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by

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Subarea 3

A. Status of the Fisheries

It is observed that the catch by Japanese trawlers in Subarea 3 increases from 3.5 thousands tons in 1970 to 8.1 thousands tons in 1971 and species composition of the catch in 1971 is almost same as in 1970. The catch was dominated by redfish followed by argentine. Fishing grounds for redfish were in the divisions of 3Ps, 3L, 3M and 3O.

Table 1 Japanese catch in Subarea 3.

Year	1968	1969	1970	1971*
Hours fished	1,043	410	1,861	
Total catch in tons	1,672	810	3,511	8,071
Argentine	145	106	793	445
Redfish	774	533	2,586	7,536
Cod	574	83	49	9
Haddock	6	1	6	-
Flatfishes	38	21	4	-

* Preliminary

B. Special Research Studies

I. Biological studies

Length measurements for redfish and argentine were made on board commercial trawlers. In the divisions of 3Ps and 3O, measurements of redfish were carried out in April and June-October. The size compositions have been shifted toward small size ranging in 11-29 cm of fork length, in August as shown in Fig. 1. It seems that the depth of the fishing grounds in August was rather shallower than that for other months.

Subarea 4

A. Status of the Fisheries

Japanese trawlers in this subarea have caught mainly argentine and redfish. In 1971, herring catch, mostly in Division 4X, increased to 770 tons. Fishing grounds of argentine were in Division 4X as was in 1970 and those of redfish were located in southwestern slope of Grand Bank, 4Vs.

Table 2 Japanese catch in Subarea 4.

Year	1968	1969	1970	1971*
Hours fished	1,075	896	2,176	"
Total catch in tons	2,012	1,936	4,779	5,507
Argentine	1,086	1,256	2,940	3,160
Redfish	524	251	967	1,164
Mackerel	19	1	0	-
Herring	9	14	100	768
Silver hake	76	213	128	8
Cod	21	39	154	6
Haddock	18	20	13	1
Flatfishes	28	21	9	-
Squids	94	-	22	-

* Preliminary

B. Special Research Studies

I. Biological studies

Length measurements of argentine and redfish were carried out on board commercial trawlers. The size composition of argentine in the division 4X in May and June ranged from 27 to 42 cm, as is shown in Fig. 2. Compared with the composition in 1970 when the mode was observed in 29-30 cm of fork length in 4X in June, the mode of the fork length in 1971, 35-36 cm, was bigger than that of the previous year.

Subarea 5

A. Status of the Fisheries

The catches of Japanese trawlers in this subarea have been increased from 10.7 thousands tons in 1970 to 15.3 thousands tons in 1971. Catches by species show that, argentine made up substantial increase, herring was twice as large as in the previous year, while butterfish and squids decreased as shown in Table 3. Most of fishes

were caught in the division of 5Ze. While the catch in Subarea 5 increased, the catches from Subarea 6 including 47 % of squids and 38 % of butterfish decreased from 18.8 thousands tons in 1970 to 12.5 thousands tons in 1971. This is caused by the fact that the activity of the trawlers shifted to the northern fishing grounds because of good catch of argentine in the division 5Ze.

Table 3 Japanese catch in Subarea 5.

Year	1968	1969	1970	1971*
Hours fished	540	8,216	9,310	
Total catch in tons	724	8,789	10,722	15,289
Argentine	-	976	368	6,398
Redfish	0	61	19	4
Butterfish	328	1,291	1,724	973
Mackerel	1	197	463	272
Herring	1	527	1,222	2,434
Silver hake	52	229	73	103
Cod	2	45	15	20
Haddock	3	9	1	10
Flatfishes	2	79	138	-
Squids	113	3,902	5,086	4,610

* Preliminary

B. Special Research Studies

I. Biological studies

Length measurements of squids, butterfish and argentine were made on board commercial trawlers. And species breakdown of squids, short finned squid (Illex illecebrosus) and common American squid (Loligo pealeii), has been made on board sample vessel during summer and winter in 1971. Butterfish. Including the measurements in Subarea 6, 1,104 individuals were measured. Size compositions are shown in Fig. 3. Argentine. In the divisions of 5Y and 5Ze, 2,034 individuals were measured during February through June. Size composition, shown in Fig. 4, indicates that the mode of the size composition is largest in March but gradually moves to smaller size until May, and turn back again to larger size in June. Squids. Length measurements of 2,475 individuals of squids were made in Subareas 5 and 6. Size compositions by divisions and months are shown in Fig. 5. Generally speaking, the smaller sized of less than 10 cm and the larger more than 20 cm in mantle length are more abundant in October through December than in January and February.

