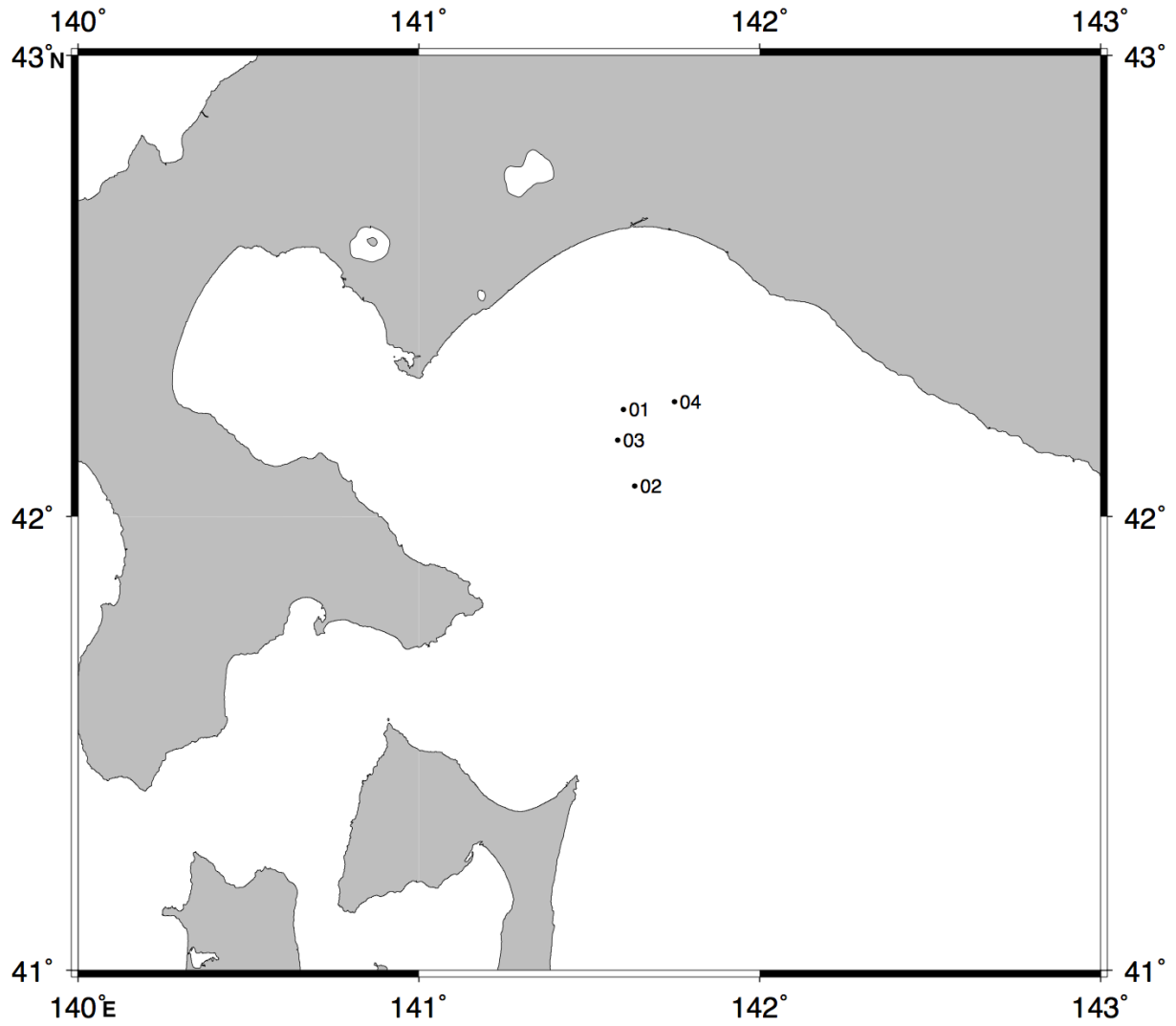


Fig.2 Trawl Research Positions

Table1. Data on bottom trawl research

Station	Date and Time of new tow (S.M.T.*1)	T.D.*2	Set Position		D.S.*3	Speed of tow (knot)	bottom depth(m)	Wr*4	Wind (Force)	S.S.T.*5 (°C)
			Lat.	Long.						
OST1601	Sep 27 0900 - 1000	+09h	42-14.0N	141-36.0E	175°	3	710	bc	East-3	20.3
OST1602	Sep 27 1220 - 1320	+09h	42-03.7N	141-37.6E	355°	3	750	c	SSE-2	20.5
OST1603	Sep 28 0715 - 0815	+09h	42-10.3N	141-35.1E	055°	3	690	c	SSW-6	20.4
OST1604	Sep 28 1030 - 1130	+09h	42-14.7N	141-45.1E	255°	3	715	c	ESE-3	20.5

*1 S.M.T. : Ship's Mean Time.

*2 T.D. : Time Difference between Greenwich Mean Time (G.M.T.) and Ship's Mean Time (S.M.T.).

*3 D.S. : Direction of tow.

*4 Wr. : Weather (bc:25-74%clouded, c: 75-99% clouded).

