doi : 10.17596/0003481

NATSUSHIMA　Cruise Report
NT09-10 Leg.1

Nansei Island Trench

July 8 to 16, 2009

Japan Agency for Marin-Earth Science and Technology

(JAMSTEC)

Contents

Appendices

1. Cruise Information

Cruise number： NT09-10

1.2 Ship name：Natsushima

1.3 Title of the cruise: Nansei Island Trench

1.4 Chief Scientist:Yoshihisa SHIRAYAMA

[Seto Marine Biological Laboratory, Field Science Education and Research Center, Kyoto University]

1.5 Representative of research groups and research titles

1.5.1 Yoshihisa SHIRAYAMA

[Seto Marine Biological Laboratory, Field Science Education and Research Center, Kyoto University]

"Analyses of food web structure of the deep-sea benthic community associated with sunken wood"

1.5.2 Yoshihiro FUJIWARA

[Institute of biogeosciences
Japan Agency for Marine-Earth Science and Technology]

"The role of reduced environment developed on biological substances in the evolution of chemosynthetic symbiosis ecosystem"

1.6 Cruise period: July 8, 2009 to July 16, 2009 (9 days)

1.7 Departure: Ishigaki Port; Arrival: Naha Port

1.8 Research Area: Nansei Island Trench

1.9 Research Map

Several dives of Hyper Dolphin were planned originally from 275 to 3000 m (Fig. 1), but due to weather condition, only one dive (dive 1031) was realized at a depth of 275 m.

The detailed dive track of Dive 1031 is shown in Fig. 2. The details of events at each observation points of dive 1031 are listed in Table 1.

In addition to the dive of Hyper Dolphin, we set vertebrae of whale (3 pieces in one set), thighbones of pig and cow (2 sets) and three pieces of conifer were set on the sea floor by free fall from the ship at 24° 45.0030′ N 125° 45.0163′ E at a depth of 510m.

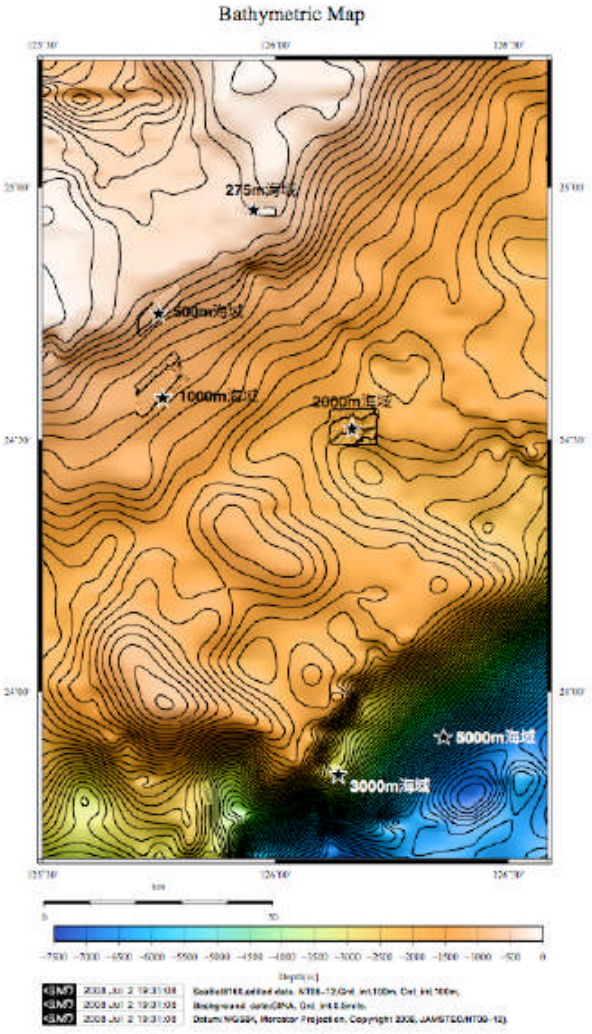

Figure 1: Map of Research Area.

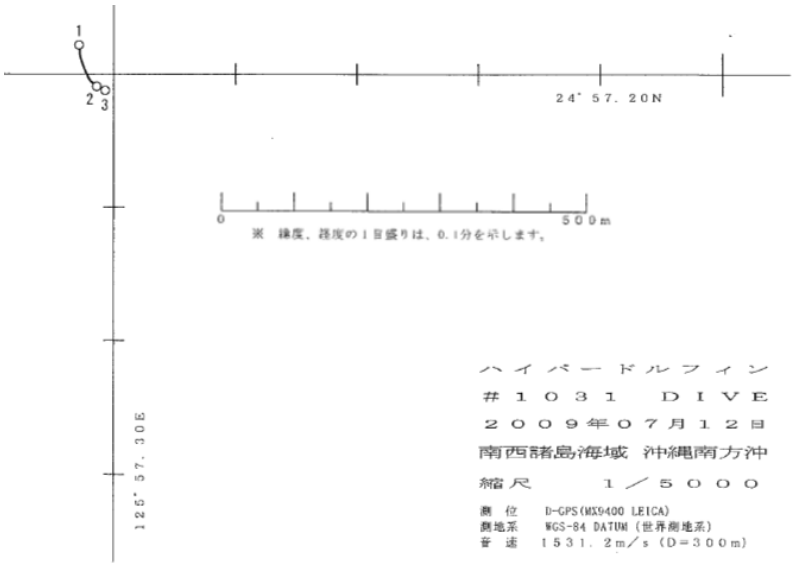

Fig. 2: Cruise track of Dive 1031.

Table 1: The list of actions taken at each event points during dive 1031.

Point No.	Time	Depth (m)	Description of actions
1	08:32	270	Touch the bottom
2	08:39	275	Found whale bones and woods set before
3	08:47	275	Plankton sampling #1
	08:52	275	Niskin water sampling #1
	08:58	275	Plankton sampling #2
	09:10	275	New pig bone was set
	09:11	275	Wood (L-13) retrieved
	09:29	275	MBARI sediment core (blue) sampled
	09:32	275	Sterile sediment sample (red) collected
	09:38	275	Plankton sampling #3
	09:51	275	Wood sample (Oak and coconuts:TP03) retrieved
	10:06	275	MBARI sediment core (green) sampled
	10:13	275	Sterile sediment sample (blue) collected
	10:16	275	Left from the bottom

2. List of Researchers

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3. Observations

3.1 Purpose and background

This cruise was done under collaboration of two research proposals. Recently, strong attention have been paid on the role of whale bone and/or sunken wood widely distributed in the deep sea as the stepping stone that facilitates adaptation and distribution of hydrothermal vent benthic community

that develops in the reduced environment. Experimental approaches were taken to investigate the role of sunken woods and whale bone in this aspect that during NT08-12 cruise (June 23 to July 4, 2008), at 6 different water depths ranging from 275 m to 4950 m, in the area of Nansei Island Trench, the research group of Kyoto University placed three sets of oak wood and coconut enclosed in a mesh net, whereas the group of JAMSTEC placed three pieces of wood log and whale bone nearby.

In Yokosuka Cruise YK-09-04, one dive (#1139) of Shinkai 6500 was carried out in the area of Nansei Island Trench, at 23°54.5N 126°21.7E, where the water dept was 4970m, and one set of woods were retrieved. However, very few organisms were found in the wood maybe because water depth is very large (5000m). On the other hand, the surface of the wood was covered by bacteria mat, and galathea crabs were associated with the wood logs.

The major purpose of this cruise was to recover one of three materials placed one year before and observe the succession of faunae associated with these materials that may help creating reduced environment in the deep sea. The top priority was set to recover the materials placed at the depth of 200 m, because they are expected to be infected by bores most rapidly.
The proposals of this cruise is attached in appendix 1 (in Japanese).

3.2 Preliminary Results

Landing: Time: 08:32, Lat: 24˚57.222'N, Long: 125˚57.271'E, Depth: 270 m
Leaving: Time: 10:16, Lat: 24˚57.188'N, Long: 125˚57.293'E, Depth: 276m
Chief observer: Florence PRADILLON (JAMSTEC)
Payload equipments:

1. Suction sampler & multiple canister	1
2. Sample box (square PCV)	1
3. Sample box (long PVC, 3 compartments)	1
4. MBARI corer	3
5. Sterile core	2
6. Niskin bottle	2
7. Frame with cow and pig bones (FL-01)	1
8. Wood pieces (cedar) (KC-01, KC-02)	2

Dive summary

One wood log and one Terrestrial Plant parcel deployed in June 2008 (NT08-12) were recovered, and new substrates (cow and pig bones, and cedar wood) were deployed at a depth of 275 m in the Nan Sei Shoto Trench. Whale vertebrae deployed last year had disappeared.

Dive report

・Recovery of biogenic substrates

One Keyaki wood log (L13) and one Terrestrial Plant parcel containing coconut and

oak (TP03) were collected at a depth of 275 m in the Nan Sei Shoto Trench. These substrates had been deployed one year before, during the cruise NT08-12 (HD 856, June 26th 2008) (Fig 1031-1). On wood logs, many white tubes of Serpulid polychaetes were visible *in situ*. One moray was installed underneath one of the wood logs. After arrival on deck, chitons, Sabellid polychaetes, limpets, gastropods and numerous holes of wood-boring bivalves were also visible on the collected wood log.
The Bryde's Whale vertebrae deployed during the dive HD 862 (June 30th 2008) of the cruise NT08-12 had disappeared although they had been weighted.
Small sharks were observed in the area while the Hyper-Dolphin was on the bottom.