Catch composition by species of squids observed from sampled vessel is shown in Table 4. Although the length composition by species is not available, the overall length composition of various squids is shown in Fig. 4. Therefore, it is possibly assumed that the length compositions in summer given in Fig. 5 are mostly for short finned squid and these in winter are mostly for common American squid.

Table 4 Species breakdown of squids in Subareas 4, 5 and 6 during summer and autumn in 1971.
 Figure shows as catch in kg. Loligo = common American squid, Illex = short finned squid.

Month	July		Aug.		Oct.		Nov.		Dec.	
	Loligo	Illex	Loligo	Illex	Loligo	Illex	Loligo	Illex	Loligo	Illex
Division										
4X			0	4,450						
5Y			0	1,760						
5Ze			0	3,210	0	0	110	40		
5Zw							880	0		
6A	0	3,950			180	0	2,930	150	15,100	500
6B	10	8,840			3,040	30	35,295	1,100	91,440	900
6C	220	18,579			5,247	0	13,990	370		
Total	230	31,369	0	9,420	8,467	30	53,205	1,660	106,540	1,400

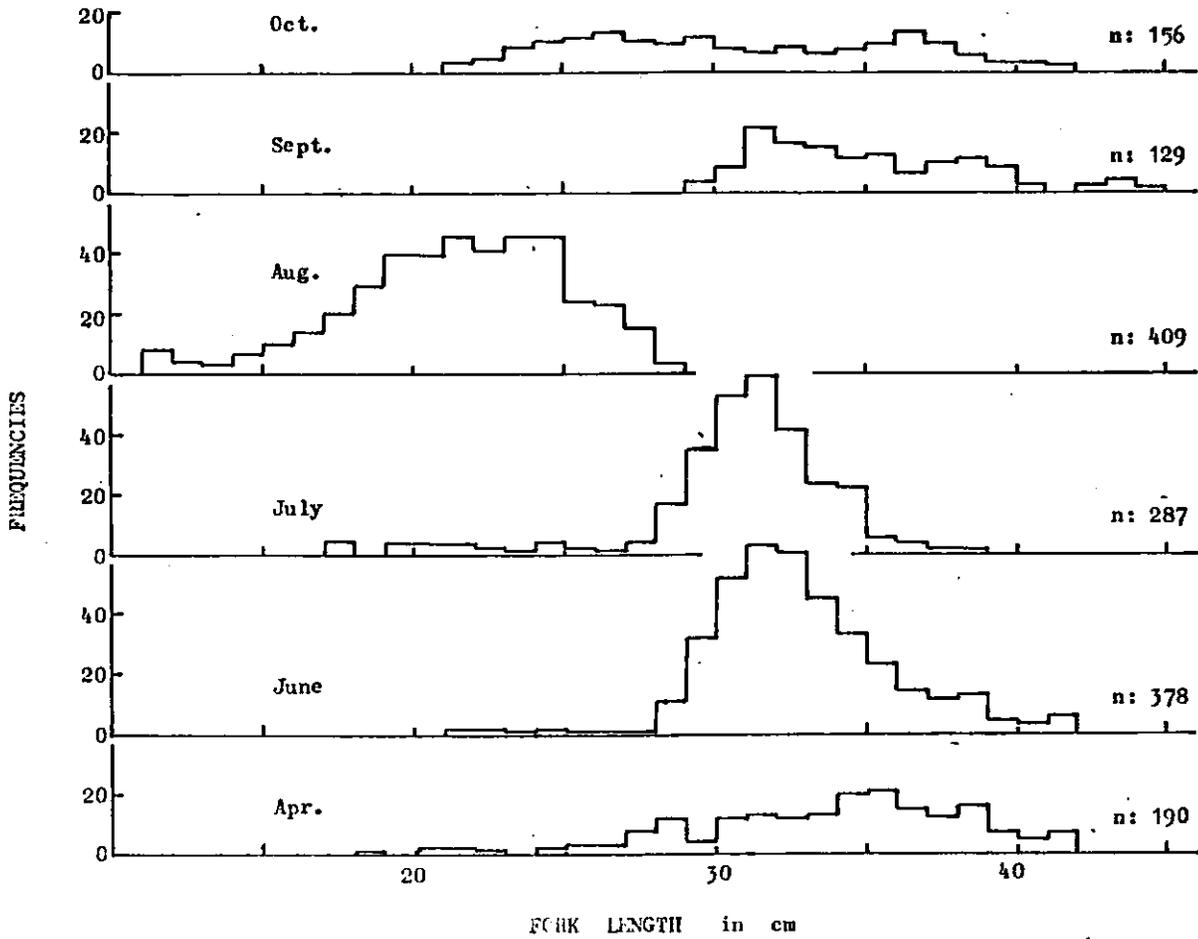


Fig. 1 Size compositions of redfish caught by Japanese trawlers in Divisions 3Ps and 30.

