

SEAMOUNT FISHERY, FOREIGN VESSEL OBSERVER REPORT

ASO MARU (September 24-30, 1980)

By

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ASO MARU

Vessel Statistics

Permit Number:	JA-80-0288A
Length:	90.45 m
Gross tonnage:	3,608.29
Net tonnage:	1,968.1
Width:	16.0 m
Draft:	5-6 m
Engine type:	Diesel
Horsepower:	3,900
Hull Number:	96090
Registration Number:	TOEN-701
Company-owner:	Nippon Suisan, Ltd.
Vessel type:	Independent stern trawler
Year commissioned:	1964
Home port:	Tobata, Japan

Personnel

Captain:	Kiyomi Kinoshita
Number of officers:	9
Number of crew:	26
Galley and steward:	8
Processing:	19
Total ship complement:	54*
Experience in seamount fishery:	Captain - 4 seasons Chief Officer - 3 seasons

Area of Operation

<u>Seamounts</u>	<u>Latitude</u>	<u>Longitude</u>
Kinmei	35°00'N	171°45'E
Milwaukee seamount group:		
Yuryaku	32°40'N	172°15'E
Kanmu	32°10'N	173°00'E
Colahan	31°15'N	176°00'E
Fishery Conservation Zone:		
Northwest Hancock	30°15'-16'N	178°42'-44'E
Southeast Hancock	29°43'-49'N	179°02'-06'E
K Bank	29°40'N	179°20'E

*Crew members have varied duties consequently the total ship's complement is less.

TRAWL RESULTS

Target Species

Common names: Armorhead, boarfish
 Japanese name: Kusakari Tsubodai
 Scientific name: Pentaceros richardsoni
 Species code: 080

Common name: Alfonsin
 Japanese name: Kinmedai
 Scientific name: Beryx splendens
 Species code: 081

The Aso Maru was assigned to fish the seamounts outside the U.S. Fishery Conservation Zone (FCZ) from Colahan to Milwaukee Bank. They fished from April 29 through September 23, 1980. On September 24, due to the poor catches made outside the FCZ, they decided to enter the FCZ and fish at the Hancock Seamounts. At this time, I was transferred from the Kitakami Maru to the Aso Maru. The Kitakami Maru then proceeded to Midway Islands to pick up another National Marine Fisheries Service (NMFS) observer. The Aso Maru operated inside the FCZ until September 30. I was then retransferred to the Kitakami Maru and disembarked at Midway Islands along with the other observer. Both ships left the FCZ and returned to Japan.

The Aso Maru is a large factory trawler, with a complete fish meal and oil factory.

Trawl Gear

See Figure 1 for dimensions.

Twenty hauls were made on the Northwest Hancock Seamount averaging 96 minutes per haul. The 14 hauls at Southeast Hancock Seamount averaged 156 minutes per haul.

Out of a total of 90.8 metric tons (MT) caught in the FCZ from September 24-30, 80.7 MT or 89% consisted of armorhead, 2.6 MT or 3% of alfonsin, and 7.5 MT or 8% of other species.

SAMPLING RESULTS

1. Pelagic armorhead, Pentaceros richardsoni

Morphology. The armorheads were divided into three body types: fat, lean, and medium. These may be genetically different so they were recorded separately.

a. Southeast Hancock Seamount

Lean type 35%

Number measured: 130

Sex ratio: Male 67 (63%)
Female 39 (37%)Average length: 291 mm Range: 264-321 mm
Average weight: 0.40 kgFat type 13%

Number measured: 47

Sex ratio: Male 15 (54%)
Female 13 (46%)Average length: 312 mm Range: 298-331 mm
Average weight: 0.68 kgMedium type 52%

Number measured: 195

Sex ratio: Male 69 (62%)
Female 42 (38%)Average length: 305 mm Range: 279-327 mm
Average weight: 0.59 kg

b. Northwest Hancock Seamount

Lean type 45%

Number measured: 108

Sex ratio: Male 71 (66%)
Female 36 (34%)Average length: 291 mm Range: 257-316 mm
Average weight: 0.42 kgFat type 11%

Number measured: 27

Sex ratio: Male 10 (37%)
Female 17 (63%)Average length: 314 mm Range: 299-327 mm
Average weight: 0.70 kg

<u>Medium type</u>	43%		
Number measured:	103		
Sex ratio: Male	35 (35%)		
Female	65 (65%)		
Average length:	306 mm	Range:	290-327 mm
Average weight:	0.59 kg		

2. Alfonsin

Morphology. Enough alfonsin could not be sampled to yield reliable results. The average weight of the 22 alfonsin sampled on both Northwest and Southeast Hancock Seamounts was 0.54 kg. The average length for these was 276 mm.

3. Other commercial species

The most common "other" species that was caught and used as a product was Hyperoglyphe japonica.