*5 S.S.T. : Sea Surface temperature

Table 2. Catches by bottom trawl research

Japanese name	Scientific name	OST1601		OST1602		OST1603		OST1604	
		Number	Weight(kg)	Number	Weight(kg)	Number	Weight(kg)	Number	Weight(kg)
Kichiji	<i>Sebastolobus macrochir</i>	115	18.5	209	44.9	84	17	100	16
Shirogenge	<i>Bothrocara molle</i>	393	161.85	475	146	23	15.05	83	46.5
Itohikidara	<i>Laemonema longipes</i>	66	42.02	38	26.1	14	5.19	24	16.5
Tako-ru	<i>Octopuses spp.</i>		34.06	68	24	91	31	79	26.55
Karafutosokodara	<i>Coryphaenoides cinereus</i>	43	12.02	16	3.81	21	4.05	85	20.5
Kanadadara	<i>Antimora microlepis</i>	16	4.25	16	5.19	6	20.55	19	2.77
Kantengenge	<i>Bothrocara tanakae</i>	5	3.55	13	9	3	1.4	7	4.7
Ganko	<i>Dasycottus setiger</i>	13	1.39	14	1.985	17	1.505	12	1.91
Kobushikajika	<i>Malacocottus zonurus</i>	1	0.126					5	0.465
Nezumiginpo	<i>Lumpenella longirostris</i>	21	1.3	14	0.36				
Irakonanago	<i>Synaphobranchus kaupii</i>	6	2.75	17	8.25	1	0.015	11	9
Kurosokoiwashi	<i>Pseudobathylagus milleri</i>	1	0.095	3	0.15	2	0.15		
Mamehadaka	<i>Lampanyctus jordani</i>	15	0.32	24	0.52	16	0.32	21	6.455
Sekkihada	<i>Stenobrachius nannochir</i>	1	0.006					2	0.025
Hirainkio	<i>Paraliparis grandis</i>	1	0.46					7	2.4
Yoko	<i>Gonostoma gracile</i>	8	0.034	6	0.32	3	0.015	2	0.01
Togariichimonjiwashi	<i>Leuroglossus schmidtii</i>	17	0.055	3	0.01	17	0.085	4	0.015
Benizuwaigani	<i>Chionoecetes japonicus</i>	13	5.5	10	9	22	9.5		
Yasesokoiwashi	<i>Bathylagus pacificus</i>	8	0.26			12	0.35	5	0.18
Demeeso	<i>Benthalbella linguidens</i>	1	0.82						
Sokogangiei-zoku	<i>Bathyraxia sp</i>	3	0.988	7	0.62	2	0.105	5	0.295
Higashihourai	<i>Chauliodus macouni</i>	1	0.012	1	0.015			2	0.015
Dosuka	<i>Beryteuthis magister</i>	3	0.94	3	0.95	3	0.415	2	0.58
Fujikujira	<i>Etmopterus lucifer</i>	1	0.18						
Tsubu-ru	<i>Buccinidae spp.</i>	192	11.05	1850	109.5				
Samegare	<i>Clidoderma asperrimum</i>			1	0.69			1.00	0.64
Ogurokonnyaku	<i>Careproctus furcellus</i>			1	0.63				
Kusao	<i>Liparidae</i>			1	0.1				
Norogenge	<i>Bothrocara hollandi</i>			5	0.117			27	1.78
Kuromedai	<i>Ichthyoscyrrhus lockingtoni</i>			1	0.59				
Karasudara	<i>Halargyreus Johnsonii</i>			2	0.62				
Onikinme	<i>Anoplogaster cornuta</i>			1	0.1				
Akadonko	<i>Ebinania vermiculata</i>			1	1.51				
Shigunagi	<i>Nemichthys scolopaceus</i>			1	0.02	2	0.02	1	0.015
Hiregurokonnyaku	<i>Careproctus marginatus</i>							1	0.155
Arasukabigunin	<i>Careproctus colletti</i>							1	0.14
Himeezobora	<i>Neptunea artbritica</i>							95	6.5
Kumogani	<i>Majidae</i>							16	6.7
Mikadodadaka	<i>Nannobrachium regale</i>							2	0.135
Gokouhadaka	<i>Ceratoscopelus townsendi</i>							2	0.015
Kuroshigunagi	<i>Avocettina infans</i>					1	0.015	1	0.01
Hadakahoteieso	<i>Tactostoma macropus</i>							1	0.02
Kokonohoshiginzame	<i>Hydrolagus barbouri</i>							1	2
Ika-ru	<i>Squids spp.</i>					5	0.15	1	0.02
Kohirehadaka	<i>Stenobrachius leucopsarus</i>					1	0.01		
Ezobaigai-ru	<i>Buccinidae spp.</i>					361	22.26		
Takoika	<i>Gonatopsis borealis</i>					1	0.135		
Tsubu-ru	<i>Buccinidae spp.</i>	192	11.05	1850	109.5				
Yadokari-ru						7	0.105		
Isoginchaku-ru		32	9.5	55	6.75	20	2.6		
Namako-ru		9	1.63	17	2.11	426	38.85	3	0.375