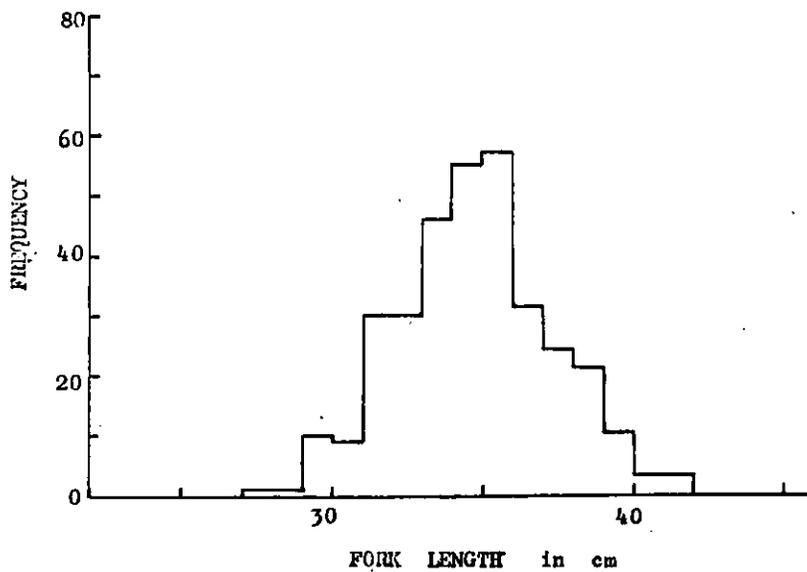


Fig. 2 Size composition of argentine caught in Division 4X during May and June, 1971.