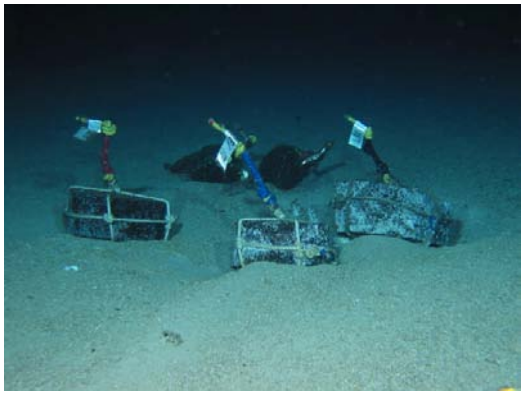

Fig. 1031-1: Wood and plant substrates deployed in 2008, during HD 856 (NT08-12), seen here one year after deployment, at 275m.

・Deployment of new biogenic substrates (Fig 1031-2)

One frame with hanging cow and pig bones (femur) was deployed next to the other substrates (FL-01). Two wood pieces (cedar, KC-01, KC-02) were also deployed at about 1.5 m from the TP.

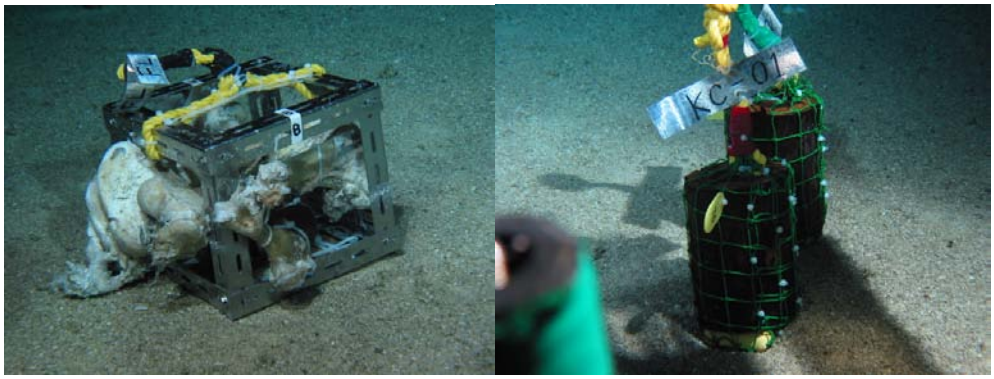

Fig. 1031-2. Newly deployed biogenic substrates. Left: Frame with cow and pig bones. Right: Cedar wood pieces.

・Plankton sampling

Plankton samples were collected using the succion sampler equipped wish meshed (50 μm) canisters. The first plankton sample (canister#1) was collected about 10 cm above the background sandy bottom (flow meter values: 406450-414952). The

second plankton sample (canister #2) was collected 10-50 cm above the wood log L13 before its recovery (flow meter values: 414952-422983.5). The third plankton sample (canister #3) was collected over the recovered TP03 (flow meter values: 422983.5-424263).

・Water sampling

Two Niskin bottles were used to collect seawater: one in the water column before landing on the bottom (at about 150 m depth), one just above the wood substrates.

・Sediment sampling

Sediments were collected with MBari cores just beneath the collected substrates (Blue MBari core underneath the wood log L13, Green MBari core underneath TP03). However, because the bottom was composed of coarse sand, no fine core could be recovered. In addition, sterile core for microbiological investigations were collected undearneath each collected substrates (Red sterile core underneath L13, Blue sterile core underneath TP03).

Sampling & marker points

(1) Larval collection #1, #2, collection of L13, deployment of FL-01, Blue MBari core, Red sterile core

24°57.188'N, 125°57.293'E, Depth: 275 m

(2) Larval collection #3, collection of TP03, deployment of KC-01 & 02, Green MBari core, Blue sterile core

24°57.188'N, 125°57.293'E, Depth: 276 m

Video highlights

Time	*Descriptions*
08:43:00 -08:44:22	Overview of the wood logs and TP before recovery
09:20:48 -09:21:40	Hermit crab on Serpulids on the wood logs
09:33:03 -09:34:00	Close up view of a moray underneath one of the wood logs

3.3 Scientific Results

3.3.1 Respective results by Florence PRADILLON (JAMSTEC)

Since no whale vertebrae could be retrieved during this cruise due to a combination of bad sea conditions that prevented most dives, and the disappearance of the vertebrae deployed in 2008 at the only site visited (275 m depth), most of the work planed could not be achieved.

However, test deployments of frames supporting cow and pig bones were conducted. One of these frames (FL-01) was deployed during the dive 1031 (July 12th) at the 275 m depth site. Two other frames (FL-02 & 03) were deployed by free fall from the R/V Natsushima, together with 3 Beaked whale vertebrae, at the position of

the 500 m depth study site. We are expecting colonization of these bones by Osedax polychaetes and we will retrieve them in 2010 (cruise proposal in preparation).
During the dive 1031, plankton samples collected above background sandy bottom and above a keyaki wood log did not reveal any polychaete larvae.
Polychaetes from the Keyaki wood log collected during dive 1031 were analyzed in order to complete the inventory of polychaete potentially sending eggs and larvae into the water column and that could be found together with Osedax larvae. The dominant taxa were large blue Amphinomidae and orange Lumbrineridae. These were found inside the burrows of wood boring bivalves in the core of the wood. At the surface of the log, abundant Serpulidae in white calcareous tubes were observed. Other less abundant families included: Hesionidae, Nereididae (3 species), Polynoidae (2 species), Dorvilleidae (at least 2 species, but very low abundance), Sabellidae, Ampharetidae, Phyllodocidae (small red specimens abundant in the bark, in wood boring bivalves holes, larger orange specimens in the central part of the wood). Species level identification will be conducted at the laboratory using morphological and genetic characteristics.

3.3.2 Respective results by Atsushi Nishimoto and Yoshihisa Shirayama
From the wood sample collected during dive 1031, Ubamegashi (Oak) was most distinctively bored by variety of organisms. Phyla Mollusca and Annelida were the most abundant. Eleven species of the phylum Mollusca were collected. Among them, wood boring bivalve *Coeloteredo mindanensis* was the most abundant. The species are common in the subtropical shallow water region, and the species prefer to bore into mangroves that are also very hard wood.The phylum Annelida included 15 families. Identification of these species are under preparation. The phylum Sipunculida was also found. Two individuals of asteroids (Echinodermata) also were found.

3.4 Future plan
3.4.1 Florence PRADILLON
Frames with cow and pig bones deployed at 275 m and 500 m depth will be recovered in 2010 (cruise proposal in preparation). On that occasion, a more complete set of new frames will be deployed at the same depths but also at other depths between 1000 and 5000 meters.

Polychaetes collected from the keyaki wood log will be identified to the species level whenever possible. Barcoding analysis including mitochondrial COI and nuclear18S rRNA genes will be conducted. 18S sequences will also be used in the design of species specific oligonucleotide probes for the molecular identification of larval stages.
Species composition on the wood log will be compared with species composition from the background sand (collected last year), from other wood log deployed at different depths (to be collected hopefully next year) and from whale vertebrae (also to be recovered next year). Such analysis will allow us to identify species specialized for these organic substrates, and species that have a more opportunistic strategy.

3.4.2 A. Nishimoto and Y. Shirayama

We want to collect TP samples deployed at different water depths in 2010 and compare the species composition between TP samples. And we will try to clarify the effect of different water depths on species composition and succession speed. About samples whose amount is enough to measure carbon and nitrogen stable isotope ratios, we will measure them to clarify their food source.

4. Notice on using

This cruise report is a preliminary documentation as of the end of the cruise. It may not be corrected even if changes on content (i.e. taxonomic identification) are found after publication. It may also be changed without notice. Data on the cruise report may be raw or not processed. Please ask the Chief Scientist for the latest information before using.

Users of data or results of this cruise are requested to submit their results to Data Integration and Analysis Group (DIAG), JAMSTEC.

Appendices

I Sample List

I-1 Benthos

ID Number for this table	Species Name	Identified by
1	Caridea gen. sp.	Yamamoto
2	Brachyura gen. sp.1	Yamamoto
3	Brachyura gen. sp.2	Yamamoto
4	Anomura gen. sp.	Yamamoto
5	missing number	Yamamoto
6	Crashed wood (inside)	
7	Crashed wood (outside)	
8	Gorgonacea gen. sp.	Yamamoto
9	Actinaria gen. sp.	Yamamoto
10	*Adipicola* cof *iwaotakkii* type 1	Haga
11	*Adipicola* cof *iwaotakkii* type 1	Haga
12	*Adipicola* cof *iwaotakkii* type 1	Haga
13	*Adipicola* cof *iwaotakkii* type 1	Haga
14	*Adipicola* cof *iwaotakkii* type 1	Haga
15	*Adipicola* cof *iwaotakkii* type 1	Haga
16	*Adipicola* cof *iwaotakkii* type 1	Haga
17	*Adipicola* cof *iwaotakkii* type 1	Haga
18	*Adipicola* cof *iwaotakkii* type 1	Haga
19	*Adipicola* cof *iwaotakkii* type 1	Haga
20	*Adipicola* cof i*waotakkii* type 2	Haga
21	*Adipicola* cof i*waotakkii* type 2	Haga
22	*Adipicola* cof i*waotakkii* type 2	Haga
23	*Adipicola* cof i*waotakkii* type 2	Haga
24	*Adipicola* cof i*waotakkii* type 2	Haga
25	*Adipicola* sp. 1	Haga
26	*Adipicola* sp. 1	Haga
27	*Adipicola* sp. 1	Haga
28	*Adipicola* sp. 1	Haga