4. Coral

About 1.0 kg of bamboo coral, Keratoisis nuda, was uprotted in the FCZ at Northwest Hancock Seamount and immediately thrown overboard.

SHIPBOARD PRODUCES (HANCOCK SEAMOUNTS)

Species Product

1. Armorhead

Frozen fish (headed and gutted)	48 MT
Fish meal and oil	___ MT ¹

The recovery ratio is estimated to be about 56-60% of the total weight after machine processing.

2. Alfonsin

Frozen whole or headed and gutted	1 MT
Fish meal and oil	___ MT ¹

3. Other species

Frozen whole or filleted	1 MT
Fish meal and oil	___ MT ¹

¹Not able to obtain data.

By Products

All waste material (head, viscera) and species not utilized as a frozen product were converted into fish meal and oil.

ITINERARY

September 24	- Debarked <u>Kitakami Maru</u> Embarked <u>Aso Maru</u>
30	- Sampling ended Debarked <u>Aso Maru</u> Embarked <u>Kitakami Maru</u>
October 2	- Arrived Midway
4	- Arrived Honolulu

RECORDS

The following records were kept:

Scientists Log
Daily Trawl Haul Form
Species Composition From Basket Samples
Size-Frequency Log

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September 24-October 4, 1980.

Table 1.--Trawl catch by species and area (in metric tons).

Species	Fishery Conservation Zone	Outside
Armorhead	80.7	863.5
Alfonsin	2.6	5,660.6
Others	<u>7.5</u>	<u>188.8</u>
Total	90.8	6,712.9

Table 2.--Catch-per-unit-effort by species and area.

Area	No. hauls	Total minutes (trawl in water)	Armorhead		Alfonsein		Other species		All species	
			Total catch (kg)	Kg/min						
Southeast Hancock Seamount	14	2,190	40,500	18.49	900	0.42	4,000	1.83	45,400	20.73
Northwest Hancock Seamount	20	1,925	40,200	20.88	1,600	0.83	3,300	1.71	45,100	23.43

NET DIMENSIONS AND CHARACTERISTICS

Type of Vessel Stern trawler

Observation Period September 24-30, 1980

Trawl Doors: Shape Bending
 Type Longitudinal
 Dimensions 2.2 m. x 4.4 m.
 Weight 3,100 kg.

Dandyline Length 120 m.

Floats: Number 46-50 pieces
 Size 300-360 mm
 Material Cyclac
 Shape Round

Bobbins: Number 35 pieces
 Size 530 mm
 Material Rubber and iron
 Shape Round

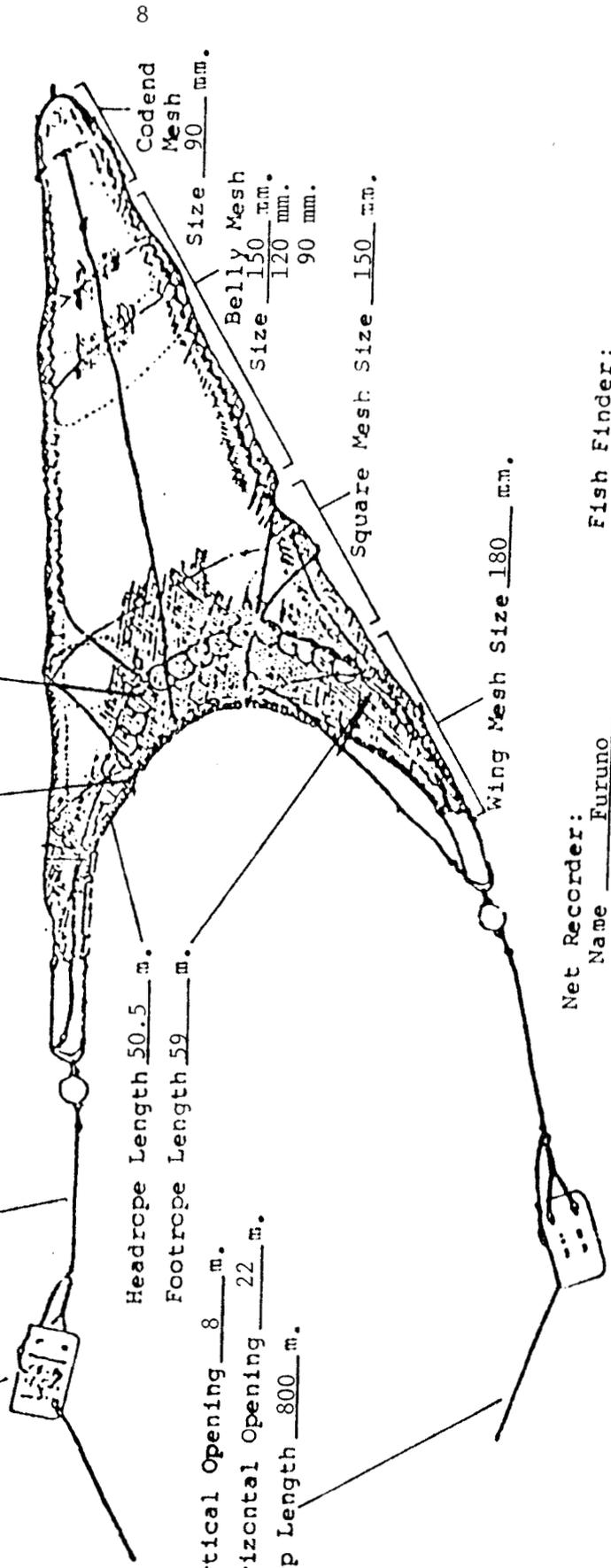
Headrope Length 50.5 m.