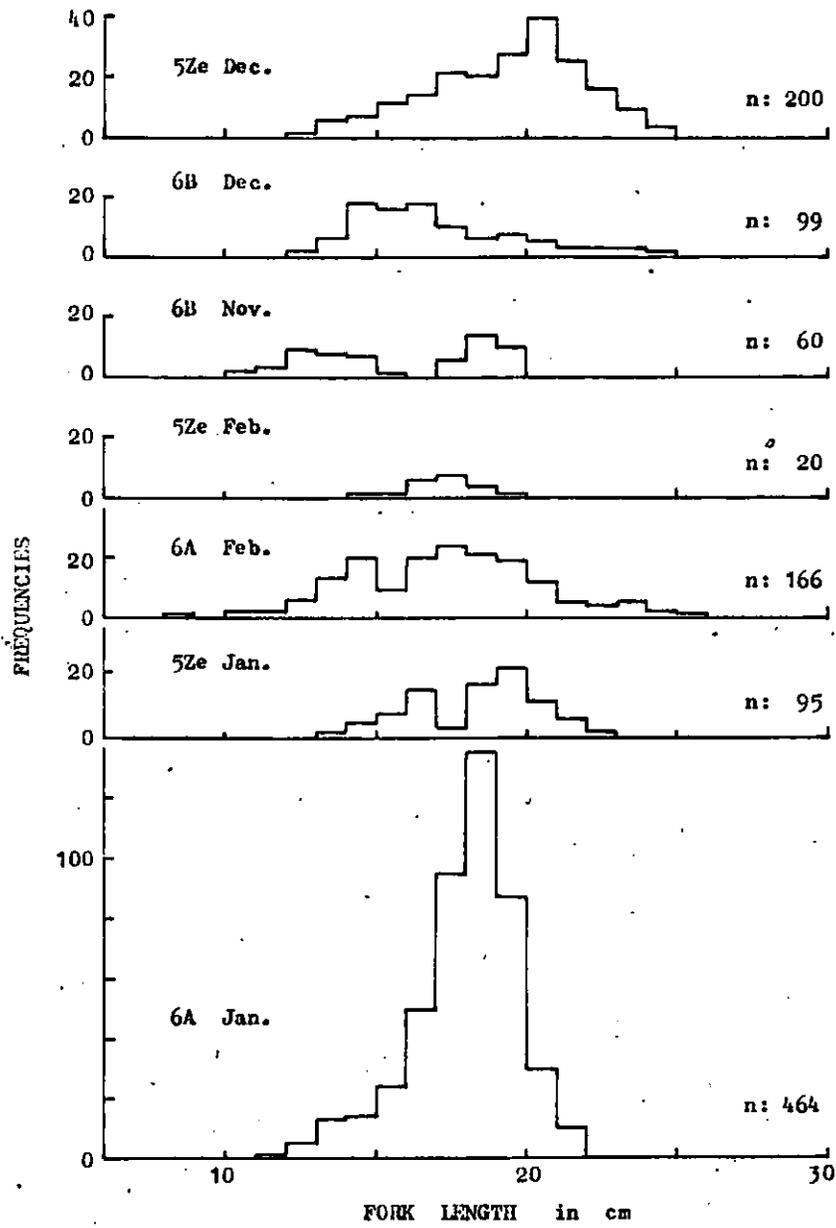


Fig. 3 Size compositions of butterfish by divisions and months.

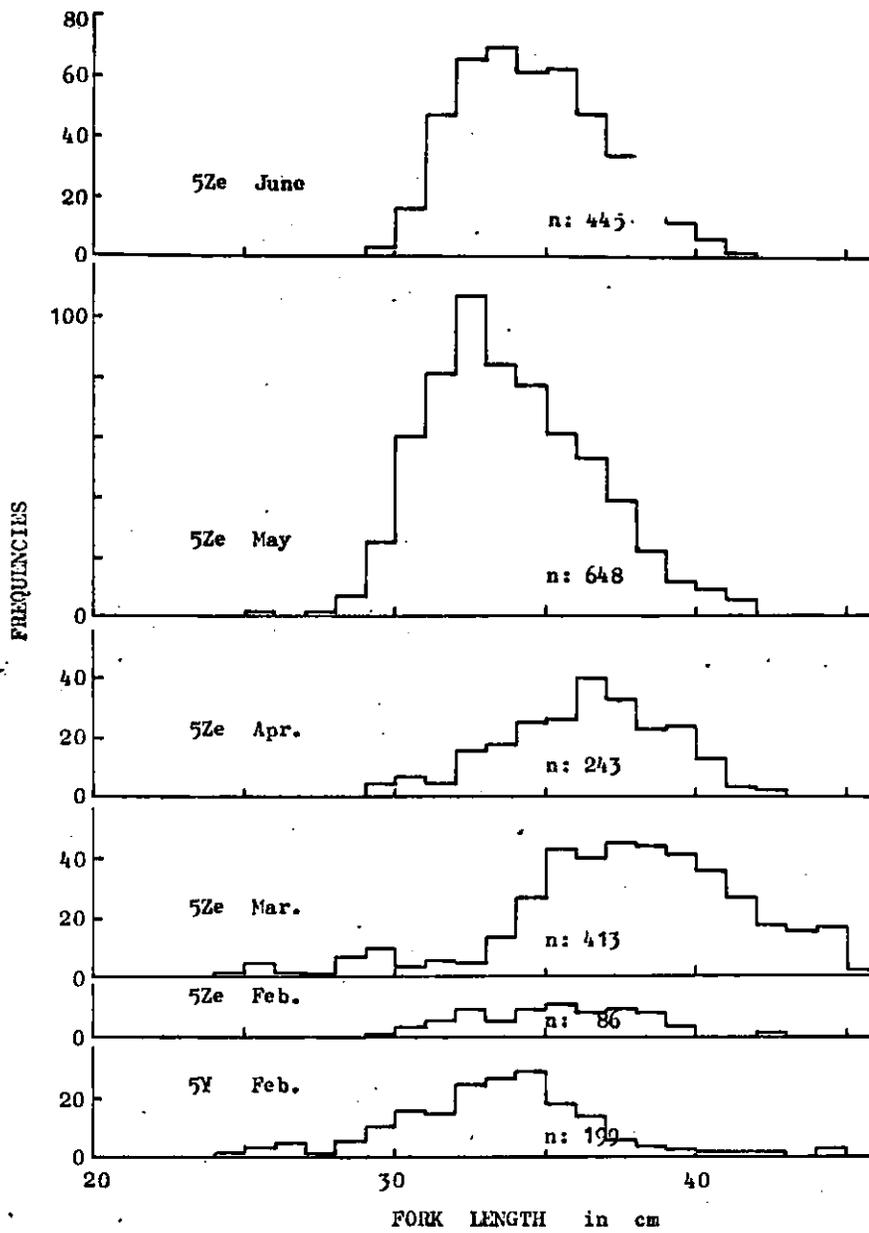


Fig. 4 Size compositions of argentine caught on Subarea 5.