29	*Adipicola* sp. 1	Haga
30	*Adipicola* sp. 1	Haga
31	*Adipicola* sp. 1	Haga
32	*Adipicola* sp. 1	Haga
33	*Adipicola* sp. 1	Haga
34	*Adipicola* sp. 1	Haga
35	Isopoda gen. sp.	Yamamoto
36	Isopoda gen. sp.	Yamamoto
37	Isopoda gen. sp.	Yamamoto
38	Teredinidar gen. sp.	Haga
39	Teredinidar gen. sp.	Haga
40	Coeloferede gen. sp.	Haga
41	Ａｓｔｅｒｏｉｄｅａｅ gen. sp.	Haga
42	*Adipicola* sp. 2	Haga
43	*Adipicola* sp. 1	Haga
44	*Adipicola* cof *iwaotakkii*	Haga
45	*Adipicola* sp. 1	Haga
46	*Adipicola* sp. 1	Haga
47	Sipunsula gen. sp.	Haga
48	Sipunsula gen. sp.	Haga
49	Sipunsula gen. sp.	Haga
50	*Adipicola* cof *iwaotakkii*	Haga
51	*Adipicola* cof *iwaotakkii*	Haga
52	Lumbrineridae gen. spp.	Florence
53	Amphinomidae gen. spp.	Florence
54	*Adipicola* cof *iwaotakkii*	Haga
55	Leptochiton sp.	Haga
56	*Adipicola* cof *iwaotakkii*	Haga
57	Amphinomidae gen. sp.1	Nishimoto
58	Amphinomidae gen. sp.1	Nishimoto
59	Amphinomidae gen. sp.1	Nishimoto
60	Amphinomidae gen. sp.1	Nishimoto
61	Lumbrineridae gen. sp.1	Nishimoto
62	Lumbrineridae gen. sp.1	Nishimoto
63	Lumbrineridae gen. sp.1	Nishimoto

64	Lumbrineridae gen. sp.2	Nishimoto
65	Lumbrineridae gen. sp.2	Nishimoto
66	Lumbrineridae gen. sp.2	Nishimoto
67		Nishimoto
68		Nishimoto
69		Nishimoto
70		Nishimoto
71		Nishimoto
72		Nishimoto
73		Nishimoto
74		Nishimoto
75		Nishimoto
76		Nishimoto
77		Nishimoto
78		Nishimoto
79	Amphinomidae gen. sp.2	Nishimoto
80	Amphinomidae gen. sp.3	Nishimoto
81	Amphinomidae gen. sp.3	Nishimoto
82	Amphinomidae gen. spp.	Nishimoto
83	Polychaeta gen. sp.2	Nishimoto
84		Nishimoto
85	Lumbrineridae gen. sp.1	Nishimoto
86	Lumbrineridae gen. sp.2	Nishimoto
87	Crashed wood	Nishimoto
88	Teredinidar gen. sp.	Haga
89	Amphinomidae gen. sp.2	Nishimoto
90	Bacteria mat	
91	Echinoidea gen. sp.	Fujiwara
92	Asteroidea gen. sp.	Ito
93	*Adipicola* sp.	Fujiwara
94	Fraction	
95	Lumbrineridae sp.1	Nishimoto
96	Lumbrineridae sp.1	Nishimoto
97	Lumbrineridae sp.2	Nishimoto
98	Lumbrineridae sp.2	Nishimoto

99	Lumbrineridae sp.3	Nishimoto
100	Aphroditoidea sp.1	Nishimoto
101	Aphroditoidea sp.1	Nishimoto
102	Aphroditoidea sp.2	Nishimoto
103	Aphroditoidea sp.2	Nishimoto
104	Nereididae sp.1	Nishimoto
105	Nereididae sp.1	Nishimoto
106	Nereididae sp.2	Nishimoto
107	Nereididae sp.2	Nishimoto
108	Glyceriformia	Nishimoto
109	Glyceriformia	Nishimoto
110	Capitellidae	Nishimoto
111	Fam., Gen. & sp.	Nishimoto
112	Chrysopetalidae	Nishimoto
113	Hesionidae	Nishimoto
114	Seruplidae	Nishimoto
115	Spionidae	Nishimoto
116	Dorvilleidae	Nishimoto
117	Amphinomida	Nishimoto
118	Syllidae	Nishimoto
119	Sipuncula Fam., Gen. & sp.	Nishimoto
120	Ophiuroidea Fam., Gen. & sp.	Nishimoto
121	Barnacle	Nishimoto
122	Dorvilleidae	Nishimoto
123	Ophiuroidea Fam., Gen. & sp.	Nishimoto
124	Leptochiton sp.	Haga
125	Cocculina sp.	Haga
126	Notocrater sp.	Haga
127	Skenea sp.	Haga
128	Dillwynella sp.	Haga
129	Pseudothalopia sp.	Haga
130	Homalopoma laevigatum	Haga
131	Homalopoma sp.	Haga
132	Capulus sp.	Haga
133	Mitrella circumstriata	Haga

134	Adipicola spp.	Haga
135	Coeloteredo mindanensis	Haga
136	Coeloteredo mindanensis	Haga
137	Sipuncula Fam., Gen. & sp.	Haga
138	Galatheid Fam. Gen. & sp.	Haga
139	Brachura Fam. Gen. & sp.	Haga
140	Cocculina spp.	Haga
141	Notocrater sp.	Haga
142	Xylophaga supplicata	Haga
143	Pectinodonta rhyssa	Haga
144	Pectinodonta rhyssa	Haga
145	Cocculina spp.	Haga
146	Cocculina spp.	Haga
147	Pseudococculinidae spp.	Haga
148	Pseudococculinidae spp.	Haga
149	Pseudothalopia sp.	Haga
150	Pseudothalopia sp.	Haga
151	Homalopoma laevigatum	Haga
152	Homalopoma laevigatum	Haga
153	Homalopoma sp.	Haga
154	Homalopoma sp.	Haga
155	Ponderinella sp.	Haga
156	Ponderinella sp.	Haga
157	Nozeba sp. cf. N. lignicola	Haga
158	Nozeba sp. cf. N. lignicola	Haga
159	Leptogyropsis sp. cf. inflata	Haga
160	Leptogyropsis sp. cf. inflata	Haga
161	Mitrella circumstriata	Haga
162	Mitrella circumstriata	Haga
163	Pyramidelloidea Fam. Gen. & sp. 1	Haga
164	Pyramidelloidea Fam. Gen. & sp. 1	Haga
165	Pyramidelloidea Fam. Gen. & sp. 2	Haga
166	Coeloteredo mindanensis	Haga
167	Coeloteredo mindanensis	Haga
168	Bankia bipalmulata	Haga

169	Teredinidae spp.	Haga
170	Xylophaga sp. cf. X. bayeri	Haga
171	Platyhelmintes	Haga
172	Brachura Fam. Gen. & sp.	Haga
173	hermet crab with a conch	Haga
174	Isopod	Haga
175	hydrozoa?	
176	Barnacle	Haga
177	sediment from wood	Haga
178	Adipicola sp.	Ito
179	Adipicola spp.	Ito
180	Adipicola spp.	Ito
181	Adipicola sp.	Ito
182	Adipicola sp.	Ito
183	plankton sample	Florence
184	larvae	Florence
185	plankton sample	Florence
186	mixed sample	Florence
187	mixed sample	Florence
188	mixed sample	Florence
189	Polychaeta Dorvilleidae	Florence
190	Polychaeta Dorvilleidae	Florence
191	Polychaeta Dorvilleidae	Florence
192	Polychaeta Hesionidae	Florence
193	Polychaeta Hesionidae	Florence
194	Polychaeta Lumbrineridae	Florence
195	Polychaeta Lumbrineridae	Florence
196	Polychaeta Amphinomidae	Florence
197	Polychaeta Amphinomidae	Florence
198	Polychaeta Amphinomidae	Florence
199	Polychaeta Amphinomidae	Florence
200	Polychaeta Phyllodocidae	Florence
201	Polychaeta Phyllodocidae	Florence
202	Polychaeta Nereididae	Florence
203	Polychaeta Amphinomidae	Florence

204	Polychaeta Amphinomidae	Florence
205	Mixture of polychaeta pieces	Florence
206	Polychaeta Phyllodocidae	Florence
207	Polychaeta Phyllodocidae	Florence
208	Polychaeta Polynoidae	Florence
209	Polychaeta Amphinomidae	Florence
210	Polychaeta Amphinomidae	Florence
211	Polychaeta Amphinomidae	Florence
212	Polychaeta Lumbrineridae	Florence
213	Polychaeta Lumbrineridae	Florence
214	Polychaeta Nereididae	Florence
215	Polychaeta Nereididae	Florence
216	Polychaeta Nereididae	Florence
217	Mixture of polychaeta pieces	Florence
218	Polychaeta Phyllodocidae	Florence
219	Polychaeta Sabellidae	Florence
220	Polychaeta Sabellidae	Florence
221	Polychaeta Dorvilleidae	Florence
222	Polychaeta Serpulidae	Florence
223	Polychaeta Serpulidae	Florence
224	Polychaeta Sabellidae	Florence
225	Polychaeta Ampharetidae	Florence
226	Mixture of polychaeta	Florence
227	Polychaeta Polynoidae	Florence
228	>1mm fraction of water from keyaki wood	Florence
229	>1mm fraction of water from keyaki wood	Florence
230	250–1 mm fraction of water from keyaki wood	Florence
231	250–1 mm fraction of water from keyaki wood	Florence
232	>500 microm fraction of water from keyaki wood	Florence
233	>500 microm fraction of water from keyaki wood	Florence
234	Bark with associated organisms	Florence
235	50–250 microm fraction of water from keyaki wood	Florence
236	Nereididae gen. sp.	Florence
237	Nereididae gen. sp.	Florence

Benthos (Continued)