Footrope Length 59 m.

Vertical Opening 8 m.

Horizontal Opening 22 m.

Warp Length 800 m.



Net Recorder:

Name Furuno
 Model Number ENR-50
 Frequency 50 KHz

Fish Finder:

Name Sanken
 Model Number WSV2-16
 Frequency 50 KHz
 Paper Type Wet 0 Dry
 Speed of Advance 14 mm/min

Figure 1.--Aso Maru.

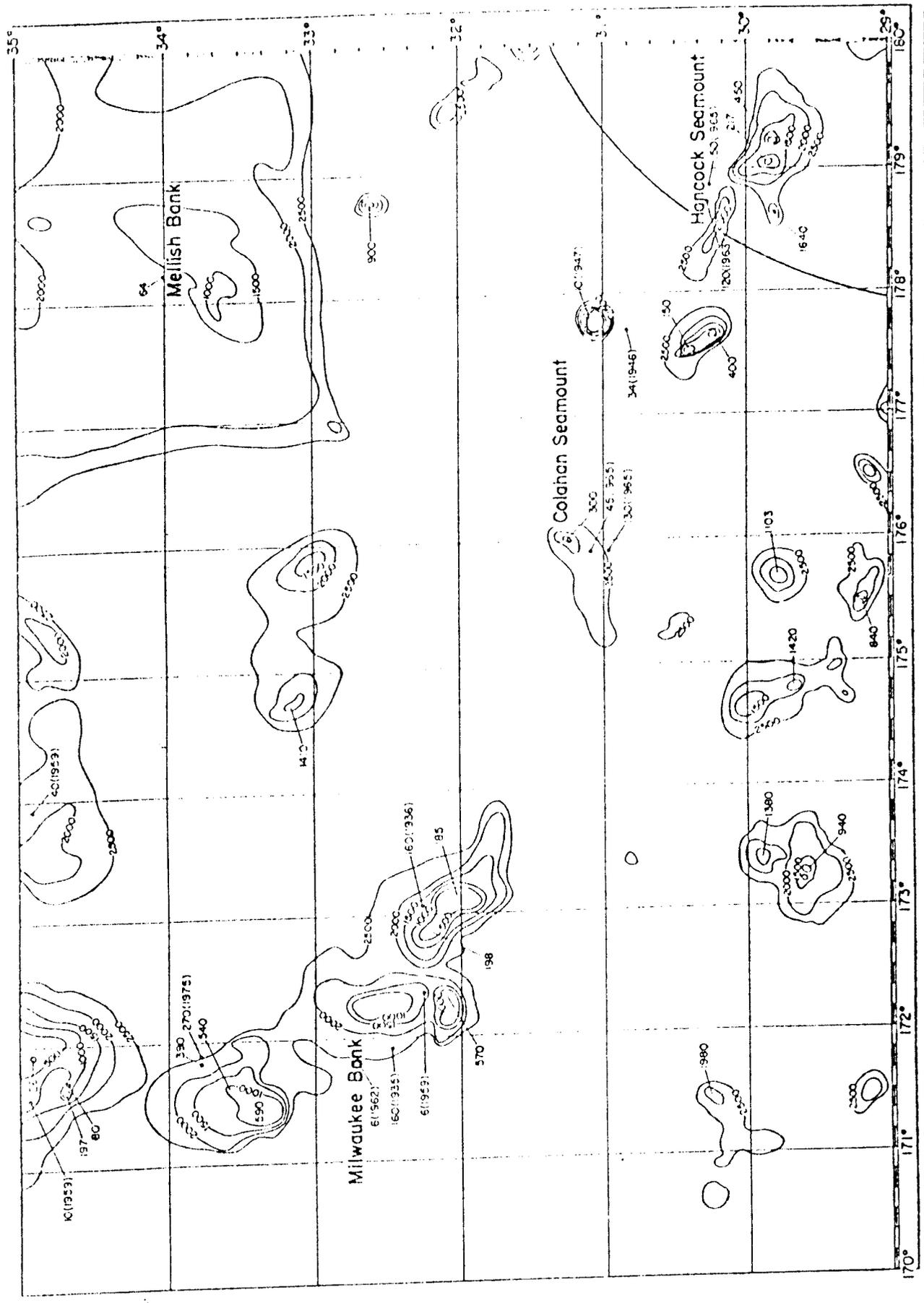
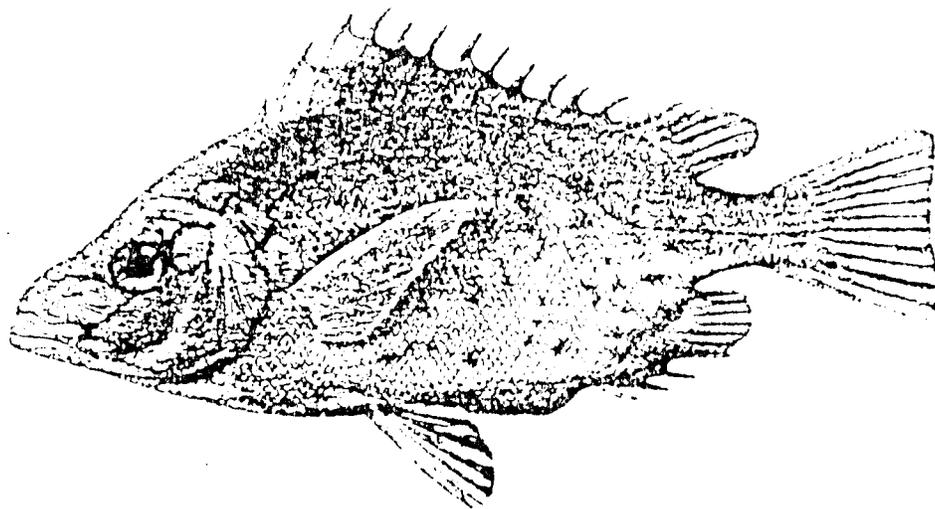