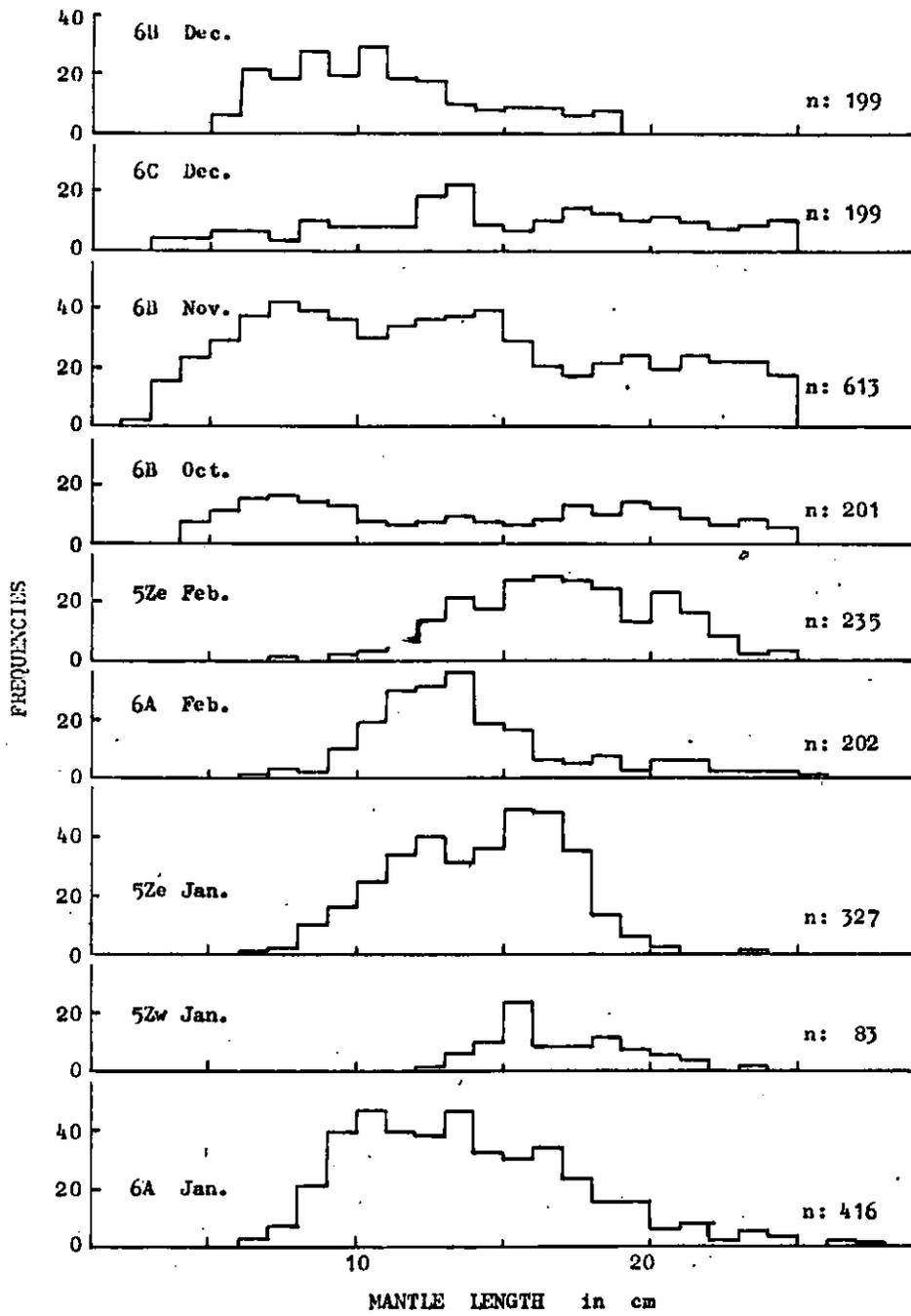


Fig. 5 Size compositions of squids in Subareas 5 and 6.