ID Number for this table	Locality Site	Depth	Lat./Long.	°	'	N or S	/	°		E or W
1	Nansei Shoto	276		24	57.188	N		125	57.293	E
2	Nansei Shoto	276		24	57.188	N		125	57.293	E
3	Nansei Shoto	276		24	57.188	N		125	57.293	E
4	Nansei Shoto	276		24	57.188	N		125	57.293	E
5	Nansei Shoto	276		24						
6	Nansei Shoto	276		24	57.188	N		125	57.293	E
7	Nansei Shoto	276		24	57.188	N		125	57.293	E
8	Nansei Shoto	276		24	57.188	N		125	57.293	E
9	Nansei Shoto	276		24	57.188	N		125	57.293	E
10	Nansei Shoto	276		24	57.188	N		125	57.293	E
11	Nansei Shoto	276		24	57.188	N		125	57.293	E
12	Nansei Shoto	276		24	57.188	N		125	57.293	E
13	Nansei Shoto	276		24	57.188	N		125	57.293	E
14	Nansei Shoto	276		24	57.188	N		125	57.293	E
15	Nansei Shoto	276		24	57.188	N		125	57.293	E
16	Nansei Shoto	276		24	57.188	N		125	57.293	E
17	Nansei Shoto	276		24	57.188	N		125	57.293	E
18	Nansei Shoto	276		24	57.188	N		125	57.293	E
19	Nansei Shoto	276		24	57.188	N		125	57.293	E
20	Nansei Shoto	276		24	57.188	N		125	57.293	E
21	Nansei Shoto	276		24	57.188	N		125	57.293	E
22	Nansei Shoto	276		24	57.188	N		125	57.293	E
23	Nansei Shoto	276		24	57.188	N		125	57.293	E
24	Nansei Shoto	276		24	57.188	N		125	57.293	E
25	Nansei Shoto	276		24	57.188	N		125	57.293	E
26	Nansei Shoto	276		24	57.188	N		125	57.293	E
27	Nansei Shoto	276		24	57.188	N		125	57.293	E
28	Nansei Shoto	276		24	57.188	N		125	57.293	E

29	Nansei Shoto	276		24	57.188	N		125	57.293	E
30	Nansei Shoto	276		24	57.188	N		125	57.293	E
31	Nansei Shoto	276		24	57.188	N		125	57.293	E
32	Nansei Shoto	276		24	57.188	N		125	57.293	E
33	Nansei Shoto	276		24	57.188	N		125	57.293	E
34	Nansei Shoto	276		24	57.188	N		125	57.293	E
35	Nansei Shoto	276		24	57.188	N		125	57.293	E
36	Nansei Shoto	276		24	57.188	N		125	57.293	E
37	Nansei Shoto	276		24	57.188	N		125	57.293	E
38	Nansei Shoto	276		24	57.188	N		125	57.293	E
39	Nansei Shoto	276		24	57.188	N		125	57.293	E
40	Nansei Shoto	276		24	57.188	N		125	57.293	E
41	Nansei Shoto	276		24	57.188	N		125	57.293	E
42	Nansei Shoto	276		24	57.188	N		125	57.293	E
43	Nansei Shoto	276		24	57.188	N		125	57.293	E
44	Nansei Shoto	276		24	57.188	N		125	57.293	E
45	Nansei Shoto	276		24	57.188	N		125	57.293	E
46	Nansei Shoto	276		24	57.188	N		125	57.293	E
47	Nansei Shoto	276		24	57.188	N		125	57.293	E
48	Nansei Shoto	276		24	57.188	N		125	57.293	E
49	Nansei Shoto	276		24	57.188	N		125	57.293	E
50	Nansei Shoto	276		24	57.188	N		125	57.293	E
51	Nansei Shoto	276		24	57.188	N		125	57.293	E
52	Nansei Shoto	276		24	57.188	N		125	57.293	E
53	Nansei Shoto	276		24	57.188	N		125	57.293	E
54	Nansei Shoto	276		24	57.188	N		125	57.293	E
55	Nansei Shoto	276		24	57.188	N		125	57.293	E
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59	Nansei Shoto	276		24	57.188	N		125	57.293	E
60	Nansei Shoto	276		24	57.188	N		125	57.293	E
61	Nansei Shoto	276		24	57.188	N		125	57.293	E
62	Nansei Shoto	276		24	57.188	N		125	57.293	E
63	Nansei Shoto	276		24	57.188	N		125	57.293	E

64	Nansei Shoto	276		24	57.188	N		125	57.293	E
65	Nansei Shoto	276		24	57.188	N		125	57.293	E
66	Nansei Shoto	276		24	57.188	N		125	57.293	E
67	Nansei Shoto	276		24	57.188	N		125	57.293	E
68	Nansei Shoto	276		24	57.188	N		125	57.293	E
69	Nansei Shoto	276		24	57.188	N		125	57.293	E
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71	Nansei Shoto	276		24	57.188	N		125	57.293	E
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73	Nansei Shoto	276		24	57.188	N		125	57.293	E
74	Nansei Shoto	276		24	57.188	N		125	57.293	E
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79	Nansei Shoto	276		24	57.188	N		125	57.293	E
80	Nansei Shoto	276		24	57.188	N		125	57.293	E
81	Nansei Shoto	276		24	57.188	N		125	57.293	E
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83	Nansei Shoto	276		24	57.188	N		125	57.293	E
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86	Nansei Shoto	276		24	57.188	N		125	57.293	E
87	Nansei Shoto	276		24	57.188	N		125	57.293	E
88	Nansei Shoto	276		24	57.188	N		125	57.293	E
89	Nansei Shoto	276		24	57.188	N		125	57.293	E
90	Nansei Shoto	276		24	57.188	N		125	57.293	E
91	Nansei Shoto	276		24	57.188	N		125	57.293	E
92	Nansei Shoto	276		24	57.188	N		125	57.293	E
93	Nansei Shoto	276		24	57.188	N		125	57.293	E
94	Nansei Shoto	276		24	57.188	N		125	57.293	E
95	Nansei Shoto	275		24	57.177	N		125	57.318	E
96	Nansei Shoto	275		24	57.177	N		125	57.318	E
97	Nansei Shoto	275		24	57.177	N		125	57.318	E
98	Nansei Shoto	275		24	57.177	N		125	57.318	E

99	Nansei Shoto	275		24	57.177	N		125	57.318	E
100	Nansei Shoto	275		24	57.177	N		125	57.318	E
101	Nansei Shoto	275		24	57.177	N		125	57.318	E
102	Nansei Shoto	275		24	57.177	N		125	57.318	E
103	Nansei Shoto	275		24	57.177	N		125	57.318	E
104	Nansei Shoto	275		24	57.177	N		125	57.318	E
105	Nansei Shoto	275		24	57.177	N		125	57.318	E
106	Nansei Shoto	275		24	57.177	N		125	57.318	E
107	Nansei Shoto	275		24	57.177	N		125	57.318	E
108	Nansei Shoto	275		24	57.177	N		125	57.318	E
109	Nansei Shoto	275		24	57.177	N		125	57.318	E
110	Nansei Shoto	275		24	57.177	N		125	57.318	E
111	Nansei Shoto	275		24	57.177	N		125	57.318	E
112	Nansei Shoto	275		24	57.177	N		125	57.318	E
113	Nansei Shoto	275		24	57.177	N		125	57.318	E
114	Nansei Shoto	275		24	57.177	N		125	57.318	E
115	Nansei Shoto	275		24	57.177	N		125	57.318	E
116	Nansei Shoto	275		24	57.177	N		125	57.318	E
117	Nansei Shoto	275		24	57.177	N		125	57.318	E
118	Nansei Shoto	275		24	57.177	N		125	57.318	E
119	Nansei Shoto	275		24	57.177	N		125	57.318	E
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122	Nansei Shoto	275		24	57.177	N		125	57.318	E
123	Nansei Shoto	275		24	57.177	N		125	57.318	E
124	Nansei Shoto	275		24	57.177	N		125	57.318	E
125	Nansei Shoto	275		24	57.177	N		125	57.318	E
126	Nansei Shoto	275		24	57.177	N		125	57.318	E
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128	Nansei Shoto	275		24	57.177	N		125	57.318	E
129	Nansei Shoto	275		24	57.177	N		125	57.318	E
130	Nansei Shoto	275		24	57.177	N		125	57.318	E
131	Nansei Shoto	275		24	57.177	N		125	57.318	E
132	Nansei Shoto	275		24	57.177	N		125	57.318	E
133	Nansei Shoto	275		24	57.177	N		125	57.318	E

134	Nansei Shoto	275		24	57.177	N		125	57.318	E
135	Nansei Shoto	275		24	57.177	N		125	57.318	E
136	Nansei Shoto	275		24	57.177	N		125	57.318	E
137	Nansei Shoto	275		24	57.177	N		125	57.318	E
138	Nansei Shoto	275		24	57.177	N		125	57.318	E
139	Nansei Shoto	275		24	57.177	N		125	57.318	E
140	Nansei Shoto	275		24	57.177	N		125	57.318	E
141	Nansei Shoto	275		24	57.177	N		125	57.318	E
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153	Nansei Shoto	275		24	57.177	N		125	57.318	E
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155	Nansei Shoto	275		24	57.177	N		125	57.318	E
156	Nansei Shoto	275		24	57.177	N		125	57.318	E
157	Nansei Shoto	275		24	57.177	N		125	57.318	E
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159	Nansei Shoto	275		24	57.177	N		125	57.318	E
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161	Nansei Shoto	275		24	57.177	N		125	57.318	E
162	Nansei Shoto	275		24	57.177	N		125	57.318	E
163	Nansei Shoto	275		24	57.177	N		125	57.318	E
164	Nansei Shoto	275		24	57.177	N		125	57.318	E
165	Nansei Shoto	275		24	57.177	N		125	57.318	E
166	Nansei Shoto	275		24	57.177	N		125	57.318	E
167	Nansei Shoto	275		24	57.177	N		125	57.318	E
168	Nansei Shoto	275		24	57.177	N		125	57.318	E