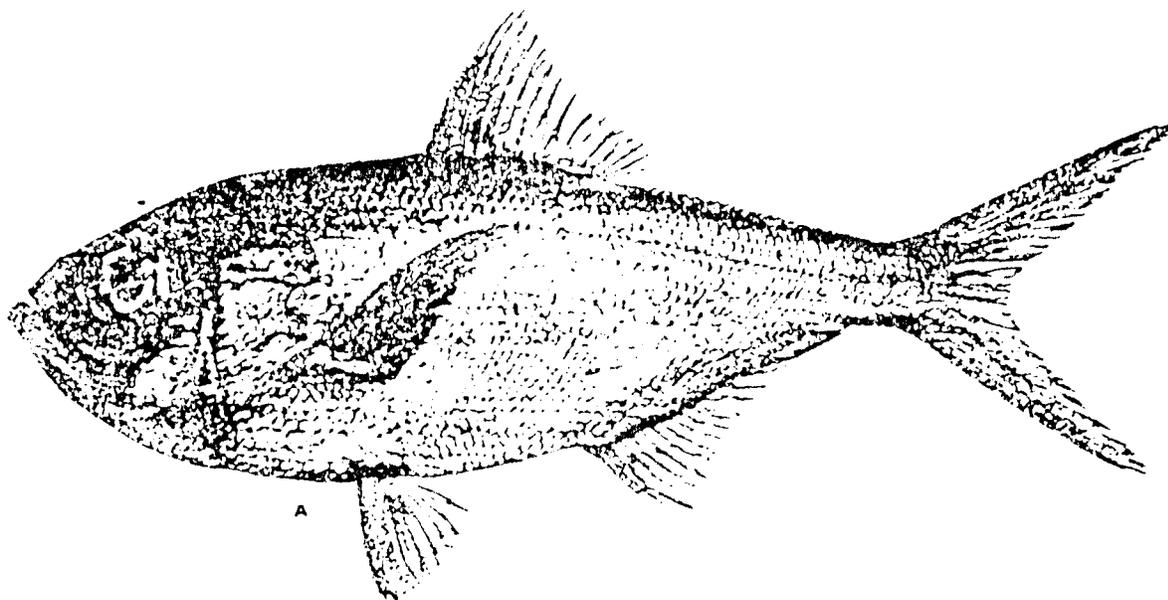


Figure 2.--Locations of seamounts and guyots northwest of the Northwestern Hawaiian Islands. Year of discovery is indicated for each guyot, and the 200-mile line is shown. Depths in fathoms.



Pelagic armorhead (*Pentaceros richardsoni*)



Alfonsin (*Beryx splendens*)

Figure 3.--Illustrations of adult armorhead and alfonsin.