



## Natsushima Cruise Report

NT12-21



Prized Cruise for the Hagaki Contest

Suruga Bay

August 15, 2012 - August 19, 2012

Japan Agency for Marine-Earth Science and Technology

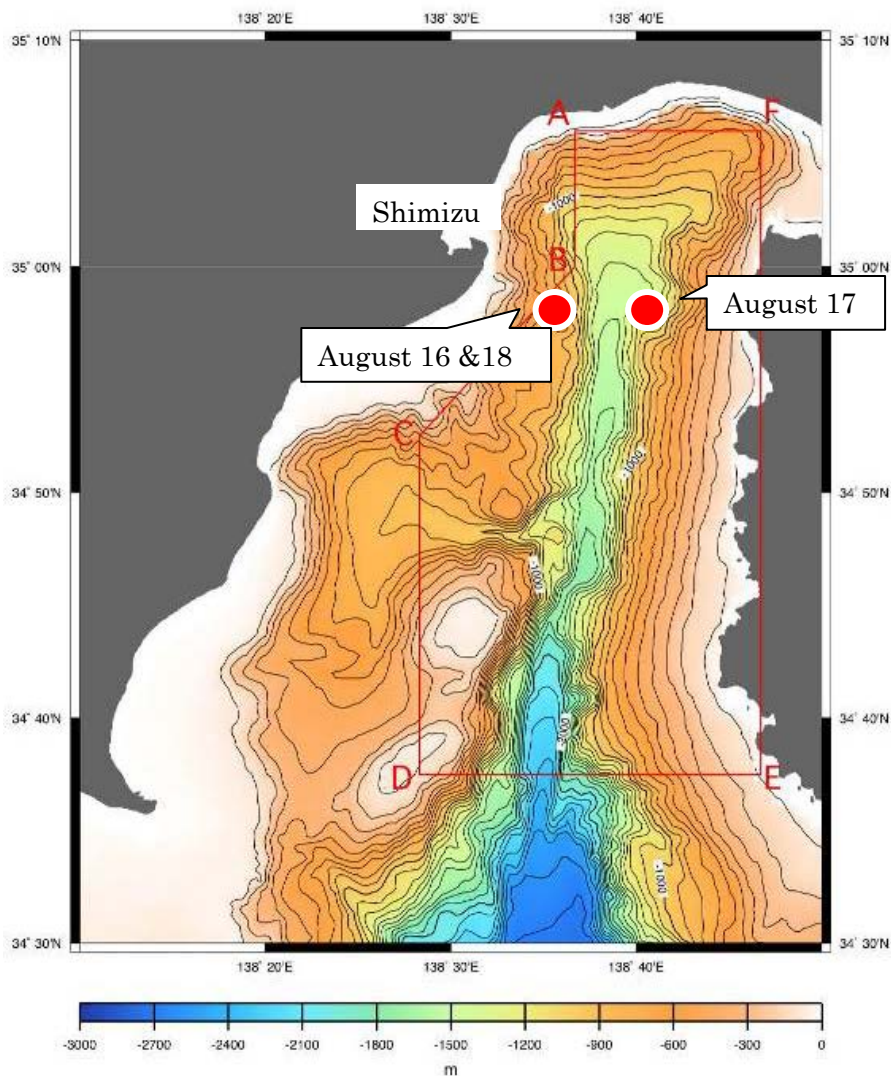
(JAMSTEC)

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## 1. Cruise Information

- Cruise ID: NT12-21
- Name of vessel: NATSUSHIMA
- Title of the cruise: Prized Cruise for the Hagaki Contest
- Cruise period: August 15, 2012 – August 19, 2012  
Boarding experiment: August 16 – August 18
- Ports of call: JAMSTEC, Yokosuka - Port of Shimizu - JAMSTEC, Yokosuka
- Research area: Suruga Bay
- Research Map



August 16 and 18: 34° 57.85'N, 138° 35.75'E

August 17 : 35° 00.61'N, 138° 39.962'E

## 2. Researchers

- Chief scientist: Kyohiko Mitsuzawa [JAMSTEC]
- Representative of the science party: Kyohiko Mitsuzawa [JAMSTEC]
- List of cruise members

### -Passengers

Yugo Kuboyama, Atsushi Kuboyama

Hinata Tamesui, Takashi Tamesui

Nanako Mori, Yukio Mori

Mirei Hamasu, Takahiro Hamasu

Miki Yamashita, Yumi Yamashita

Shoki Abe, Toshiyuki Abe

Sho Ishihara, Shiro Ishihara

Chie Itagaki, Kazuhiko Itagaki

Ryohei Okamoto, Mamoru Sakurai

Tetsutaro Kaida, Teruko Kaida

Shusuke Kondo, Junichi Kondo

Hiroki Namioka, Takiko Namioka

Yuka Namioka, Masahiro Namioka

Momoe Nishiyama, Hiromi Nishiyama

Ryo Nishimura, Reiko Nishimura

Yuichi Inoue [Ministry of Education,Culture,Sports,Science & Technology in Japan]