169	Nansei Shoto	275		24	57.177	N		125	57.318	E
170	Nansei Shoto	275		24	57.177	N		125	57.318	E
171	Nansei Shoto	275		24	57.177	N		125	57.318	E
172	Nansei Shoto	275		24	57.177	N		125	57.318	E
173	Nansei Shoto	275		24	57.177	N		125	57.318	E
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178	Nansei Shoto	275		24	57.177	N		125	57.318	E
179	Nansei Shoto	275		24	57.177	N		125	57.318	E
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183	Nansei Shoto	276		24	57.188	N		125	57.293	E
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185	Nansei Shoto	276		24	57.188	N		125	57.293	E
186	Nansei Shoto	276		24	57.188	N		125	57.293	E
187	Nansei Shoto	276		24	57.188	N		125	57.293	E
188	Nansei Shoto	276		24	57.188	N		125	57.293	E
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201	Nansei Shoto	276		24	57.188	N		125	57.293	E
202	Nansei Shoto	276		24	57.188	N		125	57.293	E
203	Nansei Shoto	276		24	57.188	N		125	57.293	E

204	Nansei Shoto	276		24	57.188	N		125	57.293	E
205	Nansei Shoto	276		24	57.188	N		125	57.293	E
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227	Nansei Shoto	276		24	57.188	N		125	57.293	E
228	Nansei Shoto	276		24	57.188	N		125	57.293	E
229	Nansei Shoto	276		24	57.188	N		125	57.293	E
230	Nansei Shoto	276		24	57.188	N		125	57.293	E
231	Nansei Shoto	276		24	57.188	N		125	57.293	E
232	Nansei Shoto	276		24	57.188	N		125	57.293	E
233	Nansei Shoto	276		24	57.188	N		125	57.293	E
234	Nansei Shoto	276		24	57.188	N		125	57.293	E
235	Nansei Shoto	276		24	57.188	N		125	57.293	E
236	Nansei Shoto	276		24	57.188	N		125	57.293	E
237	Nansei Shoto	276		24	57.188	N		125	57.293	E

Benthos (Continued)

ID Number for this table	Date	No. of Inds.	Dive No./ Collecting Methods	Present Location
1	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
2	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
3	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
4	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
5				
6	2009/7/12	1	HD#1031/Manipulator	Okayama Uni.
7	2009/7/12	1	HD#1031/Manipulator	Okayama Uni.
8	2009/7/12	1	HD#1031/Manipulator	Okayama Uni.
9	2009/7/12	1	HD#1031/Manipulator	Okayama Uni.
10	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
11	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
12	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
13	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
14	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
15	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
16	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
17	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
18	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
19	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
20	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
21	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
22	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
23	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
24	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
25	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
26	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
27	2009/7/12	1	HD#1031/Manipulator	JAMSTEC

28	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
29	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
30	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
31	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
32	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
33	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
34	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
35	2009/7/12	3	HD#1031/Manipulator	JAMSTEC
36	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
37	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
38	2009/7/12	34	HD#1031/Manipulator	JAMSTEC
39	2009/7/12	14	HD#1031/Manipulator	Ｏｋａｙａｍａ　Ｕｎｉ.
40	2009/7/12	4	HD#1031/Manipulator	JAMSTEC
41	2009/7/12	3	HD#1031/Manipulator	JAMSTEC
42	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
43	2009/7/12	1	HD#1031/Manipulator	Ishinomaki Senshu Uni.
44	2009/7/12	10	HD#1031/Manipulator	Ｏｋａｙａｍａ　Ｕｎｉ.
45	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
46	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
47	2009/7/12	10	HD#1031/Manipulator	Ｏｋａｙａｍａ　Ｕｎｉ.
48	2009/7/12	31	HD#1031/Manipulator	JAMSTEC
49	2009/7/12	20	HD#1031/Manipulator	JAMSTEC
50	2009/7/12	17	HD#1031/Manipulator	JAMSTEC
51	2009/7/12		HD#1031/Manipulator	Ishinomaki Senshu Uni.
52	2009/7/12	12	HD#1031/Manipulator	Ｏｋａｙａｍａ　Ｕｎｉ.
53	2009/7/12	4	HD#1031/Manipulator	Ｏｋａｙａｍａ　Ｕｎｉ.
54	2009/7/12	3	HD#1031/Manipulator	JAMSTEC
55	2009/7/12	4	HD#1031/Manipulator	Tokyo Uni.
56	2009/7/12	8	HD#1031/Manipulator	JAMSTEC
57	2009/7/12	4	HD#1031/Manipulator	Kyoto Uni.

58	2009/7/12	9	HD#1031/Manipulator	Ｏｋａｙａｍａ　Ｕｎｉ．
59	2009/7/12	4	HD#1031/Manipulator	Kyoto Uni.
60	2009/7/12	1	HD#1031/Manipulator	JAMSTEC
61	2009/7/12	5	HD#1031/Manipulator	Kyoto Uni.
62	2009/7/12	15	HD#1031/Manipulator	Ｏｋａｙａｍａ　Ｕｎｉ．
63	2009/7/12	10	HD#1031/Manipulator	Kyoto Uni.
64	2009/7/12	10	HD#1031/Manipulator	Kyoto Uni.
65	2009/7/12		HD#1031/Manipulator	Ｏｋａｙａｍａ　Ｕｎｉ．
66	2009/7/12		HD#1031/Manipulator	Kyoto Uni.
67	2009/7/12	4	HD#1031/Manipulator	Kyoto Uni.
68	2009/7/12		HD#1031/Manipulator	Ｏｋａｙａｍａ　Ｕｎｉ．
69	2009/7/12	2	HD#1031/Manipulator	Kyoto Uni.
70	2009/7/12		HD#1031/Manipulator	Ｏｋａｙａｍａ　Ｕｎｉ．
71	2009/7/12	2	HD#1031/Manipulator	Kyoto Uni.
72	2009/7/12		HD#1031/Manipulator	Ｏｋａｙａｍａ　Ｕｎｉ．
73	2009/7/12		HD#1031/Manipulator	Ｏｋａｙａｍａ　Ｕｎｉ．
74	2009/7/12	1	HD#1031/Manipulator	Kyoto Uni.
75	2009/7/12	1	HD#1031/Manipulator	Kyoto Uni.
76	2009/7/12	1	HD#1031/Manipulator	Kyoto Uni.
77	2009/7/12	1	HD#1031/Manipulator	Kyoto Uni.
78	2009/7/12	10	HD#1031/Manipulator	Kyoto Uni.
79	2009/7/12	1	HD#1031/Manipulator	Kyoto Uni.
80	2009/7/12	2	HD#1031/Manipulator	Kyoto Uni.
81	2009/7/12	1	HD#1031/Manipulator	Kyoto Uni.
82	2009/7/12	2	HD#1031/Manipulator	Kyoto Uni.
83	2009/7/12	1	HD#1031/Manipulator	Kyoto Uni.
84	2009/7/12	1	HD#1031/Manipulator	Kyoto Uni.
85	2009/7/12	10	HD#1031/Manipulator	Kyoto Uni.

86	2009/7/12	1	HD#1031/Manipulator	Kyoto Uni.
87	2009/7/12	many	HD#1031/Manipulator	JAMSTEC(M)
88	2009/7/12	1	HD#1031/Manipulator	JAMSTEC(M)
89	2009/7/12		HD#1031/Manipulator	Okayama Uni.
90	2009/7/12		HD#1031/Manipulator	JAMSTEC(M)
91	2009/7/12	2	HD#1031/Manipulator	JAMSTEC
92	2009/7/12	many	HD#1031/Manipulator	JAMSTEC
93	2009/7/12		HD#1031/Manipulator	Ishinomaki Senshu Uni.
94	2009/7/12		HD#1031/MBARI	JAMSTEC
95	2009/7/12	5	HD#1031/Manipulator	Kyoto University
96	2009/7/12	2	HD#1031/Manipulator	Kyoto University
97	2009/7/12	10	HD#1031/Manipulator	Kyoto University
98	2009/7/12	2	HD#1031/Manipulator	Kyoto University
99	2009/7/12	4	HD#1031/Manipulator	Kyoto University
100	2009/7/12	2	HD#1031/Manipulator	Kyoto University
101	2009/7/12	1	HD#1031/Manipulator	Kyoto University
102	2009/7/12	2	HD#1031/Manipulator	Kyoto University
103	2009/7/12	1	HD#1031/Manipulator	Kyoto University
104	2009/7/12	9	HD#1031/Manipulator	Kyoto University
105	2009/7/12	1	HD#1031/Manipulator	Kyoto University
106	2009/7/12	6	HD#1031/Manipulator	Kyoto University
107	2009/7/12	1	HD#1031/Manipulator	Kyoto University
108	2009/7/12	1	HD#1031/Manipulator	Kyoto University
109	2009/7/12	1	HD#1031/Manipulator	Kyoto University
110	2009/7/12	1	HD#1031/Manipulator	Kyoto University
111	2009/7/12	1	HD#1031/Manipulator	Kyoto University
112	2009/7/12	1	HD#1031/Manipulator	Kyoto University
113	2009/7/12	1	HD#1031/Manipulator	Kyoto University
114	2009/7/12	2	HD#1031/Manipulator	Kyoto University
115	2009/7/12	1	HD#1031/Manipulator	Kyoto University
116	2009/7/12	4	HD#1031/Manipulator	Kyoto University
117	2009/7/12	1	HD#1031/Manipulator	Kyoto University
118	2009/7/12	1	HD#1031/Manipulator	Kyoto University
119	2009/7/12	5	HD#1031/Manipulator	Kyoto University
120	2009/7/12	2	HD#1031/Manipulator	Kyoto University

121	2009/7/12	1	HD#1031/Manipulator	Kyoto University
122	2009/7/12	1	HD#1031/Manipulator	Kyoto University
123	2009/7/12	1	HD#1031/Manipulator	Kyoto University
124	2009/7/12	3	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
125	2009/7/12	2	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
126	2009/7/12	several	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
127	2009/7/12	several	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
128	2009/7/12	several	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
129	2009/7/12	7	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
130	2009/7/12	3	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
131	2009/7/12	10	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
132	2009/7/12	1	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
133	2009/7/12	2	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
134	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)

135	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
136	2009/7/12	5	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
137	2009/7/12	2	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
138	2009/7/12	1	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
139	2009/7/12	1	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
140	2009/7/12	10	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
141	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
142	2009/7/12	8 (empty)	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
143	2009/7/12	several	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
144	2009/7/12	several	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
145	2009/7/12	several	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
146	2009/7/12	several	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)

147	2009/7/12	several	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
148	2009/7/12	several	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
149	2009/7/12	3	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
150	2009/7/12	5	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
151	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
152	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
153	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
154	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
155	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
156	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
157	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
158	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)

159	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
160	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
161	2009/7/12	3	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
162	2009/7/12	5	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
163	2009/7/12	2	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
164	2009/7/12	3	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
165	2009/7/12	1	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
166	2009/7/12	1	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
167	2009/7/12	1	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
168	2009/7/12	2 (empty valves and pallets)	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
169	2009/7/12	many (empty valves and pallets)	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
170	2009/7/12	many (empty	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and

		valves)		Science)
171	2009/7/12	1	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
172	2009/7/12	1	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
173	2009/7/12	1	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
174	2009/7/12	1	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
175	2009/7/12	several banches	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
176	2009/7/12	many	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
177	2009/7/12	1	HD#1031/Manipulator	Univ. of Tokyo (National Museum of Nature and Science)
178	2009/7/12	1	HD#1031/Manipulator	Ishinomaki Sensyu University
179	2009/7/12	3	HD#1031/Manipulator	Ishinomaki Sensyu University
180	2009/7/12	3	HD#1031/Manipulator	Ishinomaki Sensyu University
181	2009/7/12	1	HD#1031/Manipulator	Ishinomaki Sensyu University
182	2009/7/12	2	HD#1031/Manipulator	Ishinomaki Sensyu University
183	2009/7/12		HD#1031/Canister	JAMSTEC
184	2009/7/12	1	HD#1031/Canister	JAMSTEC
185	2009/7/12		HD#1031/Canister	JAMSTEC
186	2009/7/12		HD#1031	JAMSTEC

187	2009/7/12		HD#1031	JAMSTEC
188	2009/7/12		HD#1031	JAMSTEC
189	2009/7/12	1	HD#1031	JAMSTEC
190	2009/7/12	1	HD#1031	JAMSTEC
191	2009/7/12	2	HD#1031	JAMSTEC
192	2009/7/12	1	HD#1031	JAMSTEC
193	2009/7/12	1	HD#1031	JAMSTEC
194	2009/7/12	15	HD#1031	JAMSTEC
195	2009/7/12	about 50	HD#1031	JAMSTEC
196	2009/7/12	10	HD#1031	JAMSTEC
197	2009/7/12	about 25	HD#1031	JAMSTEC
198	2009/7/12	1	HD#1031	JAMSTEC
199	2009/7/12	4	HD#1031	JAMSTEC
200	2009/7/12	1	HD#1031	JAMSTEC
201	2009/7/12	1	HD#1031	JAMSTEC
202	2009/7/12	1	HD#1031	JAMSTEC
203	2009/7/12	7	HD#1031	JAMSTEC
204	2009/7/12	14	HD#1031	JAMSTEC
205	2009/7/12		HD#1031	JAMSTEC
206	2009/7/12	2	HD#1031	JAMSTEC
207	2009/7/12	5	HD#1031	JAMSTEC
208	2009/7/12	1	HD#1031	JAMSTEC
209	2009/7/12	8	HD#1031	JAMSTEC
210	2009/7/12	18	HD#1031	JAMSTEC
211	2009/7/12	8	HD#1031	JAMSTEC
212	2009/7/12	many	HD#1031	JAMSTEC
213	2009/7/12	many	HD#1031	JAMSTEC
214	2009/7/12	1/2	HD#1031	JAMSTEC
215	2009/7/12	1/2	HD#1031	JAMSTEC
216	2009/7/12	3	HD#1031	JAMSTEC
217	2009/7/12		HD#1031	JAMSTEC
218	2009/7/12	about 10	HD#1031	JAMSTEC
219	2009/7/12	1	HD#1031	JAMSTEC
220	2009/7/12	2	HD#1031	JAMSTEC
221	2009/7/12	about 12	HD#1031	JAMSTEC

222	2009/7/12	4	HD#1031	JAMSTEC
223	2009/7/12	6	HD#1031	JAMSTEC
224	2009/7/12	1	HD#1031	JAMSTEC
225	2009/7/12	1	HD#1031	JAMSTEC
226	2009/7/12		HD#1031	JAMSTEC
227	2009/7/12	2	HD#1031	JAMSTEC
228	2009/7/12		HD#1031	JAMSTEC
229	2009/7/12		HD#1031	JAMSTEC
230	2009/7/12		HD#1031	JAMSTEC
231	2009/7/12		HD#1031	JAMSTEC
232	2009/7/12		HD#1031	JAMSTEC
233	2009/7/12		HD#1031	JAMSTEC
234	2009/7/12		HD#1031	JAMSTEC
235	2009/7/12		HD#1031	JAMSTEC
236	2009/7/12	1	HD#1031	JAMSTEC
237	2009/7/12	1	HD#1031	JAMSTEC

Benthos (Continued)

ID Number for this table	On board No.	Fixation	Preservation
1	1031−1	alive	
2	1031−2	frozen	
3	1031−3	frozen	
4	1031−4	alive	
5	1031−5		
6	1031−6	frozen	
7	1031−7	frozen	
8	1031−8	frozen	
9	1031−9	frozen	
10	1031−10GA	GA	
11	1031−10FOR	10%For	
12	1031−10G	frozen	
13	1031−10F	frozen	
14	1031−10E	70%Eth	
15	1031−11GA	GA	
16	1031−11FOR	10%For	
17	1031−11G	frozen	
18	1031−11F	frozen	
19	1031−11E	70%Eth	
20	1031−12GA	GA	
21	1031−12FOR	10%For	
22	1031−12G	frozen	
23	1031−12F	frozen	
24	1031−12E	70%Eth	
25	1031−13GA	GA	
26	1031−13FOR	10%For	
27	1031−13G	frozen	

28	1031-13F	frozen	
29	1031-13E	70%Eth	
30	1031-14GA	GA	
31	1031-14FOR	10%For	
32	1031-14G	frozen	
33	1031-14F	frozen	
34	1031-14E	70%Eth	
35	1031-15	10%For	
36	1031-16	frozen	
37	1031-17	frozen	
38	1031-18	frozen	
39	1031-19	frozen	
40	1031-20	frozen	
41	1031-21	70%Eth	
42	1031-22	70%Eth	frozen
43	1031-23	70%Eth	
44	1031-24	frozen	
45	1031-25	70%Eth	
46	1031-26	frozen	
47	1031-27	frozen	
48	1031-28	frozen	
49	1031-29	10%For	
50	1031-30	frozen	
51	1031-31		
52	1031-32	frozen	
53	1031-33	frozen	
54	1031-34	10%For	
55	1031-35	99%EtOH	
56	1031-36	frozen	
57	1031-37	10%For	
58	1031-38	frozen	
59	1031-39	70%Eth	
60	1031-40	frozen	
61	1031-41	10%For	
62	1031-42	frozen	

63	1031-43	70%Eth	
64	1031-44	10%For	
65	1031-45	frozen	
66	1031-46	70%Eth	
67	1031-47	10%For	
68	1031-48	frozen	
69	1031-49	10%For	
70	1031-50	frozen	
71	1031-51	10%For	
72	1031-52	frozen	
73	1031-53	frozen	
74	1031-54	10%For	
75	1031-55	10%For	
76	1031-56	10%For	
77	1031-57	10%For	
78	1031-58	10%For	
79	1031-59	10%For	
80	1031-60	10%For	
81	1031-61	10%For	
82	1031-62	10%For	
83	1031-63	10%For	
84	1031-64	10%For	
85	1031-65	10%For	
86	1031-66	10%For	
87	1031-67	cultivate	
88	1031-68	cultivate	
89	1031-69	frozen	
90	1031-70	cultivate	
91	1031-71	70%Eth	
92	1031-72	70%Eth	
93	1031-73		
94	1031-74	99.5%Eth	
95	1031-100	99%EtOH	
96	1031-101	10%Formalin	
97	1031-102	99%EtOH	

98	1031-103	10%Formalin	
99	1031-104	10%Formalin	
100	1031-105	99%EtOH	
101	1031-106	10%Formalin	
102	1031-107	99%EtOH	
103	1031-108	10%Formalin	
104	1031-109	99%EtOH	
105	1031-110	10%Formalin	
106	1031-111	99%EtOH	
107	1031-112	10%Formalin	
108	1031-113	99%EtOH	
109	1031-114	10%Formalin	
110	1031-115	99%EtOH	
111	1031-116	99%EtOH	
112	1031-117	10%Formalin	
113	1031-118	10%Formalin	
114	1031-119	10%Formalin	
115	1031-120	10%Formalin	
116	1031-121	99%EtOH	
117	1031-122	99%EtOH	
118	1031-123	99%EtOH	
119	1031-124	99%EtOH	
120	1031-125	99%EtOH	
121	1031-126	99%EtOH	
122	1031-127	99%EtOH	
123	1031-128	99%EtOH	
124	1031-129	99%EtOH	
125	1031-130	99%EtOH	
126	1031-131	99%EtOH	
127	1031-132	99%EtOH	
128	1031-133	99%EtOH	
129	1031-134	99%EtOH	
130	1031-135	99%EtOH	
131	1031-136	99%EtOH	
132	1031-137	99%EtOH	