Iwaki Matsubara [Scientific Art Association]

Maki Nakamura [Isogo Culture Center]

### -Science Party

Shinji Tsuchida [JAMSTEC]

Yuji Miyake [JAMSTEC]

Retori Hiraoka [JAMSTEC]

Marika Ichianagi [MWJ]

Aya Fukami [Kitazato University]

### -Staffs

Shozo Tashiro [JAMSTEC]

Shinichi Mizumoto [JAMSTEC]

Sayoko Okada [JAMSTEC]

Nobuo Tomoda [JAMSTEC]

Yoshiyuki Ogita [JAMSTEC]

Kazue Hisamatsu [JAMSTEC]

Mirei Yamamoto [JAMSTEC]

Hiroko Oya [Kyoritsu Kanzai]

Rie Kobayashi [Kyoritsu Kanzai]

### 3. Cruise summary

In order that children shall have a better understanding of and deeper interests in the oceans, JAMSTEC provided a single-day boarding experiment on NATSUSHIMA to children who won prizes in the 14th Hagaki contest and their parents.



Boarding experiment carried out in order all the three days including the operation of NATSUSHIMA and HYPER-DOLPHIN. While HYPER-DOLPHIN's dives, many deep-sea organisms such as *Simenchelys doederleini* and *Holothuroidea* were observed through the high-definition RV camera. At the bottom of the ocean, HYPER-DOLPHIN did some experiments which were proposed by children. For example, HYPER-DOLPHIN shot a golf ball by snapping a rubber band to see how far the golf ball would fly for the question "is it possible to expand a rubber band at a great depth?" and fished with special rod and mackerel for the question "is it possible to fish at the bottom of ocean?". HYPER-DOLPHIN also carried polystyrene foams, ping-pong balls, cans of Coke, and other materials to the deep ocean for the question "how does water pressure affect the materials?". Children had opportunities to control HYPER-DOLPHIN from the control room on the ship as well.

#### 4. HYPER-DOLPHIN dive surveys

##### 4.1 Observation equipments

-suction sampler, multiple canister, binocular, microscope, cooler for aquaria, container, trap “Osakana Killer”

##### 4.2 Dive information

#1421 August 16, 2012 depth:792m

-Observed organisms

Macrouridae, *Simenchelys parasitica*, Actinostolidae gen, Etmopterus sp,

Bathynomus doederleini, and etc.



Macrouridae



*Simenchelys parasitica*



Actinostolidae gen



Etmopterus sp

-Experiments

- carried materials to see how water pressure affect them; pressure sheets, small lights, raw and boiled eggs, a ping-pong ball, a bottle of water, a bottle of Coke, a O2 balloon, a CO2 balloon, a N2 balloon, polystyrene foams, a ruler, a small water melon, candies, radishes, sunflower seeds.
- put lumps of chicken, mackerels, and bananas on the ocean floor.
- set a trap “Osakana Killer” on the ocean floor.
- collected ocean mud with MBARI.

- shot a golf ball by snapping a rubber band to see how far the ball would fly.

#1422 on Aug. 17, 2012 depth:1393m

-Observed organisms

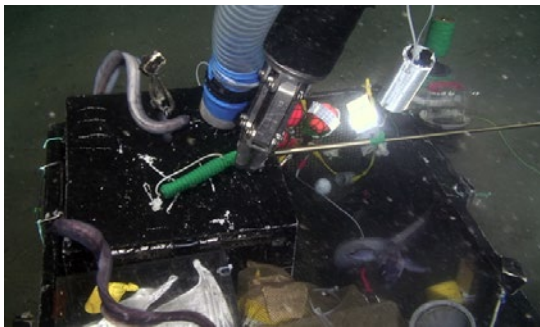
Lepidion, Etmopterus, *Simenchelys parasitica*, Amphipoda, Copepoda, Polychaetes, Holothuroidea, and etc.



Lepidion



Etmopterus



*Simenchelys parasitica*

-Experiment

- carried materials to see how water pressure affect them; pressure sheets, small lights, raw and boiled eggs, a ping-pong ball, a bottle of water, a bottle of Coke, a O2 balloon, a CO2 balloon, a N2 balloon, polystyrene foams, a ruler, a small water melon, candies, radishes, sunflower seeds.
- put lumps of chicken, mackerels, and bananas on the ocean floor.
- shot a golf ball by snapping a rubber band to see how far the ball would fly.



#1423 on Aug. 18, 2012 depth:820.8m

-Observed organisms

Comb jellies, Eupniastes eximia, Amphipoda, Bathynomus doederleini, Glyphocrangon sp., Simenchelys parasitica, Holothuroidea, and etc.