133	1031-138	99%EtOH	
134	1031-139	99%EtOH	
135	1031-140	99%EtOH	
136	1031-141	10%Formalin	70%EtOH
137	1031-142	99%EtOH	
138	1031-143	99%EtOH	
139	1031-144	99%EtOH	
140	1031-145	99%EtOH	
141	1031-146	99%EtOH	
142	1031-147	70%EtOH	dry
143	1031-148	99%EtOH	
144	1031-149	10%Formalin	70%EtOH
145	1031-150	99%EtOH	
146	1031-151	10%Formalin	70%EtOH
147	1031-152	99%EtOH	
148	1031-153	10%Formalin	70%EtOH
149	1031-154	99%EtOH	
150	1031-155	10%Formalin	70%EtOH
151	1031-156	99%EtOH	
152	1031-157	10%Formalin	70%EtOH
153	1031-158	99%EtOH	
154	1031-159	10%Formalin	70%EtOH
155	1031-160	99%EtOH	
156	1031-161	10%Formalin	70%EtOH
157	1031-162	99%EtOH	
158	1031-163	10%Formalin	70%EtOH
159	1031-164	99%EtOH	
160	1031-165	10%Formalin	70%EtOH
161	1031-166	99%EtOH	
162	1031-167	10%Formalin	70%EtOH
163	1031-168	99%EtOH	
164	1031-169	10%Formalin	70%EtOH
165	1031-170	99%EtOH	
166	1031-171	99%EtOH	
167	1031-172	10%Formalin	70%EtOH

168	1031-173	70%EtOH	dry
169	1031-174	70%EtOH	dry
170	1031-175	70%EtOH	dry
171	1031-176	10%Formalin	
172	1031-177	10%Formalin	70%EtOH
173	1031-178	10%Formalin	70%EtOH
174	1031-179	10%Formalin	70%EtOH
175	1031-180	10%Formalin	70%EtOH
176	1031-181	10%Formalin	70%EtOH
177	1031-182	99%EtOH	
178	1031-183	99%EtOH	
179	1031-184	10%Formalin	
180	1031-185	10%Formalin	
181	1031-186	10%Formalin	
182	1031-187	10%Formalin	
183	1031-201	10% FA	70% EtOH (after washed in FASW)
184	1031-202	freeze	
185	1031-203	10% FA	70% EtOH (after washed in FASW)
186	1031-204	99.5% EtOH	
187	1031-205	10% FA	70% EtOH (after washed in 70% EtOH)
188	1031-206	99.5% EtOH	
189	1031-207	99.5% EtOH	
190	1031-208	99.5% EtOH	
191	1031-209	99.5% EtOH	
192	1031-210	99.5% EtOH	
193	1031-211	10% FA	70% EtOH (after washed in H2O miilliQ)
194	1031-212	10% FA	70% EtOH (after washed in H2O miilliQ)
195	1031-213	99.5% EtOH	
196	1031-214	10% FA	70% EtOH (after washed in H2O miilliQ)
197	1031-215	99.5% EtOH	
198	1031-216	10% FA	70% EtOH (after washed in H2O miilliQ)

199	1031-217	99.5% EtOH	
200	1031-218	10% FA	70% EtOH (after washed in H2O miilliQ)
201	1031-219	99.5% EtOH	
202	1031-220	99.5% EtOH	
203	1031-221	10% FA	70% EtOH
204	1031-222	99.5% EtOH	
205	1031-223	99.5% EtOH	
206	1031-224	10% FA	70% EtOH (after washed in H2O miilliQ)
207	1031-225	99.5% EtOH	
208	1031-226	99.5% EtOH	
209	1031-227	10% FA	70% EtOH (after washed in H2O miilliQ)
210	1031-228	99.5% EtOH	
211	1031-229	99.5% EtOH	
212	1031-230	10% FA	70% EtOH (after washed in H2O miilliQ)
213	1031-231	99.5% EtOH	
214	1031-232	10% FA	70% EtOH (after washed in H2O miilliQ)
215	1031-232B	freeze	
216	1031-233	99.5% EtOH	
217	1031-234	99.5% EtOH	
218	1031-235	10% FA	70% EtOH (after washed in H2O miilliQ)
219	1031-236	99.5% EtOH	
220	1031-237	10% FA	70% EtOH (after washed in H2O miilliQ)
221	1031-238	99.5% EtOH	
222	1031-239	10% FA	70% EtOH (after washed in H2O miilliQ)
223	1031-240	99.5% EtOH	
224	1031-241	99.5% EtOH	
225	1031-242	99.5% EtOH	

226	1031-243	10% FA	70% EtOH (after washed in H2O miilliQ)
227	1031-244	99.5% EtOH	
228	1031-245	10% FA	70% EtOH (after washed in H2O miilliQ)
229	1031-246	99.5% EtOH	
230	1031-247	10% FA	70% EtOH (after washed in H2O miilliQ)
231	1031-248	99.5% EtOH	
232	1031-249	10% FA	70% EtOH (after washed in H2O miilliQ)
233	1031-250	99.5% EtOH	
234	1031-251	99.5% EtOH	
235	1031-252	10% FA	70% EtOH (after washed in 70% EtOH)
236	1031-253	10% FA	
237	1031-254	frozen	

Benthos (Continued)

ID Number for this table	Remarks
1	Box(S) with Ketyaki (L-13)
2	Box(S) with Ketyaki (L-13)
3	Box(S) with Ketyaki (L-13)
4	Box(L) with TP-03
5	
6	Crashed L-13
7	Crashed L-13
8	On the marker of TP-03
9	On the marker of TP-03
10	In L-13 / Gill
11	In L-13 / Gill
12	In L-13 / Gill
13	In L-13 / Foot
14	In L-13 / Other parts
15	In L-13 / Gill
16	In L-13 / Gill
17	In L-13 / Gill
18	In L-13 / Foot
19	In L-13 / Other parts
20	In L-13 / Gill
21	In L-13 / Gill
22	In L-13 / Gill
23	In L-13 / Foot
24	In L-13 / Other parts
25	In L-13 / Gill
26	In L-13 / Gill
27	In L-13 / Gill

28	In L-13 / Foot
29	In L-13 / Other parts
30	In L-13 / Gill
31	In L-13 / Gill
32	In L-13 / Gill
33	In L-13 / Foot
34	In L-13 / Other parts
35	Box(S) with Ketyaki (L-13)
36	Box(S) with Ketyaki (L-13)
37	Box(S) with Ketyaki (L-13)
38	In L-13
39	In L-13
40	In L-13
41	In L-13
42	In L-13
43	In L-13 / soft tissue should be sent to JAMSTEC
44	In L-13
45	In L-13 / for morphological study
46	In L-13
47	In L-13
48	In L-13
49	In L-13 / for morphological study
50	In L-13 / For population genetics
51	In L-13
52	In L-13 / spell of family name should be checked
53	In L-13 / spell of family name should be checked
54	In L-13 / For population genetics
55	In L-13
56	In L-13
57	In L-13
58	In L-13
59	In L-13
60	In L-13
61	In L-13
62	In L-13

63	In L-13
64	In L-13
65	In L-13
66	In L-13
67	In L-13
68	In L-13
69	In L-13
70	In L-13
71	In L-13
72	In L-13 / with tubes
73	In L-13
74	In L-13 / eyeless
75	In L-13
76	In L-13
77	In L-13
78	In L-13
79	In L-13
80	In L-13
81	In L-13
82	In L-13
83	In L-13
84	In L-13 / similar to sp.3
85	In L-13
86	In L-13
87	In L-13
88	In L-13
89	In L-13
90	In L-13
91	On L-13
92	On L-13
93	Box(L) with TP-03
94	under L-13
95	TP03 (Japanese Oak)
96	TP03 (Japanese Oak)
97	TP03 (Japanese Oak)

98	TP03 (Japanese Oak)
99	TP03 (Japanese Oak)
100	TP03 (Japanese Oak)
101	TP03 (Japanese Oak)
102	TP03 (Japanese Oak)
103	TP03 (Japanese Oak)
104	TP03 (Japanese Oak)
105	TP03 (Japanese Oak)
106	TP03 (Japanese Oak)
107	TP03 (Japanese Oak)
108	TP03 (Japanese Oak)
109	TP03 (Japanese Oak)
110	TP03 (Japanese Oak)
111	TP03 (Japanese Oak)
112	TP03 (Japanese Oak)
113	TP03 (Japanese Oak)
114	TP03 (Japanese Oak)
115	TP03 (Japanese Oak)
116	TP03 (Japanese Oak)
117	TP03 (Japanese Oak)
118	TP03 (Japanese Oak)
119	TP03 (Japanese Oak)
120	TP03 (Japanese Oak)
121	TP03 (Box, S)
122	TP03 (Coconut)
123	TP03 (Coconut)
124	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
125	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
126	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
127	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
128	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
129	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
130	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
131	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
132	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.

133	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
134	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
135	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
136	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
137	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
138	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
139	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
140	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
141	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
142	TP03 (Japanese Oak), to be transferred into Kyoto Univ. after identification.
143	in L-13
144	in L-13
145	in L-13
146	in L-13
147	in L-13
148	in L-13
149	in L-13
150	in L-13
151	in L-13
152	in L-13
153	in L-13
154	in L-13
155	in L-13
156	in L-13
157	in L-13
158	in L-13
159	in L-13
160	in L-13
161	in L-13
162	in L-13
163	in L-13
164	in L-13
165	in L-13
166	in L-13
167	in L-13

168	in L-13
169	in L-13
170	in L-13
171	on L-13
172	on L-13
173	on L-13
174	on L-13
175	on L-13
176	on L-13
177	in/on L-13, organisms should be sorted out by the sample holder.
178	TP03, Box(L)
179	TP03, Box(L)
180	in L-13
181	TP03 (in Japanese Oak)
182	TP03 (in Japanese Oak)
183	canister #1
184	canister #1
185	canister #2
186	Box(S) with Ketyaki (L-13) / >500 microm fraction from collection box
187	Box(S) with Ketyaki (L-13) / 50-250 microm fraction of collection bax and galss tank
188	Box(S) with Ketyaki (L-13) / >250 microm fraction from glass tank
189	Box(S) with Ketyaki (L-13)
190	Box(S) with Ketyaki (L-13)
191	Box(S) with Ketyaki (L-13)
192	Box(S) with Ketyaki (L-13)
193	Box(S) with Ketyaki (L-13)
194	Box(S) with Ketyaki (L-13) / Orange color
195	Box(S) with Ketyaki (L-13) / Orange color
196	Box(S) with Ketyaki (L-13) / Blue body, brownish gill and setae
197	Box(S) with Ketyaki (L-13) / Blue body, brownish gill and setae
198	Box(S) with Ketyaki (L-13) / red-pink color, large specimens
199	Box(S) with Ketyaki (L-13) / red-pink color, large specimens
200	Box(S) with Ketyaki (L-13) / bluish body, yellow-orange gills
201	Box(S) with Ketyaki (L-13) / bluish body, yellow-orange gills

202	Box(S) with Ketyaki (L-13)
203	Box(S) with Ketyaki (L-13) / small individuals
204	Box(S) with Ketyaki (L-13) / small individuals
205	Box(S) with Ketyaki (L-13) / mainly Lumbrineridae
206	Box(S) with Ketyaki (L-13) / bluish body, yellow-orange gills
207	Box(S) with Ketyaki (L-13) / bluish body, yellow-orange gills
208	Box(S) with Ketyaki (L-13) / 1 cm long, beige body, grey scales
209	Box(S) with Ketyaki (L-13) / Blue and red ones
210	Box(S) with Ketyaki (L-13) / Blue ones
211	Box(S) with Ketyaki (L-13) / red ones
212	Box(S) with Ketyaki (L-13)
213	Box(S) with Ketyaki (L-13)
214	Box(S) with Ketyaki (L-13) / large individual, no eyes, anterior part
215	Box(S) with Ketyaki (L-13) / same as previous, posterior part
216	Box(S) with Ketyaki (L-13) / small individuals, eyes, tail damaged
217	Box(S) with Ketyaki (L-13) / mainly Lumbrineridae, 1 Sabellidae
218	Box(S) with Ketyaki (L-13) / from bark, small red to orange colores
219	Box(S) with Ketyaki (L-13) / also a piece of Serpulidae
220	Box(S) with Ketyaki (L-13)
221	Box(S) with Ketyaki (L-13) / mainly Ophryotrocha
222	Box(S) with Ketyaki (L-13) / with tube, one very small
223	Box(S) with Ketyaki (L-13)
224	Box(S) with Ketyaki (L-13) / Bad condition, with tube
225	Box(S) with Ketyaki (L-13) / Mucus tube made of debris
226	Box(S) with Ketyaki (L-13) / Amphinomidae, hesionidae, Polynoidae
227	Box(S) with Ketyaki (L-13) / orange scales, in pieces!
228	Box(S) with Ketyaki (L-13) / from bucket where keyaki wood was dissected in pieces
229	Box(S) with Ketyaki (L-13) / from bucket where keyaki wood was dissected in pieces
230	Box(S) with Ketyaki (L-13) / Pooled fractions 250-1 mm from wood dissection, and 250-500 microm from blue tank where wood was stored
231	Box(S) with Ketyaki (L-13) / Pooled fractions 250-1 mm from wood dissection, and 250-500 microm from blue tank where wood was stored
232	Box(S) with Ketyaki (L-13) / from blue bucket where wood was stored

233	Box(S) with Ketyaki (L-13) / from blue bucket where wood was stored
234	Box(S) with Ketyaki (L-13) / Sample 235 comes from that bark
235	Box(S) with Ketyaki (L-13) / Pooled fractions 50-250 mm from wood dissection, and from blue tank where wood was stored
236	Box(L) with TP-03
237	Box(L) with TP-03 / a part of 1031-253

I-2 Sediment

1-2-1 MBARI Core

Date	2009/7/12	
Dive	#1031	
Sample No.	#1031-MB	#1031-MG
Latitued	24º57.188N	24º57.188N
Longitude	125º57.293E	125º57.293E
Water Depth (m)	275	276
Temperature (ºC)	17	17
Description	Under Keyaki wood	Under Ubamegashi wood
Sample Type	Coral, Foraminifers, sand (no H2S smell)	Coral, Foraminifers, sand (no H2S smell)
Amount (ml)	100	100
Treatment	Frozen (-80ºC)	Frozen (-80ºC)
Distribution	Okayama & Kyoto Univ.	Okayama & Kyoto Univ.

1-2-2 sterile sampler

Date	2009/7/12	
Dive	#1031	
Sample No.	#1031-S01	#1031-S02
Latitued	24º57.188N	24º57.188N
Longitude	125º57.293E	125º57.293E
Water Depth (m)	275	276
Temperature (ºC)	17	17
Description	Under Keyaki wood	Under Ubamegashi wood
Sample Type	Coral, Foraminifers, sand (no H2S smell)	Coral, Foraminifers, sand (no H2S smell)
Amount (ml)	50	45
Treatment	Frozen (-80℃, LN2) / Fridge/Fixed with Formalin	Frozen (-80℃, LN2) / Fridge/Fixed with Formalin
Distribution	JAMSTEC	JAMSTEC

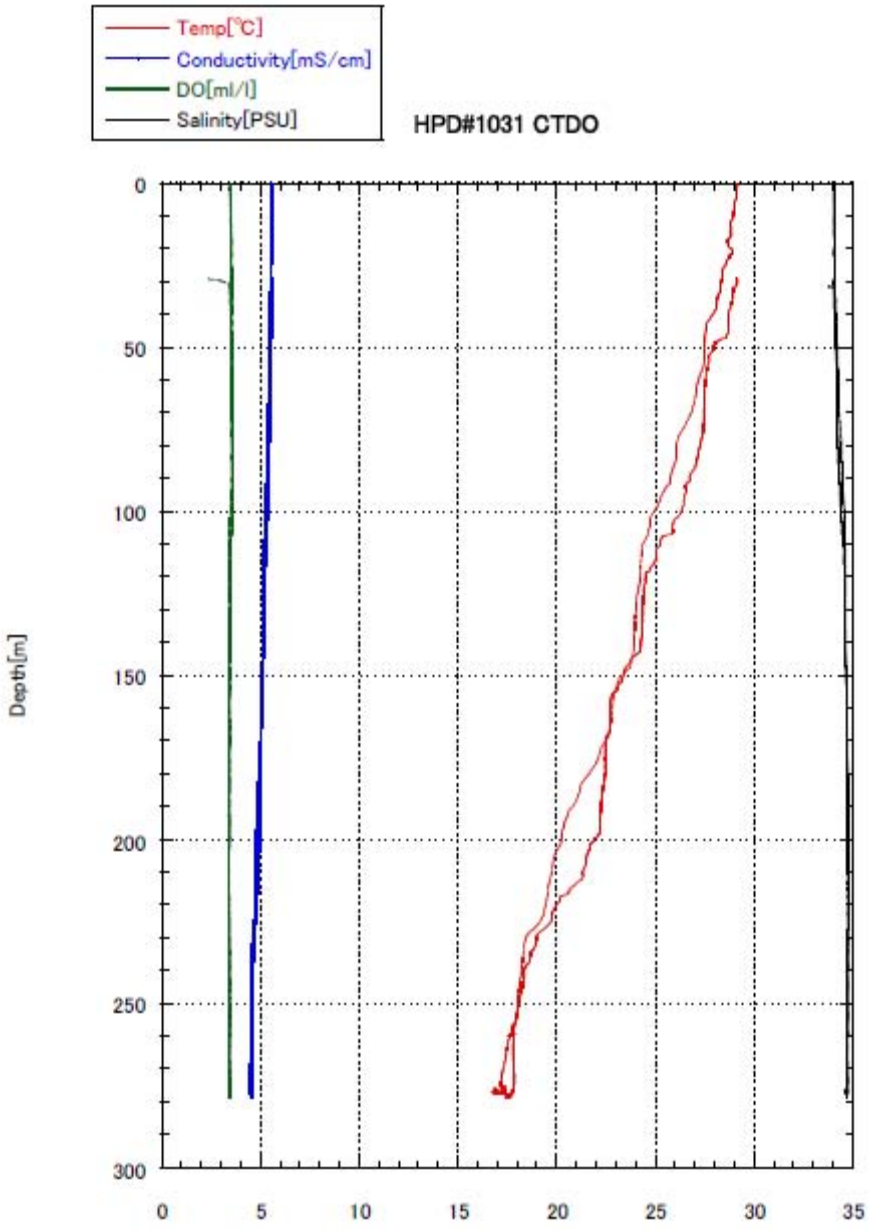
I-3 Water samples

Dive	#1031	#1031
sample	Niskin G	Niskin R
Latitued	24º57.188N	24º57.188N
Longitude	125º57.293E	125º57.293E
Depth(m)	0	275
15ml Nalgen bottle	Okayama U.	Okayama U.
sampler	Niskin Bottle	Niskin Bottle
Preservation	Fridge	Fridge
Remark	Surface water	Close to wood

II Video tape list

Camera	Kyoto	Jamstec	Okayama	Miyazaki	Kagoshima	Tokyo	Ishinomaki	Kasai	Lease	Paris
HD	DVD	DVD	DVD	DVD	DVD	DVD	DVD	DVD	DVD	DVD
CCD	DVD	DVD	DVD	DVD	DVD	DVD	DVD	DVD	DVD	DVD
SEA MAX	DVD	DVD	DVD	DVD	DVD	DVD	DVD	DVD	DVD	DVD
HD TV	DVD	DVD	DVD	DVD	DVD	DVD	DVD	DVD	DVD	DVD

III　CTDO data



IV Group Portrait