Comb jellies



Eupniastes eximia

-Experiment

- carried materials to see how water pressure affect them; pressure sheets, small lights, raw and boiled eggs, a ping-pong ball, a bottle of water, a bottle of Coke, a O2 balloon, a CO2 balloon, a N2 balloon, polystyrene foams, a ruler, a small water melon, candies, radishes, sunflower seeds.
- put a piece of chicken, mackerel, and banana on the ocean floor.
- collected the trap “Osakana Killer” which was set on the first day.
- collected ocean mud with MBARI.
- shot a golf ball by snapping a rubber band to see how far the ball would fly.

-Sampling list

JAMSTEC No.	On Board ID	Dive No.	*Sample Name	和名	Latitude	Longitude	Depth (m)	Date	No. of Inds.	Fixiation	Preservation
1120033445	1421-1	HPD#1421	Bathynomus doederleini	オオグソクムシ	34° 58.041'N	138° 35.814' E	782	2012 8.16	1	10% Formalin	70% Ethanol
1120033446	1421-2	HPD#1421	Etmopterus sp.	カラスザメ	34° 58.114'N	138° 35.953' E	813	2012 8.16	1	-30 deg. C	-30 deg. C
1120033447	1421-3	HPD#1421	Etmopterus sp.	カラスザメ	34° 58.114'N	138° 35.953' E	813	2012 8.16	1	-30 deg. C	-30 deg. C
1120033448	1422-1	HPD#1422	Amphipoda	端脚類	35° 0.058'N	138° 39.980' E	1395	2012 8.17	11	99.5% Ethanol	99.5% Ethanol
1120033449	1422-2	HPD#1422	Copepoda	カイアシ類	35° 0.058'N	138° 39.980' E	1395	2012 8.17	12	99.5% Ethanol	99.5% Ethanol
1120033450	1422-3	HPD#1422	Polychaetes	多毛類	35° 0.058'N	138° 39.980' E	1395	2012 8.17	3	99.5% Ethanol	99.5% Ethanol
1120033451	1422-4	HPD#1422	Holothuroidea	ナマコ類	35° 0.058'N	138° 39.980' E	1395	2012 8.17	6	99.5% Ethanol	99.5% Ethanol
1120033452	1423-1	HPD#1423	Amphipoda	端脚類	34° 58.042'N	138° 35.813' E	783	2012 8.18	39	10% Formalin	10% Formalin
1120033453	1423-2	HPD#1423	Amphipoda	端脚類	34° 58.042'N	138° 35.813' E	783	2012 8.18	41	70% Ethanol	70% Ethanol
1120033454	1423-3	HPD#1423	Bathynomus doederleini	オオグソクムシ	34° 58.051'N	138° 35.986' E	785	2012 8.18	1	-80 deg. C	-80 deg. C
1120033455	1423-4	HPD#1423	Bathynomus doederleini	オオグソクムシ	34° 58.042'N	138° 35.813' E	783	2012 8.18	4	10% Formalin	10% Formalin
1120033456	1423-5	HPD#1423	Glyphocrangon sp.	トゲヒラタエビ属	34° 58.045'N	138° 35.867' E	808	2012 8.18	1	Live	Live
1120033457	1423-6	HPD#1423	Simenchelys parasitica	コンゴウアナゴ	34° 58.051'N	138° 35.986' E	785	2012 8.18	1	Live	99.5% Ethanol
1120033458	1423-7	HPD#1423	Simenchelys parasitica	コンゴウアナゴ	34° 58.042'N	138° 35.813' E	783	2012 8.18	1	-80 deg. C	-80 deg. C
1120033459	1423-8	HPD#1423	Holothuroidea	ナマコ類	34° 58.095'N	138° 36.015' E	818	2012 8.18	1	10% Formalin	10% Formalin
1120033460	1423-9	HPD#1423	Simenchelys parasitica	コンゴウアナゴ	34° 58.051'N	138° 35.986' E	785	2012 8.18	1	Live	-80 deg. C





Collected sample; *Bathynomus doederleini*

Ocean condition was okay, but there were ocean swell from the south. Some people got seasick; one child on the first day, two children on the second day, and one parent on the last day. They took rest in a bedroom and came back to program when they got well.

The children and parents were warmly welcomed to NATSUSHIMA and seemed having fun. The goal “Having children better understanding of and deeper interests in the oceans” was successfully achieved.

## 5. Notice on Using

Notice on using: Insert the following notice to users regarding the data and samples obtained.

This cruise report is a preliminary documentation as of the end of the cruise.

This report may not be corrected even if changes on contents (i.e. taxonomic classifications) may be found after its publication. This report may also be changed without notice. Data on this cruise report may be raw or unprocessed. If you are going to use or refer to the data written on this report, please ask the Chief Scientist for latest information.

Users of data or results on this cruise report are requested to submit their results to the Data Management Group of JAMSTEC.